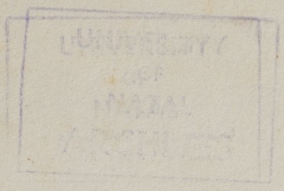
Natal University College

(University of South Africa).

CALENDAR
1947



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PIETERMARITZBURG.

ADDENDUM.

COURSES IN AGRICULTURE.

The course for the B.Sc. (Agric.) degree will be of four years' duration starting in 1947. The first year course is identical with that required for the ordinary Science Degree and consists of Botany, Zoology, Chemistry and Physics, and possibly also a language. The second year course will commence in 1948. The courses for the 2nd, 3rd and 4th years will deal specifically with agriculture and will include Field Husbandry, Pasture Management and Soil Conservation, Animal Husbandry, Dairying, Poultry Husbandry, Agricultural Chemistry (Soils), Biochemistry (Nutrition), Horticulture, Genetics, Forestry, Entomology, Plant Pathology, Agricultural Engineering, Agricultural Economics, Animal Health and Biometry.

At this stage it is not possible to outline the details of these courses or to indicate the order in which they will follow. This information will be published as facilities become available and the necessary technical staff appointed.

The Dean of the Faculty of Agriculture will be available at the Natal University College during the last week of February in order to advise prospective students about the courses.

Instruction in the Faculty of Agriculture will be given through the medium of both official languages. Students are advised to acquire at least a working knowledge of both official languages during their first year at University or earlier. Special courses at the College will be arranged in the second language for such students as may require them.

The fees will be the same as for the ordinary B.Sc. degree, viz.:—

Class and Examination fees	(approximately)	£50	0 0
Hostel	(per annum)	82	10 0

TABLE OF CONTENTS.

Regulations for Degrees and Diplomas.

College Register.

OFFICIAL ADDRESSES.

CORRESPONDENCE WITH THE COLLEGE.

All **general** communications, and communications intended for the Faculties of Arts, Fine Arts, Science, Education, Agriculture and Law, in Pietermaritzburg, should be addressed to:—

The Registrar,
Natal University College,
P.O. Box 375,
Pietermaritzburg.

Communications intended for the Faculty of Engineering in Durban, should be addressed to:—

The Secretary, Howard College,
Natal University College,
P.O. Box 1525,
Durban.

Communications intended for the Faculties of Commerce and Administration, Accountancy, Law, B.A. (Social Science), Arts (full and part-time), Architecture and Quantity Surveying should be addressed to:—

The Secretary, Commerce Building,
Natal University College,
P.O. Box 1525,
Durban.

Communications intended for the Non-European Courses should be addressed to:—

The Organiser, Non-European Courses,
P.O. Box 1525,
Durban.

TELEGRAMS AND CABLES:

Telegrams and cables should be addressed as follows:—

UNIVCOLL, Pietermaritzburg.

COMCOLL, Durban.

All correspondence is conducted in both official languages.

TELEPHONES.

Pietermaritzburg:

Principal (Personal) Dr. E. G. Malherbe	3900
Registrar (Personal) Mr. P. G. Leeb-du Toit	3139
Accountant (Mr. N. Downard)	5774
Bookkeeper (Mrs. Arbuckle)	5773
General Office	2725
Librarian (Dr. Coblans)	4504
Art School (Prof. Oxley)	5582
Departments of Chemistry, Geography and Geology	5559
Superintendent of Grounds and Buildings (Residence)	2416

Residences, Pietermaritzburg:

University Hall (for women):

Lady Warden (Mrs. Kirwood)	4018
Students (Old Block)	4349
Students (New Block)	4372
Sub-Warden University Lodge	5783
Students University Lodge	4348
Matron, Sanatorium	5784

Men's Residence, Oribi:

Warden (Dr. Rosenberg)	4022
Matron	5097
Students	4378 & 4388

Durban:

Howard College, Queen Mary Avenue (Engineering).

Principal (Dr. E. G. Malherbe)	2-9748
Secretary (Miss C. A. Graham)	5-7007
Department of Civil Engineering (Prof. Thomas)	5-6943
Department of Electrical Engineering (Prof. Clark)	5-6835
Department of Mechanical Engineering (Prof. Neal)	5-7251
Library (Dr. Coblans)	5-7721
Caretaker and Grounds Superintendent (Mr. Vorster)	5-7012

Science Building, Queen Mary Avenue:

Department of Physics and Chemistry (Prof. Hodges and Mr. Valentin)	5-6916
Students' Common Room	5-6038

Commerce Building, Warwick Avenue:

Principal (Dr. E. G. Malherbe)	2-9748
Secretary (Miss V. Luyt)	2-9746
Department of Economics (Prof. Burrows)	2-0207
Department of Accounting and Auditing (Prof. Byrd)	2-1700
Department of Commerce (Prof. Kelly) (after 5 p.m. — 2-9748.)	2-1756
Department of Psychology (Prof. Notcutt)	2-9746
Department of Social Anthropology (Prof. Krige) (after 5 p.m. — 2-9747.)	2-9746
Department of Sociology and Social Work (Dr. de Vos) (after 5 p.m. — 2-9747.)	2-9746
Library	2-9747
Lecturers and Research Assistants	2-9746
Students' Common Room	2-5586

Non-European Buildings, Winterton Walk:

Secretary, Non-European Courses (Mrs. McKay)	2-8982
Non-European Library	2-8981

Women's Residence, 191 Chelmsford Road:

Lady Warden (Miss E. Sneddon)	4-6665
Matron and Students	4-8065

Men's Residence, 282 Ridge Road:

Warden (Prof. Notcutt)	4-1624
Matrons	4-1678
Students	4-1682

CALENDAR, 1947

JANUARY.							FEBRUARY							MARCH.						
S.	....	5	12	19	26	....	S.	....	2	9	16	23	....	S.	....	2	9	16	23	30
M.	....	6	13	20	27	....	M.	....	3	10	17	24	....	M.	....	3	10	17	24	31
Tu	....	7	14	21	28	....	Tu	....	4	11	18	25	....	Tu	....	4	11	18	25	....
W.	1	8	15	22	29	....	W.	....	5	12	19	26	....	W.	....	5	12	19	26	....
Th	2	9	16	23	30	....	Th	....	6	13	20	27	....	Th	....	6	13	20	27	....
F.	3	10	17	24	31	....	F.	....	7	14	21	28	....	F.	....	7	14	21	28	....
S.	4	11	18	25	....	....	S.	1	8	15	22	....	....	S.	1	8	15	22	29	....

APRIL.							MAY.							JUNE.						
S.	....	6	13	20	27	....	S.	....	4	11	18	25	....	S.	1	8	15	22	29	....
M.	....	7	14	21	28	....	M.	....	5	12	19	26	....	M.	2	9	16	23	30	....
Tu	1	8	15	22	29	....	Tu	....	6	13	20	27	....	Tu	3	10	17	24	....	....
W.	2	9	16	23	30	....	W.	....	7	14	21	28	....	W.	4	11	18	25	....	....
Th	3	10	17	24	....	....	Th	1	8	15	22	29	....	Th	5	12	19	26	....	....
F.	4	11	18	25	....	....	F.	2	9	16	23	30	....	F.	6	13	20	27	....	....
S.	5	12	19	26	....	....	S.	3	10	17	24	31	....	S.	7	14	21	28	....	....

JULY.							AUGUST.							SEPTEMBER.						
S.	....	6	13	20	27	....	S.	....	3	10	17	24	31	S.	....	7	14	21	28	....
M.	....	7	14	21	28	....	M.	....	4	11	18	25	....	M.	1	8	15	22	29	....
Tu	1	8	15	22	29	....	Tu	....	5	12	19	26	....	Tu	2	9	16	23	30	....
W.	2	9	16	23	30	....	W.	....	6	13	20	27	....	W.	3	10	17	24	....	....
Th	3	10	17	24	31	....	Th	....	7	14	21	28	....	Th	4	11	18	25	....	....
F.	4	11	18	25	....	....	F.	1	8	15	22	29	....	F.	5	12	19	26	....	....
S.	5	12	19	26	....	....	S.	2	9	16	23	30	....	S.	6	13	20	27	....	....

OCTOBER.							NOVEMBER.							DECEMBER.						
S.	....	5	12	19	26	....	S.	....	2	9	16	23	30	S.	....	7	14	21	28	....
M.	....	6	13	20	27	....	M.	....	3	10	17	24	....	M.	1	8	15	22	29	....
Tu	....	7	14	21	28	....	Tu	....	4	11	18	25	....	Tu	2	9	16	23	30	....
W.	1	8	15	22	29	....	W.	....	5	12	19	26	....	W.	3	10	17	24	31	....
Th	2	9	16	23	30	....	Th	....	6	13	20	27	....	Th	4	11	18	25	....	....
F.	3	10	17	24	31	....	F.	....	7	14	21	28	....	F.	5	12	19	26	....	....
S.	4	11	18	25	....	....	S.	1	8	15	22	29	....	S.	6	13	20	27	....	....

JANUARY, 1947.

Jan.		
1	W.	New Year's Day.
2	Th.	
3	F.	
4	Sat.	
5	**Sun.**	
6	M.	
7	Tu.	
8	W.	
9	Th.	
10	F.	
11	Sat.	
12	**Sun.**	
13	M.	
14	Tu.	
15	W.	
16	Th.	
17	F.	
18	Sat.	
19	**Sun.**	
20	M.	
21	Tu.	
22	W.	
23	Th.	
24	F.	
25	Sat.	Registration for Non-European Courses 9—12 noon.
26	**Sun.**	
27	M.	Registration of New Students. Non-European Courses 3—5.30 p.m.
28	Tu.	
29	W.	Registration of New Students. Non-European Courses 3—5.30 p.m.
30	Th.	
31	F.	Last day for Bursary, Scholarship and Loan Applications. Last day for entries for Supplementary Examinations.

FEBRUARY, 1947.

1	Sat.	Registration for Non-European Courses 9—12 noon. Last day for receiving Loan applications. Non-European Section.
2	**Sun.**	
3	M.	Organiser of ARTS Courses, Durban, will attend at Commerce Building to ascertain requirements of intending students and advise them generally.
4	Tu.	Ditto Registration of Senior Students. Non-European Courses 3—5.30 p.m.
5	W.	Organiser of ARTS Courses, Durban, will attend at Commerce Building to ascertain requirements of intending students, and advise them generally.
6	Th.	Registration of Senior Students, non-European Courses, 3—5.30 p.m.
7	F.	
8	Sat.	Registration for Non-European Courses 9—12 noon.
9	**Sun.**	
10	M.	
11	Tu.	Meeting of Scholarships, Bursaries and Loans Committee.
12	W.	
13	Th.	
14	F.	
15	Sat.	
16	**Sun.**	
17	M.	
18	Tu.	
19	W.	
20	Th.	
21	F.	Lectures commence for Non-European Students.
22	Sat.	
23	**Sun.**	
24	M.	B.A., B.Com., B.A. (Soc. Sc.), LL.B., Architecture, Accounting Students register at Commerce Building, Durban, 11 a.m.—12 noon. 4.30 p.m.—5.30 p.m.
25	Tu.	B.A., B.Com., B.A. (Soc. Sc.), LL.B., Architecture, Accounting Students register at Commerce Building, Durban, 11 a.m.—12 noon. 4.30 p.m.—5.30 p.m. First year students may enter residences.
26	W.	B.A., B.Com., B.A. (Soc. Sc.), LL.B., Architecture, Accounting Students register at Commerce Building, Durban, 11 a.m.—12 noon. 4.30 p.m.—5.30 p.m.
27	Th.	Registration of First year students: Pietermaritzburg. Engineering and Part-Time Science students register at Howard College, Durban. Senior students enter Residences.
28	F.	Principal's Address: Main Hall, Pietermaritzburg, 9 a.m. Registration of Senior students, Pietermaritzburg. Engineering and Part-time Science students register at Howard College, Durban.

MARCH, 1947.

1	Sat.	
2	**Sun.**	
3	M.	Principal's Address, Howard College and Commerce Building. Lectures commence.
4	Tu.	
5	W.	
6	Th.	
7	F.	
8	Sat.	
9	**Sun.**	
10	M.	
11	Tu.	
12	W.	
13	Th.	
14	F.	Meeting of Council.
15	Sat.	
16	**Sun.**	
17	M.	
18	Tu.	
19	W.	
20	Th.	
21	F.	
22	Sat.	
23	**Sun.**	
24	M	
25	Tu.	
26	W.	
27	Th.	
28	F.	
29	Sat.	Meeting of Senate.
30	**Sun.**	
31	M.	Entries for Part II. Master's Examinations due.

APRIL, 1947.

April		
1	Tu.	
2	W.	Last day for Lectures.—Easter Vacation.
3	Th.	
4	F.	Good Friday.
5	Sat.	
6	**Sun.**	
7	M.	Easter Monday.
8	Tu.	Meeting of Senate of University of South Africa at N.U.C., Durban.
9	W.	
10	Th.	
11	F.	
12	Sat.	
13	**Sun.**	
14	M.	Lectures recommence. Meeting of Council Committees of University of South Africa in Durban.
15	Tu.	Meeting of Council Committees of University of South Africa in Durban.
16	W.	Meeting of Council Committees of University of South Africa in Durban.
17	Th.	Meeting of Council of University of South Africa in Durban.
18	F.	
19	Sat.	
20	**Sun.**	
21	Mon.	
22	Tu.	
23	W.	
24	Th.	
25	F.	Meeting of Finance Committee, 11 a.m. Meeting of Council in Durban, 2.15 p.m.
26	Sat.	
27	**Sun.**	
28	M.	
29	Tu.	
30	W.	

MAY, 1947.

May

1 Th.
2 F. Rag Holiday. Faculty of Engineering Meeting.
3 Sat. Rag Holiday. Faculty of Science Meeting.
4 **Sun.**
5 M.
6 Tu.
7 W.
8 Th.
9 F. Meeting of Council.
10 Sat. Graduation Ceremony.
11. **Sun.**
12 M.
13 Tu.
14 W.
15 Th. Ascension Day.
16 F.
17 Sat.
18 **Sun.**
19 M.
20 Tu.
21 W.
22 Th.
23 F. Meeting of Faculty of Education, 2.15 p.m.
24. Sat. Empire Day. Lectures held on this day.
25 **Sun.**
26 M.
27 Tu.
28 W.
29 Th.
30 F.
31 Sat. Union Day.

JUNE, 1947.

June		
1	**Sun.**	
2	M.	
3	Tu.	
4	W.	
5	Th.	
6	F.	
7	Sat.	
8	**Sun.**	
9	M.	
10	Tu.	
11	W.	
12	Th.	
13	F.	Meeting of Council.
14	Sat.	
15	**Sun.**	
16	M.	
17	Tu.	
18	W.	
19	Th.	
20	F.	
21	Sat.	
22	**Sun.**	
23	M.	
24	Tu.	
25	W.	
26	Th.	
27	F.	Meeting of Senate.
28	Sat.	
29	**Sun.**	
30	M.	First Term ends.

JULY, 1947.

July
1 Tu.
2 W.
3 Th.
4 F.
5 Sat.
6 **Sun.**
7 M.
8 Tu.
9 W.
10 Th.
11 F.
12 Sat.
13 **Sun.**
14 M.
15 Tu.
16 W.
17 Th.
18 F.
19 Sat.
20 **Sun.**
21 M.
22 Tu.
23 W.
24 Th.
25 F.
26 Sat.
27 **Sun.**
28 M.
29 Tu.
30 W.
31 Th.

AUGUST, 1947.

Aug.

1 F. College reopens.
2 Sat.
3 **Sun.**
4. M King's Birthday. Lectures held on this day.
5 Tu.
6 W.
7 Th.
8 F. Meeting of Council.
9 Sat.
10 **Sun.**
11 M.
12 Tu.
13 W.
14 Th.
15 F.
16 Sat.
17 **Sun.**
18 M.
19 Tu.
20 W.
21 Th.
22 F.
23 Sat.
24 **Sun.**
25 M.
26 Tu.
27 W.
28 Th.
29 F.
30 Sat.
31 **Sun.**

SEPTEMBER, 1947.

Sept.		
1	M.	Entries for degree examinations Nov./Dec. commence.
2	Tu.	
3	W.	
4	Th.	
5	F.	
6	Sat.	
7	**Sun.**	
8	M.	
9	Tu.	
10	W.	
11	Th.	
12	F.	Meeting of Council.
13	Sat.	
14	**Sun.**	
15	M.	Last day for entries for Degree Examinations (Nov./Dec.)
16	Tu.	
17	W.	
18	Th.	
19	F.	
20	Sat.	Meeting of Senate.
21	**Sun.**	
22	M.	
23	Tu.	
24	W.	
25	Th.	
26	F.	
27	Sat.	Faculty of Engineering Meeting.
28	**Sun.**	
29	M.	
30	Tu.	

OCTOBER, 1947.

Oct.		
1	W.	
2	Th.	
3	F.	
4	Sat.	
5	**Sun.**	
6	M.	Michaelmas Vacation Commences.
7	Tu.	
8	W.	
9	Th.	
10	F.	Meeting of Council.
11	Sat.	
12	**Sun.**	
13	M.	Lectures resume.
14	Tu.	
15	W.	
16	Th.	
17	F.	
18	Sat.	Faculty of Science Meeting.
19	**Sun.**	
20	M.	
21	Tu.	
22	W.	
23	Th.	
24	F.	Meeting of Faculty of Education, 2.15 p.m.
25	Sat.	
26	**Sun.**	
27	M.	
28	Tu.	
29	W.	
30	Th.	
31	F.	Lectures cease.

NOVEMBER, 1947.

Nov.		
1	Sat.	
2	**Sun.**	
3	M.	
4	Tu.	
5	W.	
6	Th.	
7	F.	
8	Sat.	
9	**Sun.**	
10	M.	
11	Tu.	
12	W.	
13	Th.	
14	F.	Meeting of Council.
15	Sat.	
16	**Sun.**	
17	M.	
18	Tu.	
19	W.	
20	Th.	
21	F.	
22	Sat.	
23	**Sun.**	
24	M.	
25	Tu.	
26	W.	
27	Th.	Meeting of Senate.
28	F.	
29	Sat.	Second Term ends.
30	**Sun.**	

DECEMBER, 1947.

Dec.		
1	M.	
2	Tu.	
3	W.	
4	Th.	
5	F.	
6	Sat.	
7	**Sun.**	
8	M.	
9	Tu.	
10	W.	
11	Th.	
12	F.	Meeting of Council.
13	Sat.	
14	**Sun.**	
15	M.	
16	Tu.	Dingaan's Day.
17	W.	
18	Th.	
19	F.	
20	Sat.	
21	**Sun.**	
22	M.	
23	Tu.	
24	W.	
25	Th.	Christmas Day.
26	F.	Boxing Day.
27	Sat.	
28	**Sun.**	
29	M.	
30	Tu.	
31	W.	

HISTORICAL INTRODUCTION.

The foundation of the Natal University College dates from the closing years of the Colony of Natal. With a European population of less than 100,000, the Colony provided some facilities for technical training, and, in the final year of colonial status, a training college for teachers. Endowments for "collegiate institutions" which would ultimately link the primary schools with an academic college were gradually accumulated since the 'fifties of the nineteenth century, but education progress halted at the provision of post-matriculation tuition in some secondary schools. Resolutions in favour of the establishment of a university college were adopted, notably by the commission on technical education (1905): and in April, 1909, C. J. Mudie forwarded to the Colonial Government a detailed memorandum on the subject. The post-South African War slump hindered educational advance in every direction, but at last a surplus was found in the revenue and expenditure account for the year ending 30th June, 1909. It was from this surplus that a sum of £30,000 was set aside to provide buildings for a university college.

The Natal University College Act 1909, introduced by the Colonial Secretary, Dr. C. O'Grady Gubbins, was one of the last colonial measures to reach the Statute Book. It passed its second reading on 16th November, and was promulgated on 11th December. A Council, instituted under the Act, began to function with the Chief Justice, Sir Henry Bale, as chairman; and the first members of the academic staff reached Natal in 1910.

Provision on a very modest scale, with only eight professors and two lecturers, sufficed for the early years, when student numbers averaged sixty. The original block of the College buildings, in the Renaissance style, on land (44 acres, in Scottsville), donated by the Pietermaritzburg Corporation, was completed in 1912.

Five years later, the College ceased to be linked with the old University of the Cape of Good Hope, and became, with other colleges, a unit in the new federal University of South Africa.

University work at Durban arose out of an arrangement with the Natal Technical College, concluded in 1922. It was finally decided that degree courses in the various branches of engineering, commerce and fine arts should be offered, accommodation for the classes being provided by the Technical College until such time as University College buildings became available. A generous gift of £70,000 by Mr. T. B. Davis (in memory of his son) made it possible to erect the Howard Engineering College on a 50-acre site offered by the Corporation. These developments (1922-31) were largely inspired by the foresight and energy of Dr. S. G. Campbell and of Professor J. W. Bews, who became first principal of the Natal University College in the year of the opening of Howard College (1931). The University College thus became solely responsible for degree work in Durban, replacing the higher work which the Technical College had initiated with such success.

The college over which Dr. Bews presided (1931-8) had grown very considerably both in student enrolment and in the provision of academic chairs and lectureships. The first privately-endowed chair was the professorship in Economics, founded in 1931 by a gift of £20,000 in memory of William Hudson.

During the war years development was considerably retarded, and student enrolment stood still round about 800.

In 1945 the Durban City Council gave 61 acres of land adjacent to the Howard College site for the future development of the College. The whole area of 111 acres has been planned to include additional buildings for Engineering, Survey, Arts, Science and hostels. The Pietermaritzburg City Council has donated 47 acres for a Faculty of Agriculture, a Wattle Research Institute and Men's Residences. New playing fields have recently been laid out in Pietermaritzburg.

On the death of Prof. J. W. Bews, in 1938, Prof. R. B. Denison took over the principalship. He held this post until he retired early in 1945, when Dr. E. G. Malherbe was appointed Principal.

Partly as the result of an influx of 650 ex-volunteer students, the number of registered students rose to over 1800 in 1946.

Considerable development is envisaged, both in Pietermaritzburg and Durban, during the next few years, when it is hoped the College will achieve full university status.

CAMPAIGN FOR A UNIVERSITY OF NATAL.

Early in 1946 the Council of the N.U.C. informed the University of South Africa and the Minister of Education of its intention to petition Parliament for a charter giving the College independent University status. This step was taken by virtue of Universities Act No. 12 of 1946, which provides, in Art. 4, that "the Council of any constituent college shall have power to promote legislation for the incorporation of such college as a university."

The following are some of the considerations which prompted this step:—

1—The N.U.C., with its present enrolment of over 1,800 full-time and part-time students, is more than twice as large as any of the Universities of Capetown, Stellenbosch, Witwatersrand and Pretoria were when they were granted independent status.

2—The N.U.C. is by far the largest of the constituent colleges in the University of South Africa. In fact, it has almost as many students as the two next largest, viz., Rhodes and O.F.S. Colleges put together.

3—Of the constituent colleges in the University of S.A., the N.U.C. is the only one which has a Faculty of Engineering and a Faculty of Agriculture. Soon it hopes to have also a Medical Faculty. In this respect it has more in common with the independent universities than with the other constituent colleges which do not have these faculties. Thus in Engineering and Medicine it would co-operate with the corresponding faculties at Cape Town and Witwatersrand, and in Agriculture with Stellenbosch and Pretoria, particularly in arranging for co-examiners and in maintaining professional standards. These are considerations quite apart from the rather cumbersome administrative arrangements which association within a federal organisation, with its headquarters in Pretoria, necessarily entail.

4—Whereas the Cape and O.F.S. send roughly one full-time student to university (any university) for every 165 of European population, the ratio for the Transvaal is one in 215 and for Natal only one in 300. These are figures for 1945. In other words, Natal is the least

university-minded of the four provinces. These figures show also that Natal has within its own boundaries the largest potential of unexploited student material of any of the provinces. As General Smuts once put it: "Natal is still fallow land as regards university training." It is felt that by granting to the N.U.C. independent University status, the people of Natal will become more university conscious and will contribute more generously towards the development of improved university facilities for its youth.

The College requires money for larger buildings, improved teaching staff and more bursaries. No boy or girl with ability should be debarred by economic circumstances from receiving a university training.

* * * *

A tritocal University: It is envisaged that the University of Natal will be planned on a basis of having three affiliated colleges:—

(a) At *Pietermaritzburg*, where, in addition to the present facilities for studying in the Arts and Sciences, a special feature will be made of the Faculty of Agriculture which the Government is establishing on the college grounds with a view to giving degree courses in agricultural science and conducting research especially into the agricultural problems of the area east of the Drakensberg, from the Transkei up to Mozambique. This Faculty will conduct its field work at Cedara and possibly later also at Baynesfield (Nel's Rust).

(b) At *Durban*: Here graduate courses in Arts and Sciences will continue to be developed according to the demand of the local population. Specialisation is, however, offered in Engineering and Technology, in Commerce and in the Social Sciences which includes Social Anthropology, Native Law and Zulu.

(c) *Non-European College* at Durban. This will be a natural out-growth of the courses in the Arts and Social Sciences at present conducted by N.U.C. staff at our buildings on the Sastri College grounds. As soon as the Government agrees to the establishment of a *Medical School* which will be primarily, though not exclusively, for non-Europeans, a beginning will be made with provision for residences for non-Europeans and for science laboratories to enable the non-Europeans to take also the pre-medical sciences, viz., Physics, Chemistry, Zoology and Botany on a degree level. The clinical facilities for medical study in Durban are unequalled in South Africa.

* * * *

Campaign for Funds: The college authorities have published an illustrated brochure setting out in considerable detail a 10-year plan of university development. For this over £1,000,000 needs to be raised by the public so as to ensure that the University of Natal is adequately endowed. Of course, the Government contributes its share roughly on a £-for-£ basis. In order to raise this money, campaign committees are being established in all the towns of Natal. Farmers' Associations, Women's Institutes, Municipalities and other local organisations, as well as the Past Students' Union, are co-operating with the Natal University Development Fund Committee in the raising of funds. Largely as a result of the active interest which Mr. Charles James, Chairman of the Natal University Development Fund, is taking in this campaign, Durban is heading the list with over £200,000. Elsewhere in this calendar a list is given of the donations which have thus far been made.

THE NATAL UNIVERSITY DEVELOPMENT FUND.

In the year 1928 a meeting of representatives of the Natal University College and the Natal Technical College was held for the purpose of establishing a fund for the encouragement and extension of university education in Natal. There was then formed a large committee representative of the two colleges, of certain public bodies and of commerce and industry. After raising over £30,000 a definite constitution was adopted in 1932 with a reconstituted committee of fifteen members, including representatives of the donors to the fund. The committee, which is called the Natal University Development Fund Committee, has continued in active work and has regularly provided money for the assistance of students and for the general maintenance and development of the work of the Natal University College in Durban and Pietermaritzburg.

In order to provide for the growing requirements for additional facilities for higher education and research, considerable developments of university work in Natal are contemplated, the ultimate aim being to establish a University of Natal on the lines described in the previous chapter. For these developments considerable funds will be required, towards which donations are invited. Gifts to the fund will be welcomed by the Principal of the Natal University College, P.O. Box 375, Pietermaritzburg; Mr. C. E. James, the Chairman of the Fund, P.O. Box 1046, Durban; and Prof. O. Oldham, Hon. Secretary and Treasurer, P.O. Box 1525, Durban.

The following is the list of members of the committee:

Ex-Officio Members:

Dr. E. G. Malherbe (Principal, Natal University College).
Sen. W. J. O'Brien (Chairman, N.U.C. Council).
H. E. Jones, Esq. (Principal, Natal Technical College).

Members representing the Original Subscribers:

Harry J. Butcher, Esq.
C. E. James, Esq. (Chairman of the Committee).
R. H. Parry, Esq.
Dr. J. T. Williams.

Nominated Members:

R. A. Banks, Esq. (nominated by the Director of Education).
Councillor Mrs. E. E. M. Russell (nominated by the Council of the City of Pietermaritzburg).
Councillor J. L. Farrell (nominated by the Council of the City of Durban).

Co-opted Members:

Dr. G. G. Campbell.
L. C. Grice, Esq.
Prof. O. Oldham.
The Rev. Dr. Sormany, O.M.I.

Assessor Member on behalf of the N.U.C. Union:

L. F. Forsyth, Esq.

ACTS OF LEGISLATURE.

THE NATAL UNIVERSITY COLLEGE ACT, 1909, establishes the College, vests the control of it in a Council consisting of sixteen members—five nominated by Government; one each by the Town Councils of Pietermaritzburg and Durban; one *jointly* by the Town Councils of Newcastle, Ladysmith and Dundee; one *jointly* by the Local Boards of the Northern Districts of Natal and of the Province of Zululand; and one each by the Natal Law Society; the Girls' Collegiate School, Pietermaritzburg; the Ladies' College, Durban; Hilton College; St. Anne's Diocesan College, Hilton Road; Maris Stella Convent, Durban; Michaelhouse School, Balgowan—and capable of extension to twenty-five members, all members duly nominated to retain office (unless it is vacated in manner detailed in the Act) for a period of five years, when fresh nominations or re-nominations shall be made. A Senate also is provided for, consisting of two members of the College Council along with the Principal and the professors of the College. In this body is vested the superintendence and regulation of the instruction of the several departments and classes, and the discipline of the College, in accordance with a scheme and regulations framed for that purpose by the Senate and approved by the Council.

The UNIVERSITY OF SOUTH AFRICA ACT, 1916, provides that the Natal University College shall be one of six constituent colleges of the University of South Africa.

HIGHER EDUCATION ADDITIONAL PROVISION ACT, 1917, WITH AMENDMENTS, regulates the relationship between the Government and the university colleges in the Union and indicates the measure of financial aid that may be granted to such colleges.

It also provides for two representatives of the Senate, in addition to the Principal, being members of the College Council.

COLLEGE BUILDINGS AND GROUNDS.

The Natal University College operates as a bifocal institution with some of the faculties (Arts, Science, Law, Education and Agriculture) located in Pietermaritzburg and the others (Engineering, Social Science, Commerce and Administration) located in Durban.

The capital value of College buildings and grounds in Pietermaritzburg is £237,000, and in Durban £170,000, in round figures.

PIETERMARITZBURG:

The following buildings are situated on the College grounds (44 acres) in Scottsville on the bus route about one-and-a-half miles from the centre of the city:

Main Block: This contains the main assembly hall and classrooms and offices for Arts, Science and Education. (Law classes are given extra-murally in Change Lane, near the centre of the city.)

Library and Fine Arts Block.

Physical Science Block: This houses the Departments of Chemistry and Geology.

The Biological Sciences Block: This is under construction at present, and is designed to house the Departments of Botany, Zoology and Geography. It is estimated to cost about £140,000 when completed.

Temporary Brick and Iron Buildings: These were erected during 1945/46 as an emergency measure to provide additional lecture room and library accommodation for ex-volunteer students.

The Student Union: This is the focal point of student activities and comprises a large hall, common rooms, tea room and committee rooms. It overlooks the new sports fields.

Women's Residences: These comprise University Hall and University Lodge and provide accommodation for approximately 150 women students.

Sports Fields: These were recently completed at a cost of £6,000 and comprise two rugby fields, two hockey fields, a running track, cricket oval and basket-ball fields.

Temporary Residence for Men at Oribi: This is situated one-and-a-half miles from the main block at Scotsville. It provides excellent single room accommodation for 250 men. Regular College and Municipal transport operates to and from the residence.

New College Grounds: This site is situate between Golf Road and Durban Road, near the Epworth School, will accommodate:—

(a) *The Wattle Research Institute* (a £25,000 building at present under construction).
(b) *The Faculty of Agriculture Buildings* (estimated to cost about £200,000).
(c) *Permanent residence* for 300 to 400 men. This site is about half a mile from the main College site in Scottsville.

DURBAN:

The Natal University College operates in three centres in Durban, each with its own administrative section.

1—*Main College grounds* (111 acres) on the Berea. On this site are situated the following buildings:—

(a) *Howard College* building which houses the Faculty of Engineering and the administrative offices.
(b) *Technological Sciences Block* estimated to cost over £200,000, under construction. The portion thus far completed houses laboratories for Chemistry, Physics and Geology.
(c) *Temporary Brick and Iron Buildings*: These were erected as an emergency measure to provide additional accommodation for ex-volunteer students (classrooms, drawing offices, common room, cafeteria, etc.).
(d) *The Men's Residence* to house 200 students, under construction.
(e) *Sports Fields* under construction at estimated cost of £10,000

Considerable building development costing over £2,000,000 is envisaged on this site during the next 10 years, which will make this site one of the most beautiful university campuses in the world.

2—*Commerce Building*:—

This is situated in the heart of Durban between Warwick Avenue and University Avenue, near the new market buildings. The Faculty of Commerce and Administration and Social Science are housed here. Also professional courses in Accountancy, Law, Architecture, Quantity Surveying

and degree courses in Arts are given here. This centre serves part-time as well as full-time students.

In order to provide for the influx of ex-volunteer students a recent £15,000 extension was added to this building and a further £10,000 wing is under construction.

3—*Non-European Section*:

This is accommodated near Sastri College. All classes for non-Europeans are conducted here and are kept totally separate from those for Europeans in the other two centres in Durban. Although the non-European students are accommodated separately, they receive tuition from the main College staff, full-time and part-time lecturers. This is to ensure that similar standards of work are maintained.

Separate administrative offices, library facilities and common-rooms have recently been built on this site for the use of the non-European students of the College.

COUNCIL.

Nominated by the Government:

Mr. R. A. Banks, M.A., Director of Education, Natal (1950).
Mr. M. Webb. (1949).
Mr. J. J. Boshoff. (1948).
Mr. E. W. Barns, M.A. (1948).

The Principal, E. G. Malherbe, M.A., Ph.D. (ex-officio).

Nominated by:

Pietermaritzburg Corporation: Councillor Mrs. E. E. M. Russell.
Durban Corporation: Major J. Raftery. (1948).
Town Councils of Ladysmith, Newcastle and Dundee: Vacant.
Local Boards of Northern Districts and Province of Zululand: Mr. P. J. du Toit, M.A. (1947).
Incorporated Law Society of Natal: Mr. A. Austen Smith (*Treasurer*). (1951).
The Girls' Collegiate School, Pietermaritzburg: Senator W. J. O'Brien, O.B.E. (*Chairman*). (1950).
Durban Girls' College: Mr. H. Bryan, M.A. (1951).
Hilton College: Mr. T. W. Mansergh, M.A. (1948).
Michaelhouse School, Balgowan: Mr. F. R. Snell, M.A. (1948).
Maris Stella Convent, Durban: The Rev. L. Sormany, O.M.I., Ph.D., D.D., M.A. (1948).
St. Anne's Diocesan College, Hilton Road: Miss M. K. Stone, B.Sc. (1951).
Natal University College Senate Representatives: Profs. F. L. Warren and K. F. Byrd (1946 only).
Natal University College Union: Adv. D. Fannin (1951).
The Natal Technical College: Mr. H. E. Jones, B.A. Dr. G. G. Campbell.

Additional Members representing Donors:

Mr. F. T. Glenham Davis, Mr. Charles E. James, J. Townley Williams, D.Phil.

The dates opposite the names indicate the year in which each member's present term of office expires.

SENATE.

Principal E. G. Malherbe, M.A., Ph.D.
*Mr. R. A. Banks, M.A.
*Mr. A. Austen Smith.
Professor A. H. Allsopp, B.A., M.Ed.
Professor A. W. Bayer, D.Sc.
Professor F. B. Burchell, M.A., LL.B.
Professor H. R. Burrows, M.C., M.Com.
Professor S. F. Bush, M.Sc., D.Phil.
Professor K. F. Byrd, M.A., B.Sc. (Econ.), A.C.A., C.A. (S.A.)
Professor H. Clark, B.Sc., M.I.E.E., D.I.C.
Professor G. H. Durrant, M.A.
Professor J. G. W. Ferguson, M.A.
Professor J. N. Findlay, M.A., D.Phil., Ph.D.
Professor A. F. Hattersley, M.A., F.R.Hist.S.
Professor R. M. Jehu, M.Sc., F.G.S., F.R.G.S.
Professor T. H. Kelly, M.Com., Ph.D.
Professor J. D. Krige, B.A., LL.B.
Professor L. C. King, D.Sc., Ph.D., F.G.S., F.R.G.S.
Professor J. McKinnell, M.A., B.Sc.
Professor P. Mesham, M.Sc.
Professor J. H. Neal, A.R.C.S., A.M.Inst.C.E., M.I.Mech.E., Wh.Ex., A.F.R.Ae.S.
Professor O. J. P. Oxley, A.R.C.A.
Professor P. Stein, M.A., Ph.D.
Professor W. M. Thomas, B.Sc. (Eng.), B.Sc.
Professor F. L. Warren, A.R.C.S., D.I.C., Ph.D., A.I.C.
H. Coblans, M.Sc., Ph.D.
P. J. de Vos, M.A., D.Phil.
Ella Pratt Yule, M.A., Ph.D.
Maria Schmidt-Ihms, Ph.D.
Assessor Members:
Professor D. B. Hodges, O.B.E., B.A., M.Sc., Ph.D.
Professor B. Notcutt, M.B.E., B.A., D.Ph.
Professor G. M. J. Sweeney, B.A., LL.B.

ACADEMIC STAFF

CLASSICS:
Professor: To be appointed.
Lecturer: B. H. Farrer, M.A. (S.A. et Oxon.)
DUTCH:
Professor: G. S. Nienaber, M.A., M.Ed. (S.A.), Litt.D. (Gent).
Senior Lecturer: To be appointed.
Lecturer: P. du P. Grobler, M.A. (S.A.).
ENGLISH:
Professor: G. H. Durrant, M.A. (Cantab.).
Senior Lecturer: Miss E. Sneddon, M.A. (Glasgow).

* Representative of Council.

FRENCH:
Senior Lecturer: To be appointed.

GERMAN:
Temporary Senior Lecturer: Maria Schmidt-Ihms, Ph.D. (Leipzig).

HISTORY, POLITICAL SCIENCE AND ECONOMIC HISTORY:
Professor: Alan F. Hattersley, M.A. (Cantab.), F.R.Hist.S.
Senior Lecturers: M. F. Prestwich, B.A. (Cantab.)
A. W. Rees, M.A. (Wales).
Lecturer: Mrs. F. M. MacDonald, M.A. (Glasgow).

PHILOSOPHY:
Professor: J. N. Findlay, M.A., D.Phil.

PSYCHOLOGY:
Head of Department: Ella Pratt Yule, M.A., Ph.D. (St.And.).
Professor: B. Notcutt, B.A. (Oxon.), D.Ph. (Stell.), M.B.E.
Lecturers: P. McEwen, B.Sc. (Edinburgh).
Verona Hunkin, B.A. (S.A.).

EDUCATION:
Professor: J. G. W. Ferguson, M.A. (St.And. et Oxon.).
Associate Professor: A. H. Allsopp, B.A., M.Ed. (S.A.).
Senior Lecturer: W. H. O. Schmidt, M.A. (S.A.), Ph.D. (Leipzig).

FINE ARTS:
Professor: O. J. P. Oxley, A.R.C.A. (London).
Senior Lecturer: Rosa S. Hope, A.R.E.
Lecturers: Hilda L. Rose, B.A. (S.A.)
Geoffrey Long.

BOTANY:
Profesor: A. W. Bayer, D.Sc. (S.A.).
Senior Lecturer: Beryl S. Fisher, M.Sc., Ph.D. (S.A.)
Temporary Lecturer: Miss D. Clarkson, B.Sc. (S.A.)
Herbarium Assistant: Miss K. Huntley.

CHEMISTRY AND CHEMICAL TECHNOLOGY:
Professor: F. L. Warren, A.R.C.S., D.I.C., Ph.D. (London), F.R.I.C.
Professor Emeritus: R. Beckett Denison, Ph.D. (Breslau), D.Sc. (Leeds), Hon. D.Sc. (S.A.).
Senior Lecturer: A. D. Mudie, M.A., B.Sc. (St. Andrews).
Lecturers: F. H. H. Valentin, M.Sc. (Rand).
L. D. C. Bok, M.Sc. (Chem.) (Stell.), M.Sc. (Geol.) (Stell), Dr. rer. nat. (Leipzig).
H. A. Candy, B.Sc. (S.A.).
Technician: P. Weedon.

GEOGRAPHY:
Professor: R. M. Jehu, M.Sc. (Wales), F.R.G.S., F.G.S.
Lecturer: K. M. Buchanan, B.A.

GEOLOGY:
Professor: L. C. King, D.Sc. (N.Z.), Ph.D. (S.A.), F.G.S., F.R.G.S.

MATHEMATICS AND APPLIED MATHEMATICS:
Professor of Pure Mathematics: J. McKinnell, M.A., B.Sc. (Glasgow).
Professor of Applied Mathematics: P. Stein, B.A. (Cape), M.A., Ph.D. (Cantab.)
Senior Lecturer in Applied Mathematics: R. L. Rosenberg, M.A. (Capetown), Dr.Phil. (Berlin), D.I.C. (London).

Lecturer: F. J. Schuddeboom, Phil.Cand. (Leiden), M.Sc. (Stell.)
N. du Plessis, B.Sc. (Hons.), (Rand).
Temporary Lecturers: G. L. Isaacs, M.Sc. (Capetown).
D. Livingstone, M.Sc. (S.A.).

PHYSICS:
Professor P. Mesham, M.Sc. (Liverpool).
Associate Professor: D. B. Hodges, B.A. (Cape), M.Sc., Ph.D. (Capetown), O.B.E.
Senior Lecturer: J. R. H. Coutts, M.Sc. (London), F.Inst.P., D.Sc. (S.A.).
Lecturer: H. W. Scott, M.Sc. (S.A.)
Temporary Lecturer: N. D. Clarence, B.Sc. (S.A.)
Lecturer-Demonstrator: P. S. Bullen, B.Sc. (S.A.)

ZOOLOGY:
Professor: S. F. Bush, M.Sc. (S.A.), D.Phil. (Oxon.).
Lecturers: D. W. Ewer, M.A. (Cantab.), Ph.D. (Birmingham).
R. F. Ewer, B.Sc., Ph.D. (Birmingham).

LAW:
Professor: F. B. Burchell, M.A., LL.B. (Cantab.), Barrister-at-Law.
Associate Professor: G. M. J. Sweeney, B.A., LL.B. (S.A.).
Senior Lecturer: W. G. M. Seymour, B.A., LL.B. (S.A.)
Lecturer: G. Wynne, B.A., LL.B. (S.A.), M.A. (Oxon.)

ACCOUNTING AND AUDITING:
Professor: K. F. Byrd, M.A., B.Sc. (Econ.) (London.), A.C.A., C.A. (S.A.).
Senior Lecturer: B. B. Parkinson, M.Sc. (Econ.), B.Com. (Lond), A.C.A.

COMMERCE:
Professor: T. H. Kelly, M.Com., Ph.D.

ECONOMICS:
William Hudson Professor: H. R. Burrows, M.C., E.D., M.Com. (Leeds).
Senior Lecturer: R. J. Randall, B.Com. (Rand), A.S.A.A., C.A. (S.A.), Assoc. Inst. T.
Lecturer: N. Hurwitz, B.Com.
Research Fellow: R. H. Smith, M.Com.
"Dunlop" African Research Fellow: G. Ngcobo, M.A. (Yale), B.A., B.Econ.
Research Assistants:
G. E. Stent, B.A.
V. Sirkari Naidoo, B.A., B.Com.
B. Nomvete, B.A. (Soc.Sc.), "Creteweld" Research Scholar.

SOCIOLOGY AND SOCIAL WORK:
Senior Lecturer: P. J. de Vos, M.A. (Pret.), D.Phil.
Lecturers: Miss C. C. Greeff, B.A. (Stell.), M.A. (Pret.)
L. T. Badenhorst, M.A. (Stell).

SOCIAL ANTHROPOLOGY:
Professor: J. D. Krige, B.A. Hons. (Cape), LL.B. (S.A.), B.A. Hons. (Oxon.).

ZULU:
Temporary Lecturer: D. McK. Malcolm.

MECHANICAL ENGINEERING:
Professor: J. H. Neal, A.R.C.S. (London), A.M.Inst.C.E., M.I. Mech.E., A.F.R.Aë.S., Wh.Ex.
Senior Lecturer: E. P. Reim, B.Sc. Eng. (S.A.), A.M. Inst. C.E., A.M.I. Mech. E., Mem.A.S.M.E., Chartered Civil and Mechanical Engineer.

CIVIL ENGINEERING:
Professor: W. M. Thomas, B.Sc. (Wales), B.Sc. Eng. (Leeds).
Senior Lecturer: C. A. Rigby, B.Sc. (C.E.) (Manitoba), A.M.I. Struct.E. Chartered Structural Engineer.
Technician—Engineering Workshop: H. D. Thorpe.

ELECTRICAL ENGINEERING:
Professor: H. Clark, B.Sc. Eng. (Lond.), D.I.C., M.I.E.E., A.C.G.I., Chartered Electrical Engineer.
Senior Lecturer: W. E. Phillips, M.Sc., Eng. (S.A.), A.M.I.E.E., S.M.I.R.E., Chartered Electrical Engineer.
Temporary Lecturers: R. Grimmond, B.Sc. (Capetown).
A. Levin, B.Sc. (Eng.), (Rand).
Technician, Electrical Workshop: A. G. Brinkworth.

PART-TIME LECTURERS, 1946.

COMMERCE BUILDING.

FACULTY OF COMMERCE AND ADMINISTRATION:
Mr. H. J. L. Brown, B.Com. (S.A.), C.A. (S.A.), Accounting.
Mr. W. J. Fairbairn, C.A. (S.A.), Accounts of Executors, Liquidators and Trustees.
Mr. F. Moe, B.A. (S.A.), M.A. (Calif.), Economic Geography.
Mr. N. S. Tod, A.S.A.A., C.A. (S.A.), Accounting.
Mr. R. Walker, B.Com. (S.A.), C.A. (S.A.), Commercial Arithmetic.

FACULTY OF ARTS:
Mr. G. Bourquin, M.A. (S.A.), Hollands.
Mrs. M. Palmer, M.A. (Glasgow), Politics and Economic History.
Mr. N. W. Bowden, B.A. (N.Z.), Latin.

FACULTY OF ARTS (SOCIAL SCIENCE):
Dr. C. A. M. Murray, B.Sc., M.B., B.Ch. (Wits), D.P.H., Personal and Public Hygiene, Social Work.
Miss N. C. Rose-Innes, B.Admin., Economics.
Mr. H. Dreyer, M.Econ., Afrikaans.

PROFESSIONAL COURSES.

ACCOUNTANCY:
Mr. H. J. L. Brown, B.Com. (S.A.), C.A. (S.A.), General Commercial Knowledge.
Mr. W. J. Fairbairn, C.A. (S.A.), Trustees' and Executors' Accounts.
Mr. N. S. Tod, A.S.A.A., C.A. (S.A.), Accounting.
Mr. R. Walker, B.Com. (S.A.), C.A. (S.A.), Commercial Arithmetic.

ARCHITECTURE AND QUANTITY SURVEYING:

Mr. D. C. McDonald, A.R.I.B.A., Acting Head of Department of Architecture and Quantity Surveying, Building Construction, Theory of Structure, Professional Practice.
Mr. S. N. Tomkin, B.Arch., A.R.I.B.A., M.I.A., Design.
Mr. F. W Powers, A.R.I.B.A., M.I.A., History of Architecture.
Mr. E. B. Marriott, B.Sc (Eng.), AM. Inst. C.E., A.M.I. Struct. E., Theory of Structures.
Mr. C. J. Leigh-Hunt, P.A.S.I., N.C.Q.S., Specifications and Quantities, Sanitation and Hygiene.
Miss H. Brandt, B.A. (Fine Arts), Drawing and Perspective.
Mr. N. H. Wiseman, Dipl. Q.S. (Pret.), P.A.S.I., M.C.Q.S., Quantities.

STAFF OF THE NON-EUROPEAN COURSES.

Mr. W. J. Fairbairn, C.A. (S.A.), Accounting I.
Mrs. M. Palmer, M.A. (Glasgow), Politics I and II, and Economic History.
Mr. V. Sirkari Naidoo, B.A., B.Com. (S.A.), Economics.
Mr. H. S. Miller, M.Ed., B.Sc. (SA.), M.A. (Yale), Education I.
Miss E. Sneddon, M.A. (Glasgow), English I, II and III. English (M.A.)
Professor G. H. Durrant, M.A. (Cantab.), English (M.A.).
Mrs. F. MacDonald, M.A. (Glasgow), English Practice; History I, II and III.
Mr. J. L. Reynolds, B.A. (S.A.), Elementary Theory of Finance and Statistics.
Miss E. Janssen, M.A. (Mod. Lang. Lond.), French, Special.
Mr. W. K. Douglas, B.A. (S.A.), Geography I and II.
Mr. A. F. Berruti, B.A. (S.A.), Geography II and III.
Mr. G. Russell, B.A. U.E.D. (S.A.), Geology I.
Mr. A. Levine, B.A. (S.A.), Latin II.
Miss V. Hunkin, B.A., U.E.D. (S.A.), Psychology I.
Prof. B. Notcutt, B.A. (Oxon.), D.Ph. (Stell.), Psychology II and Psychology (M.A.)
P. J. de Vos, M.A. (Pret.), D.Phil., Sociology I.
Mr. L. T. Badenhorst, M.A. (Stell.), Sociology I.
Prof. G. M. J. Sweeney, B.A., LL.B. (S.A.), South African Criminal Law.
Mr. G. Wynne, B.A., LL.B., M.A. (Oxon.), South African Criminal Law.
Organiser: Mrs. M. Palmer, M.A.
Secretary: Mrs. W. M. Mackay.
Assistant Secretary: Miss N. Kayser, B.A. (Hons. Eng. Lond.)
Bookkeeper: Mrs. R. J. Randall.
Librarian: H. Coblans, M.Sc., Ph.D. (S.A.)
Assistant-in-charge: W. W. T. Mbere, B.A. (S.A.)

ADMINISTRATIVE STAFF.

Principal: E. G. Malherbe, M.A., Ph.D
Registrar: P. G Leeb-du Toit, B.Com. (S.A.)
Accountant: N. D. Downard, C.A. (S.A.) ,
Secretary: Miss C. A. Graham, Howard College, Durban.
Secretary: Miss V. Luyt, Commerce Building, Durban.

Bookkeeper: Mrs. E. Arbuckle.
Principal's Secretary: Mrs. J. P. du P. Coetzer.
Assistant to Registrar: Miss S. Centlivres.
Clerical Assistant: Miss P. J. Whitehorn.
Senior Shorthand Typists: Miss D. S. Burger, Miss R. Wills, Miss D. M. Oliver.
Shorthand Typists: Miss P. C. Cope, Miss M. A. Forsyth-Thompson, Miss D. Perks.
Staff Shorthand Typists: Miss M. J. Munro, Miss S. Bland, Miss O. Peel.
Filing Clerks: Miss K. S. Dixon, Miss D. C. Liefeldt.

LIBRARIES.

Librarian: H. Coblans, M.Sc., Ph.D. (S.A.)

PIETERMARITZBURG:

Assistant-in-charge: Olga H. McDonald, B.A. Hons. (Rand).
Junior Assistant: Joan G. Taylor.

DURBAN:

Howard College.—Assistant: Barbara D. Fraser, B.A. (S.A.)
Junior Assistant: Jean Skea.
Commerce Building.—Assistant: Jeanette Jameson, B.A. (S.A.)
Non-European Section.—Assistant-in-charge: W. W. T. Mbete, B.A. (S.A.)

HOSTELS.

WOMEN'S HOSTELS:

Pietermaritzburg.—Lady Warden: Mrs. M. E. Kirwood.
Matrons: Mrs. M. B. Gallender-Nicolson, Mrs. E. A. M. Williams.
Durban.—Lady Warden: Miss E. Sneddon, M.A.
Matron: Mrs. M. Jorissen.

MEN'S HOSTELS:

Pietermaritzburg.—Warden: R. L. Rosenberg, M.A. (Cape), Dr. Phil. (Berlin), D.I.C. (London).
Matrons: Mrs. J. Kuit, Miss W. C. Steinmetz, Mrs. L. Osborne.
Durban.—Warden: Prof. B. Notcutt, B.A. (Oxon.), D.Ph. (Stell.)
Matrons: Mrs. N. Howard, Miss E. D. Stuart.

CARETAKER: G. J. Laurent (Durban).

SUPERINTENDENT OF GROUNDS AND BUILDINGS (Howard College): W. G. J. Vorster.

SUPERINTENDENT OF GROUNDS AND BUILDINGS (Pietermaritzburg): Vacant.

GROUNDSMAN: W. J. Seager (Pietermaritzburg).

PUBLICATIONS BY STAFF, ALUMNI AND STUDENTS, 1945.

A.—By STAFF.

Professor F. B. Burchell:
Solicitor's Reference Book. (In the press.)

Professor H. R. Burrows:
"Bancor, Unitas and Bretton Woods."

Mr. J. L. Cattaneo:
(1) "Le développement de la pensée d'André Gide" (Pages 167-177 de la "Revue Littéraire," Suisse, Mars).
(2) "Idéal at Réalité dans l'oeuvre de Jean Giraudoux" (pp. 225-242 de la "Revue Mozambique" Août).
(3) "L'Art de Paul Morand" (pp. 280-392 de la "Revue Littéraire," Suisse, Décembre).
(4) "La Conception bergsonienne du Temps dans le roman de Marcel Proust" ("Revue Mozambique" No. de Décembre).

Professor G. H. Durrant:
"English Studies and the Community." Inaugural Address, published by the College.

Mr. P. du P. Grobler:
Artikel in „Ons Eie Boek" oor „Die Gerf" van M. I. Murray.

Professor A. F. Hattersley:
"Hilton Portrait." London: William Collins.
"Dobie's South African Journal." Capetown: Van Riebeck Society.

Mr. N. Hurwitz:
"The Minimum Price Policy"—Articles in The Farmer, September 7 and 14, 1945.

Professor T. H. Kelly:
"Social and Economic Statistics in the Union"—Article in South African Journal of Economics, December, 1945. (Vol. 13, No. 4).

Professor J. J. le Roux:
„Anglisismes" („Die Huisgenoot," Maart en April, 1945).
Boekbesprekings in „Ons Eie Boek."

Met T. H. le Roux—„Middelnederlandse Grammatika," tweede, verbeterde druk (van Schaik, Pretoria).

Dr. G. S. Nienaber:
Artikels in „Die Huisgenoot": Oor Kaatjie Kekkelbek.
Vermiste Afrikaanse Digbundel gevind (saam met Dr. P. J. Nienaber).
Boekbesprekings, maandeliks in „Taalgenoot."
Artikel in „Tydskrif vir Folklore" oor ontstaan van „Vat jou goed en trek Ferreira."

Dr. B. Notcutt:
"What the Soldier Thinks"—„Wat die Soldaat Dink." Report of an attitude survey in the U.D.F., published by General Staff Headquarters: separate English and Afrikaans editions.
"When We All Get Home" (Lectures to soldiers on psychological reorientation to civilian life), published by Army Education Service, Cairo.
"When Our Men Come Home"—„Wanneer ons Manne Tuiskom" (psychological reorientation for relatives of P.O.W.'s), published by General Staff Headquarters, English and Afrikaans versions bound together.

Mr. W. E. Phillips:
"Radio-Location," Proc. Natal Institute of Engineers, November, 1945.
Mr. R. J. Randall:
"Economic Destiny—A Review Article," Commercial Opinion, January, 1945.
"The Health Services Commission," Commercial Opinion, February, 1945.
Dr. W. H. O. Schmidt:
„Freud se psigoanalitiese Teorie. 'n Kritiese Beskouing" in „Tydskrif vir Wetenskap en Kuns."

Dr. F. C. Tompkins:
(1) Inorganic Chromatography: with P. W. M. Jacobs.
Part I.—Static Adsorbtion Measurements.
Trans. Faraday Society, 1945. 41, 388.
Part II.—Position, rate of advance and width of Adsorbate Zones.
Trans. Faraday Society, 1945. 41, 395.
Part III.—Elution Curves.
Trans. Faraday Society, 1945. 41, 401.
(2) The Thermal Decomposition of potassium permanganate (with E. G. Prout).
Trans. Faraday Society, 1944. 40, 488.
(3) Kinetics of Oxidation of picric acid by potassium permanganate.
Trans. Roy Society (S.A.), 1945. 30, 201.

Professor F. L. Warren:
Report VII, "Silver and Silvered Copper Catalysts for the Catalytic Oxidation of Alcohol" (with G. Goodall).
Report VIII, "Pilot plant experiments for the catalytic oxidation of alcohol to acetaldehyde," (with G. Gaigher, D.Sc., and J. W. van der Merwe, A.M.I.Chem. E.).
(Department of Commerce and Industries, Union of S.A. Govt.)

The Building Materials Research Group, consisting of Mr. C. A. Rigby, Dr. H. Coblans, Mr. S. N. Tomkin, and Mr. E. P. Reim.
Data Sheet No. 2, published in the Joint Societies Journal, N.U.C., Durban, 1945, pp. 72, 73.

B.—ALUMNI.

Miss A. E. Breuckner:
"Transpiration Studies of some Natal Midlands Thornveld Trees." S.A. Journal Sci. Vol. XLI., pp. 186-193.
C. R. C. Heard (with W. O. and G. M. James):
On the oxidative decomposition of hexosediphosphate by barley and the role of Asorbic Acid. New Phytologist. Vol. 43, 1944.
H. Brian Rycroft:
The Karkloof Forest, Natal.—Journal of S.A. Forestry Association, June, 1944.
A. S. V. Barnes:
Afrikaanse Grammatika en Taalkunde (Nas. Pers.)
Afrikaanse Grammatika vir Engelssprekendes (Nas. Pers.).
D. J. Opperman:
Heilige Beeste (Nas. Pers.)
Artikels in „Ons Eie Boek," „Skrywerskring-Jaarboek" en „Die Huisgenoot."
C. J. Nienaber:
Artikels in „Die Naweek."

Entrance to College.
Rules for Students.
Courses.
Scholarships,
Bursaries & Loans.
Facilities for Study
and Research.
Residences.
Student Societies.
Past Students Union.
Schedule of Fees.

GENERAL INFORMATION FOR STUDENTS

ENTRANCE TO COLLEGE.

Under terms of the Natal University College Act of 1909 the Council reserves the right of admission to the College.

The normal qualification for admission to a degree course is the Matriculation Certificate of the Joint Matriculation Board, or the Board's certificate of exemption from the Matriculation Examination. Students who are not qualified, or who do not desire, to take a regular course may be admitted to individual classes, provided the professor or lecturer concerned is satisfied that they are competent to profit by the instruction given; further, those who have written the Supplementary Matriculation Examination in February and intend to join the College, are advised to communicate with the Registrar before the College opens.

The Academic Year is divided into two terms, the first of which commences towards the end of February. Students are strongly advised to enter at that date so as not to prejudice their chances of completing the requisite number of class attendances for university examinations.

Students who have School Leaving Certificates may in certain cases obtain conditional exemption from the Matriculation examination which would entitle them to enrol for degree courses. Full details may be obtained from the Registrar.

Fees are payable half-yearly. Accounts are sent out to parents when fees become due. Students are not expected to bring cash for fees when enrolling.

Students proposing to attend the College are expected to reside at one of the residences, unless they are living at home with their parents. Should students desire to reside elsewhere than in the residences they must apply for special permission to do so from the Senate.

Students should note that in terms of Act 25 of 1941 a college authority shall have the right to require a student to reside for the periods during which the College is in session at a place of residence approved for the purpose by the College authority.

Preference in the admission of students to the residences is given to those entering the College for their first year of study.

For further particulars relating to the residences, reference should be made to page ??.

RULES FOR STUDENTS.

1. Every student, on joining the College, shall sign the College Register, and such signature shall be regarded as binding the student to submit to the discipline of the College authorities. Such signature shall also signify the student's acquaintance with the Rules for Students.

2. All students are subject to the control of the Senate and are required at all times, whether on the College premises or not, to abstain from conduct tending to bring discredit on the College.

3. The Senate has authority to deal with any student guilty of misconduct; it may also recommend to the Council that a student be suspended from attendance, or be expelled from the College.

4. Any damage done to the property of the College by any student shall be made good by that student.

5. All students are expected to wear academic dress while attending lectures and at all academic functions.

6. Regular attendance at lectures and practical classes is compulsory. In the case of unavoidable absence, the student shall, as soon as possible, give reasons for such absence to the professor or lecturer whose lectures or practical classes have been missed.

7. Before a student is allowed to enter for a degree examination in any subject he is required to have a "Duly performed" certificate from the Professor or Lecturer in charge of each subject. Such D.P. certificate will be refused in the case of a student who has not attended lectures regularly and performed the work of the class to the satisfaction of the professor or lecturer in charge. (See also Reg. 7 of the Rules for Internal Students, University of S.A. Calendar).

8. Any student who has been suffering from a contagious or infectious illness shall not attend College until a medical certificate has been furnished to the Registrar to the effect that the student may return to the College without risk of infection to others.

9. Any College Society or Sports Club, contemplating a tour away from Pietermaritzburg or Durban, or a public performance for which entry money is charged, must first obtain the permission of the Principal. All College dances arranged by College students must have the sanction of the College authorities.

10. The possession or use of firearms within the College grounds is forbidden.

11. All student publications shall be subject to control by the Principal or his duly authorised deputy, acting on behalf of the College authorities.

COURSES OF STUDY.

DEGREES AND DIPLOMAS.

The College provides full courses for the following degrees and diplomas in the various faculties of the University of South Africa, viz.:—

Faculty of Arts.—B.A., B.A. (Fine Arts), M.A.
Faculty of Science.—B.Sc., M.Sc.
Faculty of Social Science.—B.A. (Social Science).
Faculty of Engineering.—B.Sc. (Eng.), M.Sc. (Eng.)
Faculty of Commerce.—B.Com., B.Econ., M.Com., M.Econ.
Faculty of Education.—University Education Diplomas, M.Ed.
Faculty of Law.—LL.B., LL.M.
Faculty of Agriculture—B.Sc. (Agric.), M.Sc. (Agric.).
and for Doctorates in the above faculties.

INITIAL COURSES IN VETERINARY SCIENCE, MEDICINE, DENTISTRY AND SURVEYING.

First-year courses are provided for degrees in the faculties of Veterinary Science, and in Medicine and Dentistry. The subsequent courses for the completion of these degrees may be taken: in Veterinary Science, at the University of Pretoria; in Medicine, at the Universities of Cape Town, Pretoria, and the Witwatersrand; and in Dentistry, at the University of the Witwatersrand.

The College also provides First and Second Year courses for the degree of B.Sc. in Surveying. Candidates may complete their degrees at the Universities of Cape Town or Witwatersrand.

PROFESSIONAL EXAMINATIONS.

Students are also prepared for the following professional examinations:—
Natal Advocates' Certificate.
Attorney's Admission Examination.
Civil-Service Law Certificate.
Theory of Land Surveying.
Natal Third-Class Teachers' Certificate.
Certificate in Architecture and Quantity Surveying.
Examination of the General Examining Board of the South African Accountants Societies.
Preliminary Scientific Examination of the South African Pharmacy Board.

DISTRIBUTION OF FACULTIES AND COURSES.

Pietermaritzburg:

In Pietermaritzburg, courses are given leading to degrees in the Faculties of Arts (including Fine Arts), Science, Education, Agriculture and Law, and in addition, First Year Courses in Engineering, Veterinary Science, Medicine and Dentistry, and certain courses for Professional Accountants.

Durban:

In Durban, courses are given leading to degrees in the Faculties of Engineering, Commerce and Administration, Law and Social Science; and in addition, courses for Professional Accountants and in Architecture, First and Second Year courses in Surveying, First Year courses in Science, and Part Time and Full Time courses leading to a degree in Arts.

Instruction for the degree of B.A. (Fine Arts) is at present only provided in Pietermaritzburg. Courses in Sociology are at present only provided in Durban.

CURRICULA.

At the beginning of each academic year heads of departments will be in attendance to advise students as to the courses to be followed. No proposed curriculum will be accepted by the Registrar unless it has been approved by the professors or lecturers in charge of all subjects, and also countersigned by the Dean of Faculty.

Intending teachers taking full time courses must also secure the approval of their curricula by the Professor of Education.

PART-TIME CLASSES.

Persons whose occupation prevents them from attending the ordinary classes conducted at the Natal University College, and who furnish a declaration to that effect from their employers, may attend special classes in certain subjects leading to degrees in the various faculties of the University of South Africa.

Part-time classes are held both in Pietermaritzburg and in Durban, but the formation of any class depends on the demand, and intending students are recommended to apply to the Registrar one month before the beginning of the academic year.

Students attending these classes are in every sense members of the University College, and are entitled to all the usual student privileges.

These classes may also be attended by other persons, not for degree purposes. A leaflet, giving particulars of part-time courses in Durban is issued at the beginning of each calendar year.

For details of fees, see page ?? et seq.

NON-EUROPEAN COURSES.

Classes for Non-European students preparing for University degrees are held at Sastri College, Durban, mainly on Saturdays, and, while the present transport difficulties last, on Sunday mornings. These times enable students who live outside Durban to attend. Some lectures are held in mid-week.

The principal subjects offered in 1947 will be Economics, English, Education, Geography, Latin, Mathematics, History, Politics, Psychology, Sociology; but provision may, in certain circumstances, be made for other subjects if a sufficient number of students make application for them. It is possible that courses for the B.A. (Soc. Sc.) and/or B.Com., may be offered in 1947 in whole or part to Non-Europeans. Further information will be provided in advertisements.

A Vacation School, covering a period of 12 days in July, will be held at Adams College. This will afford an opportunity for more intensive study under the personal direction of the lecturers. Only matriculated students, or those who have attained an equivalent standard, are permitted to attend the Vacation School. Certain students not enrolled in the N.U.C. may, with the special permission of the Organiser, be allowed to attend.

The subjects offered in the Non-European Courses will be of use to students preparing for the general or cultural subjects of the Teachers' Certificate Examination of the Natal Education Department (T2). Intending teachers must secure the approval of the Professor of Education in respect of curriculum, and teachers already in the employment of the Natal Education Department should secure the approval of that body.

A Library has been established for the use of Non-European students pursuing University courses. Through the generosity of the Union Education Department and the Natal Education Department a group of buildings exclusively for the work of the Non-European classes has been erected at the rear of Sastri College and in these are situated the Library, Common Rooms for Staff and Students, and the office of the Non-European Courses.

FEES.

	Per half-yearly term.
Ordinary subjects	£2 10 0
Courses in Geography	3 0 0
Major subjects	3 0 0

VACATION SCHOOL:	Per session.
For past and present students of the N.U.C.	2 0 0
Other students	3 0 0
Fee for practical work in Geography	10 0

In addition, the University examination fees of £1 per subject, and the University registration fee of £2 per annum will be payable. These fees may be increased without notice.

At the beginning of each academic year, the organiser and heads of departments (or their responsible lecturers) will be in attendance to advise students as to the courses to be followed. No proposed curriculum will be accepted by the Registrar unless it has been approved by the professors or lecturers in charge of major subjects.

Inquiries regarding courses, etc., should be addressed to the Organiser of Non-European Courses, P.O. Box 1525, Durban.

SCHOLARSHIPS AND BURSARIES.

Scholarships and Bursaries open to Undergraduates.

TENABLE AT THE NATAL UNIVERSITY COLLEGE.

Unless otherwise stated, application for the following Bursaries and Loans must be made to the College Registrar, upon the prescribed forms obtainable from him, as soon as possible after the publication of the Matriculation Examination results.

Municipal Bursaries.

The Municipal Corporations of Pietermaritzburg, Durban, Ladysmith and Estcourt provide bursaries for students belonging to these towns, who have passed the Matriculation Examination of the Joint Matriculation Board.

Application for the Ladysmith bursary, value £25, should be made to the Town Clerk, Ladysmith, and for the Quentin Smythe, V.C., Scholarship, value £50 per annum, to the Principal, Estcourt High School, prior to the taking of the matriculation examination. The award of the latter scholarship is mainly based on the matriculation results, though sport, character and other qualifications are taken into account.

Details of Durban Municipal Bursaries.

Directions to Applicants.

1. Pay close regard to the terms of the Town Council's resolution of the 7th July, 1916, and later amendments (appended below) by which the Bursaries have been established and are granted. Send application to the Registrar, Natal University College, Pietermaritzburg, as soon as possible after the results of the Matriculation Examination have been published, on the prescribed forms which are obtainable from him.

2. State on application form:

(a) Name and address of applicant and of father.

(b) Whether father is himself unable to afford cost of fees and other charges incidental to the attendance of a student at the University College: Approximate cost at Pietermaritzburg, £120 a year; at Durban, £60 a year (if resident at home).

(c) Age, *supported by certificate;* and whether the applicant has been **resident** (not merely for educational purposes) and **educated** within the limits of the Borough of Durban for **three** years prior to the immediately preceding Matriculation Examination.
(d) The class of the Matriculation Examination (1, 2 or 3) in which the applicant passed.
(e) The school last attended.
(f) The course of study it is proposed to follow.

Bursaries will be payable by the Registrar, Natal University College, half-yearly, on production of a certificate of regular attendance, good conduct and diligent work—to which the several professors of the University College whose classes are attended give their assent.

Conditions.

Conditions approved by the Town Council of the Borough of Durban on 7th July, 1916, as amended on 4th October, 1918, 7th January, 1919, 10th November, 1932, and 9th December, 1932.

(a) That there be awarded annually by the Council three bursaries—one of the value of £80 per annum, tenable at the Natal University College, Pietermaritzburg, and two of the value of £40 each tenable at Howard College, Durban—to the children of parents who, without assistance, are unable to afford the cost of University education, and comply with these conditions, such bursaries to be known as "The Durban Municipal Bursaries," and to be utilised for the purpose of enabling the holders to obtain the B.A., B.Sc. or B.Com. degree of the University of South Africa and such other degrees as may be studied for at Pietermaritzburg or Durban.
(b) That these bursaries be tenable for **three years**, subject to satisfactory reports being received periodically as to attendance, progress, and conduct of bursars.
(c) That the bursary of £80 per annum tenable at the Natal University College as aforesaid shall be awarded either to a male or female scholar according to merit, and the two bursaries of £40 each tenable at the Howard College, Durban, shall be awarded one to a male and one to a female scholar, provided that the candidates shall have been resident (*bona fide* and not merely for educational purposes) and educated within the limits of the Borough of Durban for three years prior to the entrance examination being held, **and are not over the age of seventeen years on the first day of January preceding the examination, and are otherwise qualified hereunder.**
N.B.—The Town Council on 10th November, 1932, decided that the residential qualification be held to refer to the limits of the extended Borough.
(d) That the bursaries be awarded annually as soon as may be after the Matriculation Examination, in order of merit as ascertained in the said examination.
(e) That the eligibility of candidates and the selection of those to whom bursaries shall be awarded shall be determined by a Committee consisting of the Mayor of Durban and a representative duly appointed by the Council of the Natal University College, whose decision shall be final and binding on all parties. Notwithstanding the provisions of paragraphs (a) and (c) hereof, the Committee may in any year, if satisfied that it is

necessary or desirable to do so, award both bursaries of £40 per annum to *men students* or *women students* without regard to the provisions as to sex contained above. The Committee is directed, however, to pay due regard to the wishes of the Council as reflected in Clauses (a) and (c) above and not to depart from the provisions of such clauses without proper cause.

Pietermaritzburg Corporation Bursaries.

1. One Bursary valued at £50 will be awarded annually.
2. The bursaries will be tenable at either branch of the Natal University College.
3. In the award the report of the candidate's Headmaster or Headmistress on character and school record shall be taken into account as well as success in the Matriculation examination.
4. The bursaries shall be available for the sons or daughters of citizens who have been domiciled in Pietermaritzburg Borough for a period of at least five years prior to the award.
5. Each bursary shall be awarded in the first place for one year and shall be renewable for the second and third years on condition of good conduct and progress at the Natal University College.
6. Applications shall be submitted to the Registrar of the Natal University College, and considered by the appropriate Committee. Recommendations shall subsequently be made to the Mayor, whose decision in conjunction with the Principal shall be final.

Dick King Centenary Exhibition.

In May, 1942, the Centenary of Dick King's ride from Port Natal to Grahamstown was celebrated in Durban.

The Council of the Corporation of the City of Durban resolved that as a means of commemorating the Dick King Centenary, an annual Exhibition, to be called the "Dick King Exhibition," be established in perpetuity at the Natal University College.

The conditions are as follows:—

1. The Exhibition shall be known as the Dick King Centenary Exhibition.
2. The value shall be £50 per annum and an award shall be made in each year as soon as possible after the Matriculation results are available.
3. The Exhibition shall be for **one** year in the first instance, but may be renewed for a further **two** years subject to satisfactory work.
4. The award of the Exhibition shall be confined to boys, who must be sons of Durban residents.
5. The Exhibition shall be tenable at the Natal University College only and for study in any Department thereof.
6. The Exhibition shall be entirely an entrance exhibition, i.e., confined to boys who have not entered a University institution.
7. The holding of another scholarship or bursary shall not preclude any qualified boy from receiving the award of this Exhibition.
8. The basis of selection may be revised and altered from time to time. At present the Bursaries and Scholarships Committee of the Natal University College recommends selected candidates to the Mayor of Durban. After consultation with the Principal of the College, the Mayor's decision is final.

The Scholarships Committee takes into consideration:—

(a) Character, personality, and leadership as shown in school life and as evidenced by the report of the Headmaster of the candidate's school.

(b) Matriculation result.
(c) Excellence in one particular subject as evidenced by the Matriculation result and, if deemed necessary, by the school record.

9. Residential Qualification.—It is a condition that candidates shall have been resident (*bona fide* and not merely for educational purposes) and educated within the limits of the City of Durban for three years prior to the examination. This is similar to the conditions which apply to the existing Durban Corporation Bursaries.

School Bursaries.

The Governors of Hilton College have founded a bursary of £30 per annum tenable by a student of the College proceeding to the Natal University College.

The Governors of the Girls' Collegiate School, Pietermaritzburg, provide annually a bursary, value £30, tenable for one year at the Natal University College.

The Past Girls' Association of Wykeham School, Pietermaritzburg, provides a bursary of the value of £20 for one year, which may be held at the Natal University College, and is renewable under certain conditions.

Application for the above should be made to the respective school authorities.

The Pietermaritzburg Caledonian Society Bursary.

This bursary was founded in 1913 to enable students of Scottish descent, resident in the Midlands of Natal, to continue their studies at the Natal University College. The bursary is approximately of the value of £10, and in the award regard shall be had to the place taken by such student in the Matriculation Examination of the Joint Matriculation Board. The Society or its representatives may at their discretion continue the bursary to successful candidates during their College course, subject to a favourable report by the College authorities on the progress they have shown in their studies. Due notice will be given in the local press of the bursary falling vacant in any particular year.

Application to be made to the Secretary of the Pietermaritzburg Caledonian Society.

C. W. Jardine Scholarships.

These scholarships are tenable at the College but are administered by a Board of Trustees and not by the College. Two are awarded annually and are valued at £120 each.

Vacant scholarships are advertised in the Press.

The Janet Dick Bursary.

By the generosity of the late Colonel James Dick, a former member of the Council of the Natal University College, a sum of £2,000 was bequeathed in memory of his mother, to found a bursary to enable a girl student to proceed to a degree in the University of South Africa at Pietermaritzburg or Durban.

The value of the bursary is £70 per annum, tenable for **three** years: renewal from year to year is dependent on a satisfactory record.

There are no restrictions as to age, nationality, previous residence, or previous school attendance; preference will, however, be given to youth and British nationality.

The Council requires to be satisfied:

1. That a girl is intellectually brilliant.
2. That without the assistance of the bursary, the girl would be unable to pursue a degree course.

Each beneficiary under the Fund will, on entering upon her course, be given an opportunity of making a written declaration to the effect that she intends to repay to the fund, after taking her degree, in her own time and at her own convenience, should her means permit, the amount of the financial assistance received from the fund, the repayment being made in order that another girl may in due time be helped to pursue a degree course at the University.

The next award will be made in January, 1949.

Leon Renaud Bursaries.

In 1938 the late Mrs. Cecile Renaud donated a sum of £2,000 to the College for the purpose of founding a bursary or bursaries in memory of her late husband, Advocate Leon Renaud.

The donor expressed the wish that preference should be given to students desiring to take a legal course. This will be borne in mind when awarding these bursaries, which are awarded for **one** year in the first instance but may be renewed for a further **two** years subject to satisfactory progress.

One bursary of £25 will be awarded in 1947.

The Sir William Mitchell Cotts Scholarship.

In 1922 Sir William Mitchell Cotts gave a sum of one thousand pounds to the Natal Technical College, for the endowment of a scholarship in Commerce, to be awarded at the discretion of the College Council. The Natal Technical College Council decided that the yearly income arising from this endowment should be utilised for an open scholarship tenable for a period of three years by a student taking the B.Com. degree course at the Natal University College, Durban. The scholarship is of the approximate value of £40 per annum and will next be awarded in January, 1947.

The Leuchars Bursaries.

The Trustees of the late J. W. Leuchars gave a sum of £800 for the endowment of bursaries, value £34, to enable students of the Technical High School to proceed to degree courses at the Natal University College, Durban.

The next award will be made in January, 1947.

Henry Delalle Scholarship.

The Henry Delalle Scholarship, established in 1929, is of the value of £30 a year for three years, and tenable at the Natal University College. The scholarship is offered each year to the candidate from Catholic secondary schools in Natal who obtains the highest marks in the Matriculation Examination.

Applications are not made for this Scholarship.

Sir John Robinson Scholarships.

Lady Robinson and Family have provided scholarships in memory of the late Sir John Robinson, the scholarships to be awarded by the Council of the Natal University College, upon the following conditions:—

One or more scholarships shall be awarded each year, and shall be tenable for the normal duration of the University course pursued by the scholar. The value of the scholarships is approximately £50 per annum, assignable as the Council may recommend to the Trustees.

The scholarships shall be open to Natal students, that is to say:—

(i) the candidates must be born in Natal.

or (ii) the sons or daughters of parents born in Natal.

or (iii) have received their education, for the three years preceding their candidature, in Natal.

The scholarships shall be tenable at the Natal University College. **Preference will be given to candidates entering for Commerce, Engineering, or such other faculties as may be established in Durban.** In the event of no suitable candidate coming forward in any one year for these branches, the scholarships shall be open to candidates desiring to pursue a Science, Arts or Fine Arts course in Pietermaritzburg.

The scholarships shall be awarded, in general, to the best candidates available, as determined by the Matriculation or other entrance examination to the University, *but due consideration will be given to the financial needs of the candidates* and to ability shown in one or more special directions. Financial need is considered to be of primary importance, and merit secondary to this.

Campbell Bursaries.

These, of the value of £21/5/- per annum, and in the gift of the Natal Technical College, were founded to commemorate the services rendered to that institution by the late Dr. S. G. Campbell. Next award 1948. Two will be available.

The Emma Smith Educational Fund Bursaries.

1. In terms of the bequest in the Will of the late Sir Charles G. Smith, these Bursaries are awarded to girls whose circumstances are such that they cannot pursue their University studies without some financial assistance. Candidates must fulfil the residential conditions of the Will. In cases of doubts as to this condition being fulfilled, the Council of the Natal University College shall decide.

2. Evidence as to financial need, satisfactory to the Council of the Natal University College, must be furnished by the parents or guardians of candidates.

3. In making awards, there shall be taken into consideration:—

(a) Need for full or partial financial assistance.

(b) Academic ability as shown by school records and Matriculation results, together with character and personality.

The Principal of the school which the candidate has last attended may be asked to give a confidential report on all candidates from that school.

4. The selecting or recommending body or a sub-committee thereof may call for a personal interview with any candidate or with the parent or guardian of each candidate before making recommendations to Council.

5. The Bursaries shall be awarded for full-time University study for **one** year in the first place, but shall be renewable for a further **two** years, subject to satisfactory conduct and progress. Renewal beyond a third year may be made only in cases of outstanding ability and for the purpose of study leading to a University degree.

6. The Bursaries are at present of no definitely fixed value, but the amounts awarded shall be adjusted to meet the needs of each case as far

as possible, providing, however, that the Council may fix a maximum value to these Bursaries, which shall not be exceeded without a special resolution of Council duly recorded in its minutes.

7. The holders of the Emma Smith Educational Fund Bursaries shall be required to be resident at College, if there is accommodation for them in the Residences.

8. The decision of the Council of the Natal University College as to any or all awards shall be final.

9. The selection of candidates for recommendation to Council may be made by a Committee appointed for the purpose.

10. The residence clause in the Will of the late Sir Charles G. Smith will be interpreted as widely as possible.

The relative clause reads as follows:—

"The Council shall stand possessed of the said fund and the investments from time to time representing the same upon trust to apply the income thereof in and towards the higher education of European girls born of British South African or Dutch South African parents, who have been **resident in Durban** for a period of at least three years immediately preceding the grant, payment or allowance hereby authorised."

Michael Duchen Scholarship.

The family of the late Lt. Michael Duchen has donated a sum of money for the purpose of founding a bursary in memory of Michael Duchen, who was killed in the recent war.

Applicants must be either ex-servicemen, or the sons of ex- or servingmen, who were themselves too young to be eligible for military service. *Preference will be given to candidates entering the Faculty of Engineering.*

The value of the bursary is up to £150 per annum, the amount to be determined by the financial assistance required. Preference will be given to an applicant who would be unable to enter the University without financial assistance, but in all cases the award is to be subject to the ability of the candidate to benefit from a University Education.

The bursary will be tenable for four years, subject to satisfactory progress being made.

The next award will be made in 1949, in consultation with the mother of the late Lt. Duchen.

Natal University College Scholarships.

The College intends instituting College Scholarships which will be awarded solely on merit. The value will be between £25 and £35 each.

LOANS.

Natal University College.

A limited number of loans from College funds, not exceeding £50 per annum each, is available for students during their academic career. The recipient is required to sign an undertaking, supported by guarantee from two co-principal sureties, to repay the whole loan within a period of 1, 2, 3, or 4 years, according to the duration of the loan, dating from the expiry of the normal number of years required for the completion of the course chosen. Five per cent. interest is calculated on these loans from the beginning of the calendar year in which they are granted.

In the case of these loans, the applicant's financial circumstances will be considered.

Natal Education Department Loans.

The Natal Provincial Administration may grant loans to suitable candidates for diplomas in Education, who express the intention of serving as teachers in the primary or secondary schools of the Natal Education Department. Application for these loans should be addressed to the Secretary, Natal Education Department, P.O. Box 395, Pietermaritzburg, towards the end of October of each year.

Studielening van Natalse Christelike Vroueverenigng.

This Association is prepared to award one or more loans of not exceeding £30 each for the education at the College of promising Afrikaans-speaking students who would otherwise not be able to support themselves at the College. Applications for loans should be made to Mrs. J. H. Stander, 42 West Street, Pietermaritzburg.

Surrender of Bursaries or Scholarships.

Any holder of a bursary, scholarship or loan who relinquishes it shall forfeit, from the date of relinquishment, all benefits and privileges of the bursary, scholarship or loan, and shall be liable for the full term's fees.

SCHOLARSHIPS AND BURSARIES OPEN TO GRADUATES.

University of South Africa Exhibitions for Candidates for Master's Degree.

These were instituted by the Council of the University of South Africa in 1925 in order to assist candidates who have done meritorious work for the Bachelor's degree to proceed to the degree of Master. The value of the exhibitions is £60 and not more than *twelve* may be awarded in any one year; but an additional £20 may be paid when the course for the Master's degree extends to eighteen months. Applications to be made to College Registrar.

The Lady Steel Post Graduate Bursary.

At the beginning of 1942 a Lady Steel Post-Graduate Bursary was established. The Bursary is for the benefit of Women Students in Natal and its annual value is dependent on the interest earned on the capital sum of £1,000 donated by the late Lady Steel. The Bursary is tenable only at the Natal University College in Pietermaritzburg and is awarded as often as possible to a Woman Student of good character and proved ability, who is in need of financial assistance in order to pursue her studies.

The Bursary is for Post Graduate Study in the Faculties of Arts and Science, or for the Post Graduate course for the Degree of Bachelor of Laws and for Post Graduate study in the Faculty of Medicine, if and when such a Faculty is established in Natal.

Residence in the Women's Hostel is necessary.

1942/3 award: Miss A. E. Brueckner, B.Sc.
1944: No award.
1945: No award.
1946: No award.

Scholarships Granted by 'Het Studiefonds voor Zuid-Afrikaansche Studenten.'

Temporarily suspended. Conditions will be found in 1942 Calendar.

Botha Memorial Trust.

The Abe Bailey Voortrekker Scholarship.

Inter-University Committee for African Studies.

Grants-in-Aid of Research and Publication.

For details of these consult Registrar or Calendar of University of South Africa.

Scholarships Awarded on the Results of the Masters' Examinations.

The following scholarships are open to internal and external students of the University who have obtained the Master's Degree:—

Croll, Currie, Grey, Porter, Queen Victoria, Union: each £225 per annum for two years.

Ebden: £300 per annum for two years.

Hiddingh: £266 13s. 4d. per annum for three years.

Maynard: £90 per annum for two years.

Queen Victoria Memorial; Hiddingh-Currie Memorial; Webb Research: each £200 per annum for three years.

Any scholarship tenable for three years may be commuted to a scholarship of equal amount tenable for two years, provided such commutation is not prejudicial to the interests of the studies which the holder proposes to pursue.

Full details of the conditions of award of any of the above scholarships may be obtained from the University of South Africa Calendar.

Hiddingh-Currie Publication Grant.

Consult College Registrar for details.

The Beit Fellowship for Scientific Research.

£150 per annum.

Beit Memorial Fellowships for Medical Research.

£350 per annum.

Research Scholarships Awarded by the "Royal Commission for the Exhibition of 1851."

Trinity College, Cambridge.

(a) *Research Studentship.*
(b) *Dominion and Colonial Exhibitions.*
For details consult College Registrar.

Research Grant Board Scholarship.

Details will appear on College Notice Boards, when applications are invited.

THE RHODES SCHOLARSHIP.

£400 per annum. Applications are again being received for this scholarship. Full details and application forms may be obtained from the Secretary, Natal Education Department, P.O. Box 395, Pietermaritzburg.

ELSIE BALLOT SCHOLARSHIP.

Consult College Registrar.

PRIZES.

PRIZES ADMINISTERED BY THE NATAL UNIVERSITY COLLEGE.

COLLEGE PRIZES.

Medals or other prizes will be awarded to the best students in the various courses at the discretion of the Senate.

LUCAS PRIZE FOR CHEMISTRY.

The Lucas Chemistry Prize (for the purchase of books) is awarded annually on the nomination of the Professor of Chemistry.

DAMANT ENGINEERING PRIZE.

This prize is awarded to the best third year Engineering student.

PRIZES ADMINISTERED BY THE UNIVERSITY OF SOUTH AFRICA.

CAPTAIN SCOTT MEMORIAL MEDAL.

VOORTREKKER CENTENARY MEMORIAL FUND.

See Calendar of University of South Africa.

UNIVERSITY PRIZES ADMINISTERED BY THE JOINT VICE-CHANCELLORS' COMMITTEE.

[Full information as to these prizes may be obtained from the Secretary to the Vice-Chancellors' Committee, P.O. Box 594, Cape Town].

CORNWALL AND YORK PRIZE.

J. B. EBDEN PRIZE.

CHALMERS MEMORIAL PRIZE.

THE BRITISH ASSOCIATION MEDAL.

JAMES MOIR MEMORIAL FUND.

ROYAL EMPIRE SOCIETY.

(a) WALTER FREWEN LORD PRIZE IN IMPERIAL HISTORY.
(b) GRANT IN AID OF PUBLICATION OF MONOGRAPHS EMBODYING THE RESULTS OF RESEARCH RELATING TO THE EMPIRE.
Consult Registrar.

CORSTORPHINE BRONZE MEDAL.

For Geology.

This is awarded by the Geological Society of South Africa for original geological investigation of special merit. Post graduate students of not more than three years standing are eligible.

For details consult the Registrar.

FOUNDERS' PRIZE MEDAL OF THE ECONOMIC SOCIETY OF S.A.

The purpose of the award is to encourage economic research and to raise the standard of such research in South Africa.

The prize consists of a Founders' Medal in bronze together with an additional award of £10 (ten pounds), this money to be spent on books of an economic character chosen by the medalist and agreed to by the Central Council of the Economic Society with a bookplate signed by the President and Secretary.

The Founders' Medal is being instituted to commemorate the work of the late Professor H. E. S. Fremantle, the late Professor R. A. Lehfeldt and the late Mr. C. W. Pearsall, who inaugurated the Economic Society of South Africa.

The conditions of the award are the following:—

1. The award will be made to the candidate submitting the best dissertation for a master's or higher degree accepted by any University in South Africa.

2. The dissertation must make a contribution to knowledge and show original research in the field of pure economics or some field of applied economics.

3. The medal for a particular year will be awarded on the basis of dissertations accepted by the universities for the previous year.

4. It shall be the duty of all candidates interested to submit copies of their thesis for the purposes of adjudication.

5. The three joint editors of the South African Journal of Economics shall constitute the adjudicating committee, and shall make recommendations to the Central Council of the Society. The adjudicating committee has the right, if the necessity arises, of obtaining the opinion of any competent expert, either in South Africa or overseas.

6. The Council shall consider the recommendations of the adjudicating committee and shall make the award, provided that if no contribution of sufficient merit is published during any one year, no award shall be made for that year.

7. When the Council decides that a thesis is worthy of publication, it shall give sympathetic consideration to making such grants, in conjunction with the university authorities, as will enable the thesis to be published; and when the thesis is published, there should be reference to the Founders' Medal, and if assistance is given, there should also be reference to this.

CONCESSIONS, PRIVILEGES, ETC.

The following summary of concessions and privileges accorded by other universities and institutions to graduates and undergraduates of the University has been collected from the calendars and other official publications of these bodies, and is inserted for general information, but the College authorities are not in a position to **guarantee** the accuracy of the particulars.

Students are strongly advised to satisfy themselves as to the exact requirements of the University, whether in South Africa or overseas, to which they propose to go, and also as to the standard required in the various subjects. This applies particularly to Medical courses, of which only one year can be taken at the Natal University College.

University of Cape Town.

A student may proceed with the second year of medical study at the University of Cape Town if he presents:

(a) A certificate of attendance at the courses in the four subjects Botany, Chemistry (inorganic and organic), Physics and Zoology; and

(b) A certificate from the University of South Africa stating that he has passed the University degree examinations in the four subjects mentioned in (a) above. (If the student has not passed in the four subjects he may be exempted from one or more of the subjects in which he has obtained 50% of the maximum marks in the University degree examinations).

(N.B.—The student must have taken the courses and examinations recognised by the S.A. Medical Council and must fulfil the other conditions for registration as a medical student by that Council and must also have passed in Mathematics at the Matriculation examination).

University of the Witwatersrand.

M.B. Examination.

B.D.S. Examination.

The Senate of the University of the Witwatersrand accepts the certificates of the University of South Africa in Physics, Chemistry, Botany and Zoology (Course I., B.A. and B.Sc.) for purposes of the first M.B. Examination and for Dental Surgery, provided Matriculation Mathematics requirements have been completed before commencing studies for the first year.

University of Pretoria.

M.B. Examination.

The conditions for acceptance of first year medical students are similar to those shown above for the University of Cape Town and the Witwatersrand.

First B.Sc. (Agriculture) Examination.

The Senate of the University of Pretoria accepts the certificates of the University of South Africa in Physics, Chemistry, Botany, and Zoology (Course I., B.A. and B.Sc.) for the purposes of the B.Sc. Examination in Agriculture.

Students must pass in at least *three* of these subjects in one academic year before being admitted to the second year's curriculum in Agriculture.

First B.V.Sc. Examination.

The Senate of the University of Pretoria accepts the certificates of the University of South Africa in Physics, Chemistry, Botany, and Zoology (Course I., B.A. and B.Sc.) for purposes of the first examination for the degree of B.V.Sc. A course in special German is necessary for this examination.

Concessions at Overseas Universities.

All Universities and University Colleges in Great Britain and the Dominions award special concessions to students of the Natal University College on the grounds of passes obtained in the examinations of the University of South Africa. Students wishing to obtain particulars of these are strongly advised to communicate direct with the institutions to which they propose to go. Concessions of a similar nature are granted by American and European Universities.

The Institute of Chemistry of Great Britain and Ireland. ....

The Council of the Institute has placed the constituent colleges of the University of South Africa on the list of university colleges and schools recognised by the Council for the training of candidates for the examination of the Institute.

The Institution of Mechanical Engineers.

The Institution exempts holders of the B.Sc. Eng. degree of the University of South Africa from Sections A and B of its Associate Membership Examination.

The Institution of Civil Engineers.

The Institution exempts holders of the B.Sc. Eng. degree of the University of South Africa from Sections A and B of its Associate Membership Examination.

The Institution of Electrical Engineers.

The Institution exempts holders of the B.Sc. Eng. degree of the University of South Africa from its Associate Membership Examination.

Joint Professional Board of South Africa.

Graduates of the University of South Africa are, under certain conditions, exempt from Part I. of the examination in the Theory of Land Surveying, conducted by the Joint Professional Board.

The Institute of Chartered Accountants.

The Institute has recognised the University as an approved university, the graduates of which are entitled to exemption from the preliminary examination on payment of the prescribed fee of one guinea.

Natal Society of Accountants.

The Natal Society of Accountants allows to holders of the B.Com. degree of the Universiy of South Africa a reduction of two years in the term of service under articles required of non-graduates, and exemption from section A of the intermediate examination.

BOARD OF TRADE.

The Board of Trade exempts graduates of the University of South Africa in Mechanical or Electrical Engineering, who have attended Howard College, from workshop practice up to a maximum period of two years if they are desirous of qualifying as Engineers in the Mercantile Marine.

RAILWAY TRAVELLING CONCESSIONS.

Students, or intending students, on due application to the Registrar, may obtain a Railway Concession Certificate which entitles them to travel *from their homes* to the College and back, at a reduced fare.

Graduands of the College may also use such Concession Certificates for attending Natal University College Graduation Ceremonies. Early application for such certificates is advisable.

STEAMSHIP CONCESSION FORMS

Steamship concession forms may be obtained from the Registrar when students wish to proceed overseas to continue their studies. Reduced rates are also available for holiday travel by students.

SPECIAL FACILITIES FOR STUDY AND RESEARCH.

LIBRARIES.

Librarian: H. Coblans, M.Sc., Ph.D. (S.A.)

PIETERMARITZBURG.

Assistant-in-charge: Olga H. McDonald, B.A. Hons. (Rand).
Junior Assistant: Joan G. Taylor.

DURBAN.

Howard College:
Assistant: Barbara D. Fraser, B.A. (S.A.)
Junior Assistant: Jean Skea.
Commerce Building:
Assistant: Jeanette Jameson, B.A. (S.A.)
Non-European Section:
Assistant-in-charge: W. W. T. Mbete, B.A. (S.A.)

The general management and supervision of the Library is vested in a standing Library Committee, appointed yearly by the Senate, with the Librarian as *ex officio* member.

The Libraries are available to all registered students for reference and the loan of books. Members of the public can use the libraries for reference work. Non-members of the N.U.C. may borrow books on certain conditions by application to the Librarian.

The four libraries although scattered in two centres operate as a single unit. Books and periodicals at one branch are made available on request at any other point in the system. A selection of periodicals is circulated and exchanged regularly between Durban and Maritzburg.

PIETERMARITZBURG:

The library, since 1937, is housed on the ground floor of the Fine Arts block and contains approximately 21,000 volumes. The Peter Davis Memorial Library forms an integral part of the Library. The range of subjects covered is determined by the requirements of the faculties of arts, science, education, law and fine arts.

Approximately 120 journals and serial publications are received currently. Most of the completed volumes of the scientific journals are housed in the departments, under present conditions.

The hours of opening are:—
Weekdays: 8.30 a.m. to 5 p.m.
Saturdays: 8.30 a.m. to 12 p.m.

On the evenings of weekdays the Library is open from 7.30 p.m. to 10.15 p.m. under student supervision.

DURBAN:

Howard College: This library, dating from 1932, houses books and periodicals in engineering, survey, the pure sciences and chemical technology. Approximately 100 scientific and technical journals are obtained currently.

The hours of opening are:—
Weekday: 8.30 a.m. to 4 p.m.
Saturdays: 8.30 a.m. to 12 p.m.

Commerce Building: The full and part-time students in the faculties of Commerce and Administration, Arts, Law and Social Science are served in this branch dating from 1937. It also includes a section on architecture. In addition to about 70 current periodicals all blue books and other official publications are housed here.

The hours of opening are:—
Weekdays: 8.30 a.m. to 12.30 p.m. 2 p.m. to 6.30 p.m.
Saturdays: 8.30 a.m. to 12 p.m.

The Howard College and Commerce Building libraries contain approximately 12,500 volumes.

Non-European Section (Sastri College grounds): The special library for Non-European students moved in to its present spacious building in 1946. The small collection of approximately 2,500 books, mainly in the arts and the social sciences, is the nucleus of a collection which it is hoped will become adequate in its coverage for undergraduates. Also it should grow into a reference centre for more advanced work in race relations and extra-European official publications and documents.

The hours of opening are:—
Weekdays: 3 p.m. to 6.30 p.m.
Saturday and Sunday: 9 a.m. to 12 p.m. 2 p.m. to 5 p.m.

NATAL SOCIETY LIBRARY, PIETERMARITZBURG.

The Natal Society Library offers specially reduced terms to students as follows: 10/- per annum for one book at a time, or 15/- per annum for two books at a time. This library has an excellent section on *Africana*, including rare volumes on the history of South-East Africa, and more recent but expensive books on the anthropology and material culture of the Bantu tribes. The general section (available for loan as well as reference) is strong in the departments of Literature, History and Biography.

THE DURBAN MUNICIPAL LIBRARY.

The Durban Municipal Library, which primarily caters for the general public of Durban, has, nevertheless, collections which are of special

interest to students, quite apart from the technical, scientific and educational matter which forms part of its general book stock.

Membership of the Library is free but subject to a deposit of 5/- per person.

The Lending and Reference libraries are stocked with books which are needed for studies in all sections of the curriculum, together with a large selection of scientific and technical journals and official publications.

Of special note are two collections which are separately housed, but which may be consulted by students. The first is the "Don" Library of Africana which contains over 12,000 books and pamphlets on South African history and literature. This collection is of special interest to the research student. The other is the "Hillier" Collection of Shakespeareana containing 2,182 books and 284 pamphlets. It comprises most of the better editions of Shakespeare's plays and a facsimile of the First Folio as well as the works of contemporary dramatists, source plays, Elizabethan history and drama and other useful material.

The Library has also a music section.

The Campbell Africana Library.

This library has approximately 20,000 books and pamphlets and specialises in South African history and in Bantu Africana. It is destined to provide at some future date the nucleus of a library for the recently established School of Bantu Studies at the N.U.C., Durban.

Some interesting items include the Colenso letters and papers and Colenso's *Commentary on Frere's Policy* with marginal notes in his own handwriting; Chase's *Natal Papers*, Moodie's *Records*, and Chadwick's *Commentaries on Native Law*. There are missionary journals and chronicles, reminiscences of early settlers, typewritten transcripts of items of ethnological or historical interest from early newspapers; actual newspapers such as *De Patriot*, *The Friend* (during the 1850's), the *South African Commercial Advertiser*; books of the old travellers such as Purchas, Lichtenstein and Burchell; and many photographs.

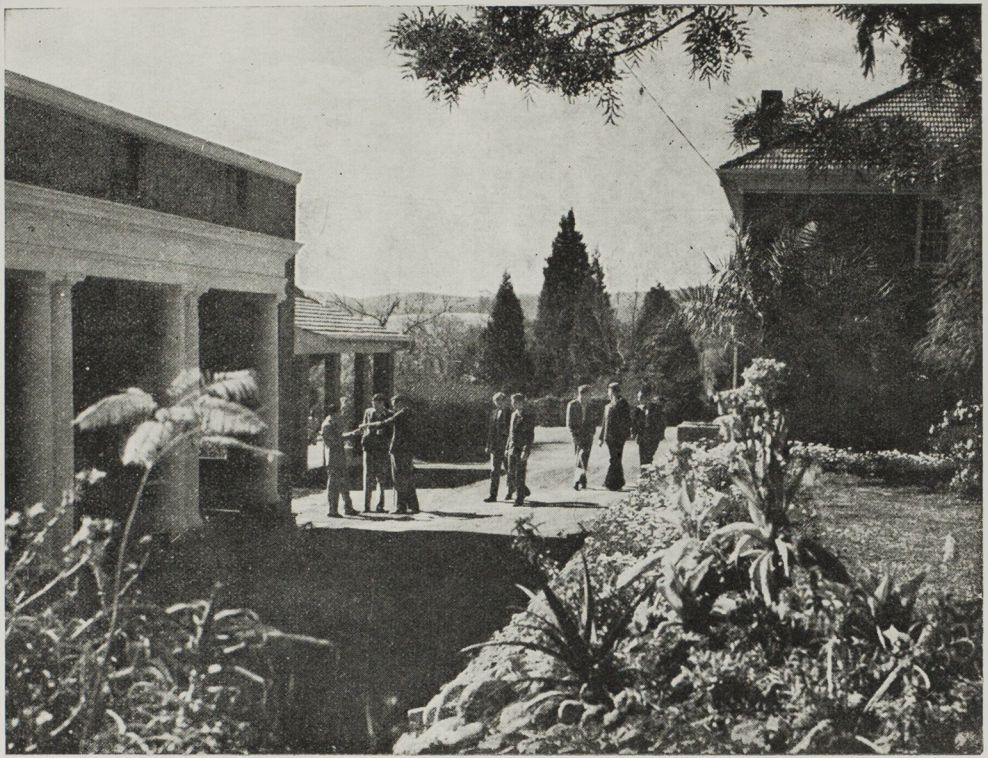
Permission to use the library will readily be granted to research students and others specially interested, on application to Miss Killie Campbell, 220 Marriott Road, Durban.

The Government Archives, Natal.

The Government Archives, Pietermaritzburg, are open to all students who comply with the regulations for consulting documents. There is no charge. The Archives are the repository of all official papers relating to Natal down to Union. Training in the use of archival material is afforded to all students who sit for the M.A. examination in History.

The Natal Museum.

The Natal Museum, Pietermaritzburg, possesses collections of the greatest value to students in a number of the sciences. The excellent collections of mammals, birds, and insects, and the collection in the Anatomical Gallery should be consulted by all students of Zoology. The collection of South African minerals contains valuable material for students of Geology; while the Ethnographical collections, relating to all the African races (a collection unique in South Africa) offer very special facilities to students of History and Social Anthropology. The Museum also possesses a large collection of Natal plants which should be of considerable value to students of Botany.



UNIVERSITY LODGE: WOMEN'S RESIDENCE, PIETERMARITZBURG.

The Natal Herbarium.

The Natal Herbarium in Durban contains a complete collection of known indigenous Natal plants, and offers excellent facilities for research work in Systematic Botany.

The Maritzburg Botanic Gardens.

The Maritzburg Botanic Gardens, which contain a good collection of exotic and indigenous trees, shrubs and herbs, will be found to offer excellent facilities for the study of Botany.

Engineering.

Durban affords special facilities for the study of Engineering. The local railway works are among the largest in the Union and the Congella power-station, with pulverised fuel boilers, is one of the most efficient stations under the control of the Electricity Supply Commission, and being one of the most recently erected, it is also one of the most up-to-date stations in South Africa. There are large engineering firms specialising in ship-repair work, and this is facilitated by the graving dock which is one of the largest in the Southern hemisphere. The mechanical coaling appliances at the Bluff can load coal into ships' bunkers at the rate of 1,000 tons an hour, while ships touching at Durban afford opportunities for students to see all manner of marine turbines, engines and boilers. Durban is on the Natal electrified railway system, an undertaking ranking as one of the largest in the world.

The College Library, the Natal Technical College Library and the Municipal Library all contain good engineering text-books and journals. Many local firms and the Government and Municipal departments concerned with engineering take students during vacations for practical training, and visits are frequently arranged to places of engineering interest.

Commerce and Industry.

The student of Commerce and Industry will find in Durban ample opportunity for supplementing his academic work. Durban is the principal port of the Union. Its natural harbour with its graving dock, wharves, coaling and loading appliances, ships, etc., its many industrial enterprises, merchant houses, government and municipal institutions, provide an excellent field for the study of industrial, commercial and administrative activities and of the many problems incidental thereto. While there is much to occupy the economic investigator in these matters, he has excellent opportunities for the study of inter-racial problems arising from the presence of a large Indian community and from proximity to Zululand with its considerable native population.

COLLEGE RESIDENCES.

Only by living in a University Residence can a student obtain and learn to appreciate fully that intimate social contact with his fellow students which is an essential part of his University education. Residences for students in Pietermaritzburg are the Oribi Hostel for men and University

Hall and University Lodge for women. Permission to reside elsewhere than at one of the Residences may be granted by the Senate to students who desire to live with their parents or guardians or who advance reasons satisfactory to the Senate. Students entering College for the first time are required to enter into residence for at least their first year unless specially exempted.

In Durban there is a Hostel for men at Butcher's Estate and a Hostel for women at Woodside.

In terms of Act 25 of 1941 a college authority shall have the right to require a student to reside for the periods during which the College is in session at a place of residence approved for the purpose by the college authority.

Application must be made to the College Registrar at least a month before the opening of term. Residential students must provide themselves with gowns, which are worn at dinner in Hall. Linen, crockery, etc. (but not towels) are provided.

Each Residence is under the direction of a Warden, who stands to the students "in loco parentis," who advises them on all problems arising out of University life, and who acts generally as their friend and counsellor.

The Warden of the Oribi Hostel is Dr. R. L. Rosenberg. The Warden of University Hall is Mrs. M. Kirwood.

Miss E. Sneddon is the Warden of the Residence for women in Durban and Professor Notcutt is Warden of the Residence for men.

MEDICAL SCHEME FOR RESIDENT STUDENTS.

A scheme to provide for medical attention and advice for resident students at this College has been inaugurated, and highly qualified medical officers are available for resident students whenever required. In order to assist the visiting doctors, parents are requested to furnish a brief medical history of their sons or daughters when they enter into residence at the N.U.C.

This medical service will cover all cases of ordinary illness, but it will be understood that the very moderate annual fee of £1 charged to students does not cover surgical operations, hospital treatment, specialist fees or investigations, or special medicines. In the case of any serious illness, where it is thought that such may be necessary, an attempt will be made immediately to establish contact with the parents.

There remains, however, the possibility of sudden illness, or accident, involving emergency removal to hospital, or emergency surgical treatment. In order to comply with Hospital Administration regulations and requirements, and to avoid delay, which might prove dangerous, it is advisable that parents should give the Principal a written authority for the Hostel Wardens or himself to act on their behalf and in their interests, in any such case of emergency. In any case of emergency operation, expert surgical assistance will naturally be obtained.

STUDENT SOCIETIES.

As the social life at a College or University contributes no small part to the education of students, the importance of joining some of the student organisations is urged upon all those who wish to acquire university experience in its broadest sense.

UNIVERSITY HALL: WOMEN'S RESIDENCE, PIETERMARITZBURG.

PIETERMARITZBURG.

STUDENTS' REPRESENTATIVE COUNCIL.

This is a body elected to deal with all student affairs, and is the students' official avenue of approach to the authorities of the College. It is elected at the beginning of each year by the general student-body voting by ballot.

The following cultural societies and clubs, run by the students, are sponsored by the S.R.C., and membership is open to any student of the College:—

Scientific Society.—This aims to promote an interest in the modern developments of Science by lectures, addresses, and expeditions to places of scientific interest in the neighbourhood. It organises each year a paper-reading for original papers on a scientific subject.

Dramatic Society.—This society produces one-act plays, play readings and at least two full-length plays of dramatic merit every year providing a good opportunity for the development of any latent histrionic ability among students.

Debating Society.—This encourages the art of public-speaking by the arrangement of inter-debates, debates with neighbouring societies and against teams from other Universities.

Arts Society.—This aims to foster a critical interest in English Literature, in particular such periods as fall outside the scope of the Academic courses, as well as the literature and civilisations of Greece and Rome. It organises each year an Arts Paper Reading for original papers on any subjects related to the Arts and Fine Arts Faculties.

Musical Society.—This aims to further the appreciation of Music in the College, and to provide those interested with an opportunity of hearing good music.

Students' Christian Association.—This aims at the extension of the Kingdom of God, and the promotion of Christian ideals and a practical Christian living among students. Meetings are held weekly.

Students' Catholic Union.—The function of the S.C.U. is to promote a greater knowledge of Catholicism and to maintain friendly association amongst its members. Regular meetings of academic and popular interest are held. Those of special interest are open to the general student body.

The Social Studies Society.—Meetings are held once a month by this society and addresses are given by speakers expert in their subject. Students are also given opportunities to voice their opinions on Social problems and tours are organised to give students practical experience. This Society has amalgamated with the National Federation of Students Social Studies Societies of South Africa.

The International Relations Club.—The I.R.C. is a world-wide institution in Universities and Colleges, sponsored by the Carnegie Endowment for International Peace (1910) to promote unprejudiced and objective discussion on world affairs.

Afrikaanse Taal en Kultuur Klub.—This aims to promote interest in Afrikaans Literature and Culture, and to provide English-speaking students with an opportunity of speaking the Afrikaans language.

Chess Club.—This club aims at giving every student the opportunity of learning to play chess. The meetings with their quiet atmosphere and muffled challenges of "check" give all keen Chess players a real thrill.

Law Society.—This society is intended to foster a legal outlook among law students by means of lectures and debates on suitable subjects.

Philosophical and Psychological Society.—This society aims at encouraging interest in the fields of philosophy and psychology and especially in promoting healthy discussion in these fields and unbiassed, objective thought.

French Society.—The French Society holds general meetings in English on all aspects of French life and literature, and informal meetings in French for the initiates to the French language.

National Union of South African Students.—The N.U.S.A.S. was formed in 1924 and it consists of students of the South African universities and university colleges, some of the S.R.C.'s being members en bloc. The aims and objects of the Union of Students are to represent the students of South Africa, to bring them into closer contact with one another and with their fellow-students in other countries, to encourage travel and interchange of opinions, and to assist students generally in whatever way possible. The N.U.S.A.S. publishes a journal for students as well as a news bulletin, and organises each July a Students' Conference. The object of the Department of Social Research is to encourage the students to take an interest in the problems facing their country and to carry out research in connection with these problems.

"*Nux*"—is the student newspaper managed by an editorial staff of students and published once a fortnight. It is a journal which reflects College life and in which students may express their opinions on College affairs and on subjects of economic, technical, political or social interest.

Union Committee.—This committee runs the Students' Union and is in charge of the Union Tea Room.

Rag Committee.—This is in charge of the organisation of an annual Rag held by the students for charitable purposes.

Dance Committee.—Organises all student dances.

Public Relations Committee.—This body is in charge of the advertising of College events in College and externally in order to keep N.U.C. in the public eye.

Magazine Committee.—This body produces one issue per year of the students' official publication, the College Magazine.

Athletic Union.—As is the S.R.C., this is a student body whose function is to exercise control over the activities and finances of the various sporting clubs. It acts through a committee elected annually, consisting of the President, Treasurer, Secretary and representatives of the various clubs.

The following is a list of these sporting clubs, which any *bona fide* student of the College is permitted to join:—

Rugby Club.
Tennis Club.
Cricket Club.
Netball Club.
Boxing and P.T. Club.
Women's Physical Culture Club.
Weight-lifting Club.
Athletic Club.
Men's Hockey Club.
Women's Hockey Club.
Swimming Club.
Badminton Club.
Soccer Club.
Golf Club.

Students' Representative Council (Durban).—This body deals with all student affairs and controls finances. To it are responsible all minor committees. It is the students' official avenue of approach to the College Authorities, and controls any general business with outside organisations.

AERIAL VIEW OF NATAL UNIVERSITY COLLEGE, PIETERMARITZBURG.

The following societies and committees run by the students are sponsored by the S.R.C. All officiating members of student societies are elected by the general student body. Membership is optional, but all are urged to take part in extra-curricula activities; only thus can they fully experience true University education.

House Committee (Commerce Building).—This body manages student affairs at Commerce Building under the supervision of the S.R.C.

N.U.S.A.S. Committee.—The College is a member of the National Union of South African Students and elects a Councillor to this body. N.U.S.A.S. provides an opportunity for students to further social, economic and technical aims and reforms they may envisage. To this end the Union runs a Research Department, and it is hoped that the holding of National Conferences will soon be resumed.

Modern World Society.—The object of this society is to stimulate and promote thought and interest among students in the social, political and economic structure of the world. To this end recognised authorities on various aspects of world problems are invited to address the society.

Engineering Society.—Students interested in special aspects of engineering read papers at regular meetings of the society. These papers and the subsequent discussion do much to improve students' practical knowledge and show them something of the work done in different branches of engineering.

Wall Newspaper.—Articles are posted at Howard College, Commerce Block and Sastri College. The Wall Newspaper aims at providing the students with a medium whereby they can express their opinions on College affairs or subjects of economic, political, social or technical interest.

Dramatic Society.—The society aims at producing at least one play per year, and also play readings.

Students' Christian Association and Catholic Students' Union.—These societies provide for the religious interests of students in discussions and talks by theologians.

Entertainments Committee.—This committee organises all dances and social functions.

Refectory Committee.—The refectory supplies light refreshments three times a day.

Magazine Committee.—This committee co-operates with the Magazine Committee of Maritzburg in the annual publication of the N.U.C. Magazine.

Rag Committee.—This committee organises the Durban section of the annual Rag, held by the students of both centres each year.

Athletic Union.—The A.U. is composed of the President and Treasurer (members of staff), the secretary and two representatives from each sporting club. The function of this body is the control of all sport and the finances of the clubs.

The following clubs are under the control of the A.U.

Hockey Club.
Tennis Club.
Athletic Club.
Rugby Club.
Cricket Club.
Rowing Club.
Swimming Club.
Table Tennis Club.

NATAL UNIVERSITY COLLEGE UNION.

An additional fee of £1 is levied by the College on second year students which payment entitles the student to have his name placed on the Register of N.U.C. Past Students. In addition any other Past Student of the College who has been a student for at least one year and who pays the registration fee of £1, is entitled to have his name placed upon the Register. Membership upon the Register is for life, and no other subscription is required, and the privileges of membership include the right to nominate and vote for, annually, a President of N.U.C. Past Students and seven members of local councils of N.U.C. Past Students for the areas known as the County of Durban and the County of Pietermaritzburg and such other areas as may be defined from time to time. These elections are arranged by the College and all expenses in connection with the Councils are paid by the College. Each registered Past Student is also provided free annually with a report on the work, the general activities and development of the College and the activities of Past Students. The College is also obliged to assist the local councils to organise an annual Graduation Luncheon and an annual College At Home for Past Students and others interested in the College, alternating between Pietermaritzburg and Durban.

Local Councils appoint their own Chairman and other officers, and a Central Council consisting of the President, the Chairman and the Secretary of each local council is provided for, to co-ordinate the work of local councils, to take joint action where necessary, to appoint the representatives of N.U.C. Past Students on the Council of N.U.C. and the N.U.C. Development Committee and generally to represent the whole body of registered Past Students.

The special functions of the Central Council are:—

1. To appoint the representative of N.U.C. Past Students on the Council of the N.U.C.

2. To appoint the representative of N.U.C. Past Students on the Natal University Development Fund Committee.

3. To nominate one or more persons from whom the N.U.C. Council shall appoint the representative of N.U.C. Past Students on the Council of the University of South Africa.

The Registrar will be pleased to hear from Past Students regarding their careers subsequent to leaving College.

N.U.C. PAST STUDENTS INSURANCE ENDOWMENT FUND.

This fund was instituted by the Durban branch of N.U.C. Past Students in 1939. Under the scheme, Past Students can take out Insurance Policies in multiples of £25 payable to three trustees. The cost of these policies varies from 3/- to 4/- per month, and by special arrangement with the S.A. Mutual Life Assurance Society Ltd., may be paid by means of monthly stop orders on salaries or banking accounts.

SCHEDULE OF FEES.

COLLEGE FEES.

Fees are payable half-yearly and become due when accounts are rendered. All fees are subject to alteration without notice.

No student will be allowed, except by special permission of the Council, to attend College in any term if the fees for the preceding term are unpaid.

Ten per cent. reduction in College TUITION FEES is made in the case of two or more members of the same family who, being FULL-TIME students, are in attendance during the same term and whose fees are paid promptly on demand.

The following charges are made to include all fees EXCEPT Examination fees, Laboratory fees for Science subjects, and a Past Students' Union fee of £1 levied once only.

DEGREE COURSES.

FULL-TIME:

DOCTORS DEGREE

May be obtained on application.

MASTERS DEGREE

Arts, Science, Education, and Law	per annum	£41	10	0
Engineering	„	46	0	0
Commerce and Economics	„	35	0	0

BACHELORS DEGREE

Arts, Science, Social Science*	„	41	10	0
Fine Arts†	„	39	10	0
Law, Commerce and Economics	„	40	10	0
Engineering, 1st Year	„	50	10	0
Subsequent Years	„	52	10	0
Surveying	„	52	10	0

*Practical Work £4 per annum extra.
†Kiln fees for Pottery £2 per annum extra.

MEDICAL

1st Year Only	„	45	0	0

SINGLE SUBJECTS

First Year courses	„	13	0	0
Second Year courses	„	15	0	0
Third Year courses	„	21	0	0

PART-TIME:

BACHELORS DEGREE

Law	„	39	10	0
Science (Howard College, Durban)	„	27	10	0
Arts, Social Science, Commerce, and Economics:				
1 Subject	per annum	12	10	0
2 Subjects	„	20	10	0
3 Subjects (not including final major subjects	„	28	10	0
4 Subjects	„	31	0	0

Each final major course	„	16	10 0
Each additional subject taken with final major courses	„	12	10 0

DIPLOMA COURSES.

UNIVERSITY EDUCATION DIPLOMA (excluding Training College fees)	per annum	29	10 0
CHEMICAL TECHNOLOGY	„	41	10 0

RESIDENCES.

A booking fee of £1 is payable on first application for accommodation at the College Residences.

Fees for Board and Lodging at the College Residences are £82/10/- per annum, payable half-yearly in March and August.

A Medical Fee of £1 per annum is also charged.

A deposit of £1 per year must be made to defray expenses caused by possible damage to College Property. The unexpended balance will be returned at the end of a resident's stay. Any monies not claimed will be credited to a Buildings Donation Account.

A full quarter's notice must be given by resident students who, for special reasons, desire to reside away from the College Hostels.

LABORATORY FEES.

In addition to the fees indicated above for Degree and Diploma courses, the following laboratory fees are charged:—

Applied Mathematics I and II, Geography, per subject	per annum	1	0 0
Botany, Geology, Physics, and Zoology, per subject	per annum	2	0 0
Chemistry, Chemical Technology	„	4	0 0

Extra charges may be made for breakages of equipment and deliberate wastage of material.

PROFESSIONAL COURSES.

PART-TIME:

LEGAL

Attorney's Admission Part I.		28	10 0
Part II.		28	10 0
Book-keeping extra		8	0 0
Civil Service, Lower Law, Part I.		17	0 0
Part II.		24	10 0
Civil Service, Higher Law		28	10 0

ACCOUNTANCY

Intermediate Section A:	1 subject	per annum	9	10 0
	2 subjects	„	11	10 0
	3 subjects	„	16	0 0
Intermediate Section B and Final Courses:				
Per Section		per annum	23	0 0
1 subject		„	11	10 0
2 subjects		per annum	18	10 0

CERTIFICATE IN ARCHITECTURE AND QUANTITY SURVEYING

1st, 2nd and 3rd years	per annum	23	10 0
4th and 5th years, Design IV. or V. only	„	9	10 0
Design IV. or V. plus 1 subject	„	16	0 0
„ plus 2 subjects	„	21	0 0
„ plus 3 or 4 subjects	„	23	0 0

EXAMINATION FEES.

BACHELORS DEGREE:

	B.A. & B.A. Soc. Sc..	B.A. (F/A)	B.Sc	B. Com. & Econ.	B.Sc. (Eng.)	LL.B.
Per course	£1		£1	15/-		£1/10/-
Per major course	£1		£2	£1		£2/10/-
First and fourth years		£3				
Second and third years		£4				
Re-exam per course	£1	10/-	£1		10/-	
First exam					£4	
Second, third and fourth exams each					£5	

N.B.—For the B.A. (Social Science) degree:—

(a) The practical examinations in social work are regarded as examinations in separate courses, the fee being £1 per course.

(b) No fee is payable in respect of the language tests.

MASTERS DEGREE:

Full examination or re-examination, Part I		10	0 0
Re-examination Part II		6	0 0

DIPLOMA EXAMINATIONS:

University Education Diploma:			
Professional subjects		4	0 0
Academic subjects .... as for Arts and Science			
Fee for re-examination	per subject		10 0
Chemical Technology		5	0 0

CERTIFICATE IN ARCHITECTURE:

1st, 2nd and 4th years	per subject	1	0 0
3rd year	total	6	0 0
5th year	„	8	0 0
Fees for re-examination:			
1st, 2nd and 4th years	per subject	1	10 0
3rd and 5th years (maximum of £10)	„	3	0 0

EXAMINATIONS NOT FOR DEGREE PURPOSES:

Candidates (Internal or External) taking degree examinations in individual subjects, NOT FOR DEGREE PURPOSES, shall be required to pay the same fees as degree candidates in the faculties of Arts and Science.

FEES PAYABLE IN RESPECT OF EXEMPTIONS:

Candidates exempted from examinations in any subject or group of subjects, are required to pay the full examination fee in respect of such exemptions.

FEE FOR CONVERSION OF A COLLEGE EXAMINATION INTO A UNIVERSITY EXAMINATION:

Additional fee	10 0

REFUND OF EXAMINATION FEES:

A Candidate absent from the whole or part of an examination for which the fee has been paid may, in certain circumstances, obtain a partial refund. Registration fees will not be refunded.

Applications, in the case of internal students, must be supported by the College Senate, and lodged with the University Registrar on the prescribed form not later than the last day of February next following the date of the examinations.

GRADUATION FEES.

For LL.B. Degree		£5 0 0
For all other Degrees	each	1 0 0

SUPPLEMENTARY AND AEGROTAT EXAMINATIONS:

The examination fee for candidates (Internal or External) taking supplementary examinations in terms of paragraph 12 of the regulations shall be £4/10/- per course, and for candidates taking aegrotat examinations in terms of paragraph 11 of the regulations £4/10/- per course, provided that if no portion of the examination was attempted, the fee is £3/10/-.

The examination fee for candidates (Internal or External) taking supplementary examinations in terms of paragraph 10 of the Common regulations for the Diplomas in Education shall be £4/10/- for each of the principal subjects, Principles, Psychology and History of Education, and for the two Teaching Tests (regarded as one subject) and for candidates taking aegrotat examinations £4/10/- for each subject. For subsidiary subjects the fee shall be 17/- per subject.

DATES OF ENTRY FOR EXAMINATIONS.

MIDSUMMER AND MIDWINTER EXAMINATIONS.

Entries for the Midsummer examinations in the case of internal students close with the College Registrar on the 16th September and for the Midwinter examinations (Master's degrees only) on the 5th April. This does not apply to College half-yearly examinations, for which no entries are required.

AEGROTAT EXAMINATIONS.

A candidate who desires to avail himself of the benefits conferred by Reg. G. 11, shall apply to the Registrar of the College within **one month** of the date when he failed to take the examination.

LATE ENTRIES.

Late entries or modifications of previous entries may be received, in the case of the Midsummer examinations, up to the 30th September upon payment of an additional fee of £1 per candidate, and up to the 31st October upon payment of an additional fee of £2 per candidate; and in the case of the Midwinter examinations, up to the 31st May upon payment of an additional fee of £2 per candidate; provided that the subject, or group of subjects, selected for examination does not interfere with any arrangement of time-tables which may have previously been made.

CONVERSION OF COLLEGE EXAMINATION INTO UNIVERSITY EXAMINATION.

Applications for such conversion must be made not later than the 31st March in each year.

COLLEGE BENEFACTORS

DONORS OF ORIGINAL DEVELOPMENT FUND INAUGURATED IN 1928.

C. E. James	£10,000	0	0
W. H. James	5,000	0	0
Mrs. Mevrick Bennett	2,200	0	0
Late Mr. W. E. Butcher	5,000	0	0
J. Townley Williams	2,000	0	0
Standard Bank	2,500	0	0
Barclays Bank	2,500	0	0
General Scott Wylie	2,000	0	0
Lever Bros.	500	0	0
Natal Navigation Collieries	500	0	0
Sundry Donors	500	0	0
	£32,700	0	0

MUNICIPAL DONATIONS.

(a) *Annual Grants*:			
Durban	£4,000	0	0
Pietermaritzburg	1,250	0	0
(b) *Capital (for Buildings)*:			
Durban (£30,000 in 1946, £20,000 in 1947, £50,000 in subsequent years, as required)	100,000	0	0
Pietermaritzburg (1946)	10,000	0	0
(c) *Land Sites*:			
Durban: 117 acres on Berea (Howard College) and 1 acre at Commerce Building.			
Pietermaritzburg: 44 acres at Scottsville; 47 acres for Agriculture Faculty.			

DONATIONS IN CONNECTION WITH HOWARD COLLEGE.

1931—Howard College Building was donated by the late Mr. T. B. Davis (as a memorial to his son, Howard, who was killed in the Great War, 1914-18) at a valuation of	£70,000	0	0
Further donations to this College at the time were:—			
Mr. A. H. Smith	3,250	0	0
Mr. Glenham Davis	1,000	0	0
	£74,250	0	0

ENDOWMENT OF CHAIRS.

1932—Endowment of £20,000 by the late Mrs. M. A. Hudson to found the *William Hudson Chair of Economics.*

1946—Endowment of £20,000 by Mrs. M. E. Wylie to found the *James Scott Wylie Chair of Law* in memory of her late husband.

DONATIONS FOR RESEARCH.

(a) *Social and Economic Research:*			
1940—Collected from various donors by Mr. A. Blaikie	£681	6	6
South African Sugar Association	52	10	0
1941—Durban Livestock Auctioneers' Association	5	5	0
South African Institute of Race Relations	142	11	0
Carnegie Fund	80	0	0
1942—Mahomed Lockhat	5	5	0
South African Institute of Race Relations	32	2	0
Chamber of Industries, Durban	50	0	0
1943—South African Institute of Race Relations	450	0	0
Economic Society of South Africa	50	0	0
High Commissioner for India—£200 for three years	600	0	0
1944—Protector of Indian Immigrants	500	0	0
Major Lewis Byron	2	2	0
Natal Indian Congress	500	0	0
Indian Immigration Bureau—£500 for three years	1,500	0	0
1945—Dunlop South Africa, Ltd.—£200 for three years	600	0	0
Economic Research Committee, Durban	1,000	0	0
1946—Durban Civic Association—£400 p.a. for two years	800	0	0
Economic Research Committee, Durban	1,126	0	0
	£8,177	0	6
(b) *Wattle Research Institute* (1946):			
South African Wattle Growers' Union (for building)	£12,500	0	0
Plus a three years' subscription amounting to a total of (for running expenses)	14,500	0	0
(c) *Paint Research Institute* (1946):			
South African Paint Manufacturers' Association (towards building)	£3,000	0	0
Plus a five years' subscription amounting to a total of (for running expenses)	12,500	0	0

DONATIONS FOR FACULTY OF AGRICULTURE.

1945 *and* 1946 (*October*):			
Baynesfield Estate (Nel's Rust)	£3,000	0	0
South African Sugar Association	3,000	0	0
Natal Agricultural Union (22 Organisations)	450	17	0
Lion's River Farmers' Association	252	17	11
Sundry Donors	161	11	0
Maritzburg Milk Interests Associated	100	0	0
Mooi River Farmers' Association	100	0	0
J. Emery Tully	100	0	0
Boston Farmers' Association	50	0	0
Paulpietersburg-Luneberg Boere-Vereniging	25	0	0
Beaumont-Eston Farmers' Association	10	10	0
Winterton Farmers' Association	10	10	0
	£7,261	5	11

DONATIONS FOR NON-EUROPEAN COURSES.

1936—Rustomjee J. Goorcoodoo Trust	£100	0	0
1941—H. E. Jones	10	0	0
1942—Mrs. E. P. Whitehead, Mooi River	200	0	0
1944—Anonymous	42	0	0
Cassim Lakhi and other old students	118	0	0
1945—South African Hindu Maha Sabha	111	0	0
Indian Community	630	0	0
	£1,211	0	0

DONATIONS FOR BURSARIES, SCHOLARSHIPS AND PRIZES.

(*For details see relative chapter under General Information*).

1922—Sir William Cotts Scholarship	£1,000	0	0
1928—Janet Dick Bursary. Bequeathed by the late Col. James Dick in memory of his mother	2,000	0	0
1933—The Leuchars Bursaries. Donated by Trustees of estate of late J. W. Leuchars	800	0	0
1934—Sir John Robinson Bursaries. Donated by Lady Robinson and family in memory of the late Sir John Robinson, the first Prime Minister of Natal	10,000	0	0
1938—Leon Renaud Bursaries. Donated by Mrs. Cecile Renaud in memory of her late husband, Advocate Leon Renaud	2,000	0	0
1939—Campbell Bursaries. Founded to commemorate services rendered to Natal Technical College by the late Dr. S. G. Campbell (p.a.)	25	0	0
1942—Emma Smith Educational Fund Bursaries. Founded in terms of a bequest in the will of the late Sir Charles G. Smith. Three-tenths of residue of the estate, £42,200; dividends approximately £5,000 (p.a.)	5,000	0	0

1942—The Lady Steel Post-Graduate Bursary. Donated by the late Lady Steel 1,000 0 0

1945—Michael Duchen Scholarship. Donated by the family of the late Lt. Michael Duchen, killed in 1939-1945 War 600 0 0

PRIZES

In 1925 Mr. F. W. Lucas instituted an essay prize of £5.

In 1946 Mr. E. Damant donated £100 for an annual prize for a third-year Engineering student.

VARIOUS DONATIONS DURING PERIOD 1933-1944.

African Explosives and Industries	£4,000	0	0
Pietermaritzburg Corporation	2,100	0	0
South African Sugar Association, Durban	2,000	0	0
Anglo-American Corporation	1,000	0	0
Late Max Duchen	1,000	0	0
Students' Representative Council	995	0	0
Natal Society of Accountants	545	10	0
Union Castle Company	500	0	0
Mr. George Dougall	500	0	0
S.A. Sugar Association	500	0	0
J. Craib	500	0	0
Durban Corporation	450	0	0
H. Collins & Co.	400	0	0
Durban Turf Club	400	0	0
Natal Tanning Extract Co.	350	0	0
Natal Coal Owners	336	0	0
Dr. J. T. Williams	250	0	0
Dr. G. Johnstone	250	0	0
Robin Johnstone	250	0	0
Acme Box Factory	230	0	0
Hunt, Leuchars & Hepburn	200	0	0
T. B. Davis	200	0	0
R. Niven	200	0	0
John Orr & Co. and Geo. Carter, Durban	125	0	0
Geological Survey (Dr. A. L. Hall), Pretoria	120	0	0
Mr. W. Leuchars	100	0	0
W. F. Johnstone & Co.	100	0	0
Natal Institute of Architects	50	0	0
Mr. W. Trevor Williams	50	0	0
Reids Cabinet Works	50	0	0
D. Calvert McDonald	50	0	0
Dr. R. B. Denison	50	0	0
Natal Law Society	41	13	4
From Durban (unnamed)	32	12	0
Mr. J. H. Curle	25	0	0
Institute of Certificated Engineers	21	0	0
Executive of Social Services	20	0	0
Social Services of South Africa	20	0	0
Mr. Frank Holliday	10	0	0

Mr. Leif Egeland	10	0	0
Mr. R. Laughton	5	0	0
Pietermaritzburg Arts Society	5	0	0
Mrs. A. Tallents	5	0	0
Rev. W. Turnbull		10	0
	£18,047	5	4

DONATIONS, 1945—1946 (October).

FOR UNIVERSITY DEVELOPMENT.

(*See page —? University Development Campaign.*)

Mr. C. E. James	£20,000	0	0
Mr. H. J. Butcher (£5,000 for two years)	10,000	0	0
Mrs. E. A. May	10,000	0	0
Anonymous	5,051	4	9
Mr. D. Hepburn	5,000	0	0
Natal Collieries	5,000	0	0
Randles Bros. & Hudson, Ltd. (1946-50)	5,000	0	0
Union Castle Mail Steamship Co.	5,000	0	0
African Explosives and Chemical Industries, Ltd. (1946-50)	5,000	0	0
Mr. P. Frame and Associated Companies	4,000	0	0
Mr. G. A. Denny	3,000	0	0
Mrs. C. E. James	3,000	0	0
Moshal, Gevisser, Ltd. (1946-50)	1,500	0	0
Harvey, Greenacre & Co., Ltd. (1946 £1,000, 1947 £500)	1,500	0	0
The Daily News (£250 p.a. for five years)	1,250	0	0
The Natal Mercury (£250 p.a. for five years)	1,250	0	0
Mr. Thos. B. Spillane	1,250	0	0
Woolfsons (Mannie Woolfson, Ltd.), (1946-50)	1,250	0	0
Senator the Hon. W. J. O'Brien	1,000	0	0
Mrs. Ed. Saunders	1,000	0	0
S. Butcher & Sons (1946-47)	1,000	0	0
John Orr & Co. (1946 contribution)	1,000	0	0
Monarch Clothing, Co. (1946-50)	1,000	0	0
Acme Box Factory (1946-50)	1,000	0	0
Hart, Ltd. (1947-51)	1,000	0	0
Ackermans, Ltd. (1946-50)	750	0	0
Eriksen Bros., Ltd. (1946-50)	750	0	0
Durban Confectionery Works (1946-50)	750	0	0
Mr. and Mrs. A. W. Dickens	500	0	0
Hunt, Leuchars & Hepburn	500	0	0
Mr. Tom Jackson	500	0	0
Mr. F. E. Moss	500	0	0
C. G. Smith & Co., Ltd.	500	0	0
Mr. W. B. Calder	500	0	0
South African Rubber Manufacturing Co., Ltd.	500	0	0
Lion Match Co., Ltd. (1946-48)	500	0	0
W. F. Johnstone & Co., Ltd.	500	0	0

Hillman Bros., Ltd.	500	0	0
Dr. C. Akerman	500	0	0
Students' Athletic Union, Pietermaritzburg	300	0	0
Messrs. E. O. Hesketh	300	0	0
Charles Jacobs & Sons (1946-50)	262	10	0
Geoffrey Lennard (1946-50)	262	10	0
Mr. Alexander Blaikie (1946)	250	0	0
Dorman, Long (Africa), Ltd (1946)	250	0	0
Garlicke & Bousfield (1946-50)	250	0	0
Livingstone, Doull & Winterton (1946-50)	250	0	0
D. Calder & Son (1946-50)	250	0	0
Mr. and Mrs. L. C. Grice (1946-50)	250	0	0
Shepstone & Wylie (1946-50)	250	0	0
W. B. Calder and Calder (1946-50)	250	0	0
James Brown, Ltd. (1946)	250	0	0
Stuttaford & Co., Ltd.	250	0	0
Hickson, Son & Bircher (1946)	250	0	0
Mr. J. Zulman (1946-50)	250	0	0
Holden & Pemberton (1946-50)	250	0	0
G. M. McMurray (1946-50)	250	0	0
Payne Bros., Ltd., & Arthurs, Ltd. (1946)	250	0	0
Basutoland War Charity Fund	250	0	0
Mr. and Mrs. Thos. Tod	250	0	0
Felt and Textiles of S.A., Ltd. (1946)	250	0	0
Hind Bros. (1946)	240	0	0
Edblo-Lipinski Co.	200	0	0
Mr. W. G. Stacey	200	0	0
Students' Representative Council, Pietermaritzburg	200	0	0
Anonymous	150	0	0
Mrs. W. A. D. Russell	105	0	0
Herbert Evans & Co., Ltd.	105	0	0
The Union Whaling Co.	105	0	0
G. North & Son, Ltd.	105	0	0
Mr. and Mrs. Thornton-Dibb	102	2	0
Mr. and Mrs. C. B. I. Porter	100	0	0
Mr. and Mrs. D. Macgregor	100	0	0
Mr. and Mrs. Hy. Brunskill	100	0	0
Anonymous	100	0	0
Hooper Motors (Pty.), Ltd.	100	0	0
Mr. J. J. Crookes	100	0	0
Mr. Murray C. Campbell	100	0	0
William Brown & Davis, Ltd.	100	0	0
Mr. O. H. Winterton	100	0	0
Thorpe & Hands	100	0	0
E. Varley	100	0	0
Natal Cane By-Products, Ltd.	100	0	0
Mr. A. C. Mitchell	100	0	0
Mr. D. McK. Malcolm (1946-50)	60	0	0
Semco—Mr. Baranov (£30 instalment on annual donation, £60)	60	0	0
Mr. F. M. Askew	50	0	0
City Permanent Building Society	50	0	0
County Permanent Building Society	50	0	0
Mr. R. B. de Gersigny	50	0	0
Union Engineering Supply Co., Ltd.	50	0	0

Warden & Hotchkiss S.A., Ltd.	50	0	0
Robert Forrester	50	0	0
R. A. Dix	50	0	0
J. P. Dukes	50	0	0
G. W. Boyes	50	0	0
Mr. R. Matthey (Nestle's, Pietermaritzburg)	46	0	0
Professor Burrows	38	0	0
University Campaign Fund, Ginginhlovu	36	11	7
John Singleton & Williams, Ltd.	26	5	0
Natal Press, Ltd.	25	0	0
Linder Bros., Ltd.	25	0	0
Natal University Fund Committee, Southern Zululand	22	4	9
Mr. J. M. Moir (Personal)	21	0	0
Mr. J. M. Moir (Firm)	21	0	0
Mr. R. M. Thomas	20	0	0
Mr. J. R. Brewitt	10	10	0
Mrs. Mary Murray	10	10	0
Nicholson Stiller and Geshen	10	10	0
Fisher's Furniture Mart (Pty.), Ltd.	10	10	0
Mr. W. M. Campbell	10	0	0
Mr. and Mrs. F. R. Snell	10	0	0
Hluhluwe Stock Farmers' Association (first instalment)	10	0	0
Mr. J. H. Hankinson	7	7	0
Mr. O. K. Winterton	5	12	6
Zululand Chamber of Commerce	5	5	0
Hitchens & Gordon	5	5	0
Mr. Cecil Cowley	5	0	0
Mr. K. R. Marwick	2	2	0
Illings (Pty.), Ltd.	2	2	0
Mr. F. W. Allum	2	0	0
The Carrier Engineering (S.A.), Ltd.	1	1	
Mr. P. S. Duffett	1	1	0
Mr. E. P. Fowle	1	1	0
TOTAL	£112,249	4	7

Regulations for Degrees and Diplomas in the University of South Africa.

GENERAL REGULATIONS

OF THE UNIVERSITY OF SOUTH AFRICA.

Registration as a Matriculated Student.

G. 1. Every person shall be entitled to become registered as a matriculated student of the University who has:

(a) obtained the matriculation certificate of the Joint Matriculation Board, or satisfied the conditions of exemption from the Matriculation Examination prescribed by the Board and obtained the Board's certificate to that effect;* or

(b) obtained the matriculation certificate of the University of the Cape of Good Hope, or been exempted from the Matriculation Examination by that University; or

(c) passed or been exempted from the Senior Certificate Examinations of the University of the Cape of Good Hope, prior to April 2nd, 1918, under the conditions qualifying for admission to the degree examinations of that University.

* For conditions of exemptions see Matriculation Regulations.

G. 2. A registered matriculated student of either the University of Cape Town or the University of Stellenbosch or the University of the Witwatersrand or the University of Pretoria may be admitted as a registered student of the University of South Africa upon the production of a certificate satisfactory to the Senate of that Universiy.

Registration Fee.

G. 3. Every person registered as a matriculated student shall pay a fee of one pound ten shillings upon such registration and shall enter his name on the roll of students.

Annual Renewal of Registration Fee.

Every matriculated student of the University shall renew his registration annually so long as he continues to be a student of the University, and shall pay a fee of one pound ten shillings upon every such occasion.

Conditions of Admission to Examination for Degree Purposes. Registration.

G. 4. No person shall be admitted to examination for degree purposes in any subject who has not been a registered matriculated student of the University for at least one academic year.

Minimum Period of Attendance.

Re-examination Without Further Attendance.

G. 5. A candidate shall not be considered an *internal student* in any year unless he has attended and been a registered student of a constituent college for at least three-quarters of that academic year; provided that a student of any constituent college who has completed the minimum period of attendance required for a degree may be re-examined in any year as an internal student in any course or courses in which he failed, without further attendance, and provided he pays the registration fee for that year to his College.

D.P. Certificates.

G. 6. No candidate shall be allowed to present himself for examination in any subject, whether for degree purposes or not for degree purposes, as an *internal student*, unless the Senate has received a certificate issued by the professor or lecturer under whom he has studied that subject, stating that his attendance at the course has been satisfactory and that he has duly performed the work of the class provided that, if a student has been absent from more than one-third of the lectures or class-meetings in a subject, no certificate in respect of such subject shall be issued to the student, except with the express sanction of the Senate.

(Any *Internal student* who desires to present himself for examination in any subject, for *non-degree purposes*, is subject to this regulation—he must complete the necessary attendances and duly perform the work of the course).

For purposes of these regulations a candidate who has failed in any course of a subject shall not be required to attend the classes in such course again, and on re-examination he shall be given the option of being credited with the college record he has already obtained or taking the examination without a college record, in which case, in order to secure a pass, he must obtain the minimum percentage required for the university examination and the college record combined, provided that such candidate is always at liberty to qualify for an improved college record by attending the classes a second time and performing the work on which the record is based.

Recognition of Attendance and of Examinations at Other Universities.

G. 7. The Senate of the University of South Africa will accept for purposes of attendance qualifying for admission to the degree of Bachelor, periods of attendance subsequent to April 2nd, 1918, at the University of Cape Town, or at the University of Stellenbosch, or at the University of the Witwatersrand, or at the University of Pretoria, provided that no such period of attendance shall be accepted save in the case of a recognised ordinary or special course; and may accept, so far as may be practicable, certificates of proficiency in any subject issued by the Senate of the University of Cape Town, or of the University of Stellenbosch, or of the University of the Witwatersrand, or of the University of Pretoria, as the case may be; and may accept periods of attendance at any other university or institution specially recognised by the Senate for that purpose; and may accept examinations passed as an external student of the University of South Africa, or at any recognised university, or other examinations specially recognised by the Senate for the purpose, in any subject, as exempting from the examinations of the University of South Africa in such subject; provided always that no candidate shall be admitted to the degree of Bachelor in the University of South Africa unless:

(a) his periods of attendance at the said universities are together not less than the complete period prescribed for admission to the degree;
(b) he shall have attended approved courses at the University as follows, viz.: for a degree in applied science, the courses prescribed for at least the final two years; for any other degree, at least one half of the courses prescribed for the degree;
(c) he shall have passed such examinations as the Senate may determine;
(d) he shall have paid such fees as may be prescribed by regulation;
(e) he shall have complied in other respects with the requirements for the degree.

No student who has already completed a Bachelor's degree in this or any other university will be permitted to complete a Bachelor's degree in any of the faculties of Arts, Science, and Commerce and Administration in this university within a period of two years, unless during this period he has devoted his whole time to the degree course at a constituent college of the university.

Concessions to Graduates of Other Universities.

G. 8. A graduate of any other university may, on the recommendation of the Senate, be admitted by the Council to a status in the University equivalent to that which he possesses in such other university in virtue of the degree held by him, upon such conditions and on payment of such fees as may be prescribed by regulation.

Concessions to Graduates in One Faculty in Respect of Examinations in Another Faculty.

G. 9. In the case of a candidate who is a graduate in Arts or Science of the University, or of any other university recognised by the Senate for this purpose, the Senate may accept periods of attendance and examinations in any subject as exempting from attendance and examination in such subject prescribed for a degree in another faculty; provided that no such candidate shall be admitted to a degree in such other faculty unless he shall have satisfied the conditions laid down in clauses (a), (c), (d) and (e) of paragraph G.7. For the regulations governing such exemptions, see University Calendar.

Aegrotat and all Supplementary Examinations.

G. 10. Aegrotat cases. A student prevented by illness duly certified by the production of a medical certificate, or by duly certified family circumstances, such as serious illness or death of a relative, from taking an examination for which he has entered, may be permitted to take the subject or subjects concerned at a supplementary examination (see paragraph 11 below).

The medical certificate shall state the nature and duration of the illness and whether it was impossible for the candidate to take the examination on the specified date(s).

G.11. There shall be a minimum on the University examination, and a minimum on the University examination and record of class-work combined. Candidates who have fallen somewhat below the standard of passing in any subject may be required by the examiners to undergo a special oral examination.

Supplementary Examinations may be held each year not later than the month of March, except in the first courses in Physics, Chemistry, Botany and Zoology, and in the first B.Sc. (Eng.) courses in Mathematics, Applied Mathematics and Graphics, in which the supplementary examinations may be held not later than the middle of February.

The following candidates are admitted to supplementary examinations without restriction:—

(a) Aegrotat cases.

(b) Candidates who are required to take (i) a subject prescribed for admission to a Masters Course; (ii) a language course prescribed for the LL.B. Degree.

(c) Prospective LL.B. candidates repeating a law course, or courses, in which they have passed for the B.A. degree, but in which they failed to reach the standard required for exemption towards the LL.B. degree.

(d) Candidates specially admitted to the examination by the Senate (e.g., in order to qualify for admission to approved institutions or examinations).

In other cases, supplementary examinations will be allowed only in subjects which the candidate has failed in the immediately preceding Nov./Dec. examinations (in this or another university) and admission is restricted to—

(e) Candidates who, having failed in one or two courses, are specially admitted by the Senate; provided that such concession shall not be granted in respect of major subjects for the B.A. [excluding B.A. (Fine Arts)], B.A. (S.S.), and B.Sc. (Pure Science) Degrees.

(f) Candidates who, having failed in one minor course, have otherwise completed all the requirements for a Bachelor's Degree;

(g) Candidates who have failed in not more than one subject outstanding for the completion of the academic portion of the (old) L.E.D. or the U.E.D. (non-graduate);

(h) (i) Candidates who have completed three of the special courses for first year Medical Students, provided for in the N.B. to Regulation 59, but in one such course have failed to obtain the minimum prescribed for such courses, and are specially admitted by the Senate.

(ii) Candidates who have obtained 50 per cent. in *three* of Physics I, Botany I, Chemistry I and Zoology I (ordinary B.Sc. courses) but in one such course have not obtained the minimum prescribed for medical recognition (irrespective of whether they obtain the minimum for a pass at the B.Sc. examinations or not) and are specially admitted by the Senate.

SPECIAL EXAMINATIONS.

By permission of the Senate a candidate may be admitted to a special examination in a first year course required for the purpose of proceeding to a second year curriculum in Engineering or Veterinary Science or Agriculture at another University, provided that if papers are not set in the ordinary course, the full cost of the examination must be borne by the candidate. A pass at such special examination will not entitle the candidate to credit towards a degree in this University. (Entries close on 31st January.)

G. 12. No person may be registered as a candidate for two degrees at the same time without the special permission of the Senate.

Master's and Doctor's Degrees.

G. 13. No candidate shall be permitted to enter for the Master's or Doctor's degree oftener than twice without the special sanction of the Senate.

A candidate who has obtained a Bachelor's degree in any faculty of this (or any other) university, cannot be admitted to the examination for a Master's degree in another faculty if the subject of examination is included in the list of Master's degree subjects in the faculty in which he graduated.

G. 14. A candidate presenting a thesis for the degree of Master shall be required to submit sufficient copies of the thesis to enable the University to lodge a copy in the library of each of the Constitutent Colleges, of the National Bureau of Educational and Social Research and of the S.A. Native College, Fort Hare; provided that a candidate may, if he desires, submit a smaller number, not less than three, on condition that he authorises the University to make on his behalf sufficient further copies of the thesis for the above purpose.

(N.B.—Attention is drawn to the fact that no information as to marks gained at an examination, or supplied as college record, or as to standards reached by students at degree examinations, can be communicated to them, or to any person other than an authorised officer of the University; and that the University does not make provision for the re-examination of scripts).

Faculty of Arts.

Regulations.
Syllabuses.

FACULTY OF ARTS

DEGREES IN THE FACULTY OF ARTS.

A. 1. The following degrees are granted in the Faculty of Arts:—
Bachelor of Arts .... B.A.
Bachelor of Arts (Fine Arts) .... B.A. (Fine Arts).
Master of Arts .... M.A.
Master of Arts (Fine Arts) .... M.A. (F.A.)
Doctor of Literature .... D.Litt.
Doctor of Philosophy .... D.Phil.

REGULATIONS FOR THE DEGREE OF BACHELOR OF ARTS*.

MINIMUM PERIOD OF ATTENDANCE.

A. 2. Every candidate for the degree of Bachelor of Arts, as an internal student, must attend as a registered matriculated student, except as provided for in paragraph G.7, a constituent college of the University for at least three academic years, and, in the case of Fine Arts, four years.

NUMBER OF QUALIFYING COURSES.

A. 3. Every curriculum for the degree shall contain at least eleven qualifying courses. The number of courses with which a candidate will be credited towards his degree shall be distributed over the three years of study as follows:—

First year: not more than five.
Second year; not more than four.†
Third year: not more than three.†

A candidate who fails in one or more courses in his first or second year may repeat one of such courses in a subsequent year, and receive credit for it, in addition to the maximum given above.

N.B.—(1) A candidate for the B.A. or B.Sc. degree is deemed to be in his second year of study from the time he has received his first credits towards the degree until he enters for the final courses in his major subjects, and the final examination in major subjects may not be taken before reaching the third year.

(2) When a candidate enters for the final courses in his major subjects he is considered to be in his third year of study.

(3) When a candidate has passed in the final courses of his major subjects, the maximum number of courses he may take per year will be five for the B.A. and four for the B.Sc. degree.

* This section does not apply to Fine Arts.

† Candidates offering Special French or Special German or Education or a preparatory course in one of the Classical languages may take five subjects in the second year, or four subjects in the third year, provided that not more than four subjects have been taken in the first year.

Definition.

A *qualifying course* in any subject shall consist of not less than *sixty* separate meetings of the class extending over one academic year.*

A. 4. The following subjects are approved for the B.A. degree of the University of South Africa:—

Subjects Approved for the B.A. Curriculum.

Group A (Language): Latin, Greek, Hebrew, English, *Alternative English*, Dutch, *Alternative Dutch*, French, German, *Special French*,* *Special German*,* Italian, a Bantu Language.

Group B (Legal): Roman Law, *Roman-Dutch Law*, *Public International Law* or *Native Law* or *South African Bantu Law*, *Jurisprudence*, *Constitutional Law*, *South African Criminal Law*.

Group C (Philosophical Science): Mathematics, Philosophy, Politics, *General Introduction to Philosophy*, Psychology, Economics, Sociology, Social Anthropology and Theory of Statistics. *Education*.

Group D (Social Science): Mediaeval and Modern Histroy, *Ancient History*, *Geography*, Music, *Classical Culture*, *South African Archaeology*, *Economic Geography*, Fine Art, *Art History and appreciation*, Native Administration, *Physical Education*, *Musical History and appreciation*.

Group E (Natural Sciences): Physics, Chemistry, Botany, Geology, Zoology, Biology, *Applied Mathematics*.

Conditions Governing the Curriculum for the B.A. Degree.

A. 5. The following provisions shall apply in the selection of subjects for which a candidate will be credited towards the B.A. Degree:—

(i) Credit will not be given for more than *one* qualifying course in each of the subjects printed in italics.

(ii) The number of qualifying courses from Group B for which credit will be given is limited to *five*, and the number of qualifying courses from Group E to *two*.

(iii) Every curriculum for the degree shall include (a) at least two qualifying courses from Group A, and (b) at least two qualifying courses from Groups B, C and D, of which one must be from either Group B or Group C.

(iv) Every curriculum for the degree shall contain at least one qualifying course in English or Dutch; with the proviso that a candidate may obtain exemption from the requirement of this section if he has obtained distinction in English or Dutch at the Matriculation examination or an equivalent examination.

(v) Credit will not be given for both members of any of the following pairs:—

(a) Classical Culture and Ancient History;
(b) Economic Geography and any course in Geography;
(c) Special French and any course in French;
(d) Special German and any course in German;
(e) Fine Art II or III and Art History and Appreciation;
(f) Biology and either Botany or Zoology;
(g) Musical History and Appreciation and any course in Music.

* A qualifying course in Special French and in Special German extends over two academic years, and the examination cannot be taken before the end of the second year of study, save in exceptional circumstances to be approved by the University Senate.

(vi) Candidates taking Ancient History must have previously completed at least one qualifying course in Latin or Greek.

(vii) Candidates who have matriculated in French shall not obtain credit towards the B.A. Degree for Special French; and similarly candidates who have matriculated in German shall not obtain credit towards the B.A. Degree for Special German.

(viii) Economics is a three-course subject, and Economic History a two-course subject; but the first course of both subjects, namely "Economics and Economic History I," is the same, and, therefore, students taking both subjects for three and two years respectively will obtain credits in four courses only.

(ix) Alternative English and Alternative Dutch may only be taken by internal students who have not passed the subject concerned on the higher grade at the Matriculation or an equivalent examination. A candidate taking Alternative English or Alternative Dutch may not take any other course in English or Dutch, as the case may be.

(x) Credit will not be given for courses in more than one Bantu language from the same Language Group.

(xi) Theory of Statistics may not be taken unless a first course in Mathematics has been completed.

(xii) Students obtaining 50% in Constitutional Law may take History as a two-course major (Courses II and III), counting Constitutional Law as History I.

A. 6. Every curriculum for the Degree of Bachelor of Arts shall contain at least two subjects known as *major subjects*.

APPROVED MAJOR SUBJECTS.

The major subjects of the curriculum shall be selected, subject to the provisions of Para A.8, from the following:—

(a) THREE-COURSE MAJORS.

(a) *Major subjects in which three qualifying courses shall be taken:* English, Dutch, French, German, Italian, Latin, Greek, Hebrew, History, Music, Mathematics, Geography, Fine Art, Economics, Sociology, Bantu Language.

(b) *Major subjects in which two qualifying courses shall be taken:* Psychology, Philosophy, Politics, Roman Law, Social Anthropology, Native Administration.

Two qualifying courses may be taken in any subject from group (b) without counting such subject as a major; the scope of the work and examination shall, however, be the same as for the subject when taken as a major.

Provided that:

CONDITIONS GOVERNING THE SELECTION OF MAJOR SUBJECTS.

(i) Credit will not be given for Mathematics and Geography as the only two major subjects;

(ii) If two major subjects are selected from group (a), the candidate will not be given credit towards the B.A. Degree for more than two qualifying courses in any other single subject, except in the case of a candidate who passes in 12 courses when he may be credited with three qualifying courses in a single subject.

(iii) Every curriculum must include at least four courses which are not initial courses, except in case of students proceeding to the LL.B. degree;
Philosophy I. shall be considered a non-initial course if taken after General Introduction to Philosophy.

(iv) No candidate shall be permitted to offer as a major subject for the B.A. degree a subject in which he has passed the final examination for a previous degree completed by him.

Ancillary Subjects.

A. 7. The selection of major subjects in a B.A. curriculum shall be made subject to the fulfilment of the following conditions, namely:—

(a) Candidates taking Greek as a major subject shall take at least one qualifying course in Latin.

(b) Candidates taking Latin or Greek as a major subject shall take the course in Classical Culture. (Professed LL.B. students may be exempted from this requirement).

(c) Candidates taking Geography as a major subject shall take at least one qualifying course in one of the following: History, Mathematics, Physics, Botany, Geology, Zoology, Biology, Social Anthropology.

(d) Candidates taking Roman Law as a major subject shall take at least one qualifying course in Latin, and one in Roman-Dutch Law.

(e) Candidates taking Social Anthropology as a major subject shall take at least one course in a Bantu language.

(f) Candidates taking Sociology as a major subject shall take one qualifying course in Psychology or Philosophy or Politics or General Introduction to Philosophy or Jurisprudence or Education or Economics and Economic History.

Note.—Candidates taking a modern language as a major subject are advised that it is highly desirable that Latin or Greek be included in the curriculum as an ancillary subject.

EXAMINATION IN EACH SUBJECT.

A. 8. There shall be a University examination in each subject at the end of each course, but it shall not be compulsory for candidates to take a University examination except at the end of their final course in a subject.

Students who, on account of certified illness, cannot sit for examination, may be allowed to take the subject or subjects concerned at a supplementary examination (see G.10 General Regulations).

CONDITIONS GOVERNING ADMISSION TO COURSES II. AND III.

A. 9. No candidate for the degree shall be allowed to enter upon the work of the second or any subsequent course in any subject taken by him unless, in the opinion of the Senate of the University of South Africa, he has attained a satisfactory standard of proficiency in his previous work in such subject.

For purposes of this regulation the Senate of the University will acept certificates of proficiency issued by the Senate of the college at which the candidate has studied.

Students entering a constituent college for their first year of study may be allowed to proceed direct to Course II in any subject if the head of the department concerned is satisfied that their school training and Matriculation record justifies this course.

In such cases the final examination in any such subject shall not be taken before the usual regulation time.

CONDITIONS GOVERNING PROMOTION FROM FIRST TO SECOND YEAR.

A. 10. Candidates who, after the first year of study, have not passed the University Examination, or been permitted by the College Senate, in terms of paragraph A.9 to enter upon the work of the second course in at least three subjects, will be required to commence their curriculum again as from the beginning.

An exception may be made to this regulation to the effect that candidates (a) who produce satisfactory evidence that they have been engaged in normal full-time employment for at least three-quarters of the academic year prior to sitting for the examination, or (b) who are students in training as teachers at a recognised training college for a full year's course, may be allowed to continue their curriculum after passing in two subjects. A candidate taking advantage of this privilege shall be required to devote one year beyond the normal to his degree course.

EXAMINATION IN MAJOR SUBJECTS.

A. 11. Candidates will be required to pass the final examinations in at least two major subjects simultaneously.

Examination in Ancillary Subjects.

A. 12. The examination or examinations in the subject or subjects required under paragraph A.7 must be passed either before, or at the same time as, the examination in the related major subject; provided that a candidate who has passed the final examination in two major subjects simultaneously, but who has failed in one or more related ancillary subject or subjects, shall not be required to rewrite such major subjects, but will only obtain credit towards the B.A. degree for these major subjects when he has passed in the related ancillary subject or subjects.

Distinction.

A. 13. Candidates who distinguish themselves at the B.A. and M.A. examinations shall be granted "distinction," which distinction in the case of the Bachelor's Degree shall be based solely on the University Examination, and applicable only to final courses in major subjects taken simultaneously and to each subject individually.

The minimum required for a pass with distinction is 66 per cent. in all subjects.

A. 14. The minima required for a pass, and the percentage of the total marks assigned to the college record and to practical examinations, are shown in the following table:—

	Percentage allowed for:		Minimum for a pass in:	
	(a) College Record.	(b) Practical Examinations*	(a) University Examination.	(b) University Examination and College Record combined.
In Mathematics and Applied Mathematics	33·3	—	30	35
In Science Subjects and Geography	40	40	33·3	40
In all other Subjects	25	—	35	40

* The mark for practical examinations is a percentage of the number of marks given for the University examination, not of that for the University examination and college record combined.

In addition, a sub-minimum has been prescribed of 25% in the prose and unseen part of the examination in Latin and Greek (Courses II and III), and of 40% in the translation section of the examination in Special French and Special German. The sub-minima in Science subjects and Geography will be found in paragraph S.15 (Faculty of Science).

Graduation.

A. 15. No candidate shall be admitted to the B.A. degree until he has paid the prescribed graduation fee.

REGULATIONS FOR THE DEGREE OF MASTER OF ARTS.

For particulars consult head of department concerned.

REGULATIONS FOR THE DEGREE OF DOCTOR OF LITERATURE AND DOCTOR OF PHILOSOPHY.

For details consult head of department concerned.

SYLLABUSES.

CLASSICS.

Professor: A. Petrie, M.A. (Aberd.), B.A., (Cantab.).
Lecturer: B. H. Farrer, M.A. (S.A. et Oxon.)

LATIN.

Course I.

The syllabus will comprise the study of the following texts:
Sallust—*Catilina.*
Virgil—*Aeneid X.*
Also, Outlines of Roman History (Republic), Main Facts of Public Antiquities, Elements of Metre, Unseen Translation and Prose Composition.
Class Book—*Introduction to Roman History*, etc. (Oxford Press).

Course II.

The following texts will be read:
Cicero—*Pro Murena.*
Terence—*Phormio.*
*Virgil—*Aeneid IV.*
*Livy—*Book XXVII.*
Roman History, Antiquities and Metre in more detail; Outlines of Literature; Unseen Translation and Prose Composition.
Class Book—Smith, *Smaller History of Rome.*

Course III.

The following texts will be read:
Plautus—*Mostellaria.*
Tacitus—*Histories III.*
Horace—*Odes I.*
*Lucretius —V.
*Catullus—*Selections* (Simpson).
*Cicero—*De Officiis III.*
*Suetonius—*Augustus* (Adams).
Literature and Antiquities in more detail; Special Period of History—Augustus.
The following books will be found useful:—
Mackail's *Latin Literature.*
Smith's *Smaller History of Rome.*
Introduction to Roman History, etc. (Oxford Press).
Bury's *The Student's Roman Empire* (27 B.C.—A.D.. 180).

*For less detailed study.

GREEK.

Course I.

The First Year Course is either (A) Elementary or (B) Advanced, according as students have not or have taken Greek as a subject at the Matriculation Examination.

(A).—The elementary course will comprise simple accidence and syntax and the reading of a book, or part of a book, of Xenophon's *Anabasis*... This course is preparatory to (B), and does not of itself count for degree purposes.

(B).—The advanced course will include the reading of the following texts:—

Plato—*Apology.*
Homer—*Odyssey I.*

Also, Outlines of Greek History and Public Antiquities; easy Unseen Translation and Prose Composition.

Course II.

The following texts will be read:

Thucydides—*Book I.*
Euripides—*Electra.*
*Herodotus— *Book VI.*
*Homer—*Odyssey IV.*

History, Literature and Antiquities in more detail; Unseen Translation and Composition.

Course III.

The following texts will be read:

Thucydides—*Book VII.*
Plato—*Republic X.*
Sophocles—*Antigone.*
*Homer—*Iliad XXIII., XXIV.*
*Demosthenes—*De Corona.*
*Plutarch—*Nicias.*

History, Literature and Antiquities; Unseen Translation and Composition; Special Period of History—The Peloponnesian War.

The following books will be useful:

Sidgwick, *Greek Prose Composition.*
Jebb, *Primer of Greek Literature.*
Smith, *Smaller History of Greece.*
Gow, *Companion to School Classics.*

PRINCIPLES OF CLASSICAL CULTURE.

This subject is meant particularly for students specialising in English or Modern Languages, who desire a more intimate acquaintance with the classical background of modern literature. The scope of the subject is as under:—

*For less detailed study.

Course I.

(Open to any student and obligatory for those taking Latin as a major subject.)

Greek Culture.

With an examination comprising two papers:—

Paper 1. History and Literature, with special study of a specified branch of literature.

Paper 2. Two subjects connected with Ancient Greek life (e.g., Ancient Greek Architecture, Private Life in Ancient Athens).

Course II.

(Open to any student who has passed Course I. or who takes Greek as a major subject.)

Roman Culture.

Two papers:—

Paper 1. History and Literature, with special study of a specified branch of literature.

Paper 2. Two subjects connected with Ancient Roman life (e.g., Roman Art and Architecture, Roman Private Life).

One course is obligatory for those taking Greek as a major subject. Instruction is not, ordinarily, given in both courses in any one year.

Books. Course I.:—
Introduction to Greek History, etc. (Oxford).
Primer of Greek Literature (Jebb).
The Pageant of Greece (abridged edn.: Livingstone).

Course II:—
Introduction to Roman History, etc. (Oxford).
Latin Literature (Mackail).
Illustrative Readings from Roman Literature (Pym).
Other books will be recommended from time to time.

M.A. Degree.

This may be taken in Classics, in Latin only, or in Greek only. The relative syllabuses will be found in the University Calendar.

University Education Diploma Course (Latin).

Lectures bearing mainly on teaching methods are given once a week to those offering Latin as a principal teaching subject.

DUTCH.

(AFRIKAANS EN NEDERLANDS).

Professor: G. S. Nienaber, M.A., M.Ed. (S.A.), Litt. Dr. (Gent).
Senior Lektor: Vakant.
Lektor: P. du P. Grobler, M.A. (S.A.)

Kursus *I.*

1. Oefeninge in mondelinge en skriftelike taalgebruik.
2. Taalkundige onderwerpe.
Le Roux en Schoonees: *Die Nuwe Taal- en Stylgids* (Nas. Pers).
Le Roux: *Praatjies oor ons Taal* (Nas. Pers).
3. Oorsig van die Nederlandse en die Afrikaanse letterkunde met studie van algemene begrippe.
Dekker: *Afrikaanse Literatuurgeskiedenis* (Nas. Pers).
Malherbe: *Afrikaanse Verse* (2 dele), (Nas. Pers).
V. d. Heever en Coetzee: *Oorsig van die Nederlandse Letterkunde* (De Bussy).
Boshoff en Dekker :*Van Maerlant tot Boutens*, Deel II (van Schaik).
Louw: *Raka* (Nas. Pers).
W. de Klerk: *Drie Vroue* (Nas. Pers).
Krige: *Die Palmboom* (van Schaik).
Van den Heever: *Somer* (van Schaik).
Drie Nederlandse Novellen (van Schaik).
Boudier-Bakker: *Verleden* (De Bursy).

Alternatiewe Hollands.

Hierdie kursus is alleen toeganklik vir studente wat Afrikaans op die *B*-graad by die Matrikulasie-eksamen gedoen het. Dit word erken as 'n graad-kursus maar voltooiing daarvan verleen geen toegang tot Hollands II nie, en ook geen vrystelling van Nederlands-Afrikaans I vir LL.B.—doeleindes nie.

1. Oefeninge in mondelinge en skriftelike taalgebruik.
2. Taalkundige onderwerpe.
Le Roux en Schoonees: *Die Nuwe Taal- en Stylgids* (Nas. Pers).
Le Roux: *Praatjies oor ons Taal* (Nas. Pers).
3. Afrikaanse literatuurgeskiedenis met studie van voorgeskrewe tekste.
Dekker: *Afrikaanse Literatuurgeskiedenis* (Nas. Pers).
Malherbe: *Afrikaanse Verse* (2 dele) (Nas. Pers).
Celliers: *Martjie* (De Bussy).
Louw: *Raka* (Nas. Pers).
Leipoldt: *Die Laaste Aand* (Nas. Pers).
W. A. de Klerk: *Drie Vroue* (Nas. Pers).
Malherbe: *Die Meulenaar* (Nas. Pers).
Murray: *Die Gerf* (Nas. Pers).
Nienaber: *Die Dierverhaal in Afrikaans* (Nas. Pers).
Van den Heever: *Laat Vrugte* (Nas. Pers).
Krige: *Die Palmboom* (van Schaik).
Van den Heever: *Somer* (van Schaik).

Kursus II.

1. Taalkunde, Taalgeskiedenis en Klankleer.
Scholtz: *Taal en Taalverskynsels* (Nas. Pers).
De Vooys: *Geschiedenis van de Nederlandse Taal* (Wolters, Groningen).
Hesseling: *Het Afrikaans* (Brill, Leiden).
Bosman: *Oor die Ontstaan van Afrikaans* (Swets en Zeitlinger, Amsterdam).
Le Roux en Pienaar: *Afrikaanse Fonetiek* (Juta, Kaapstad).
2. Nederlandse Letterkunde: Sedert 1880.
De Raaf en Griss: *Stroomingen en Gestalten* (Brusse, Rotterdam), of 'n ander literatuurgeskiedenis.
Dekker: *Van Staring tot Gorter* (Van Schaik).
Perk: *Gedichten* (Van Schaik).
Kloos: *Poëzie en Proza* (Van Schaik).
Van Eeden: *De Kleine Johannes I* (De Bussy).
Hedendaagsche Nederlandsche Novellen (Van Schaik).
Gezelle: *Bloemlesing* (De Bussy).
Styn Streuvels: *De Vlaschaard* (Van Schaik).
3. Afrikaanse Letterkunde: Poësie en Kritiek.
Dekker: *Afrikaanse Literatuurgeskiedenis* (Nas. Pers.).
Hoogenhout: *Gedigte* (Voortrekkerpers).
Celliers: *Die Vlakte en ander Gedigte* (Nas. Pers).
Totius: *Rachel.*
Leipoldt: *Oom Gert vertel en ander Gedigte* (H|A.U.M.)
Skoonheidstroos (Nas. Pers).
Van den Heever: *Eugene en ander Gedigte* (Van Schaik).
E. Eybers: *Die Vrou en ander Gedigte* (Constantia).
Louw: *Die Halwe Kring Gestaltes en Diere* (Nas. Pers.).
Opperman: *Heilige Beeste* (Nas. Pers.).

Kursus III.

1. Taalkunde, Taalgeskiedenis en Middel-Nederlands.
Le Coutere en Grootaers: *Inleiding tot de Taalkunde* (Wolters, Groningen).
De Vooys: *Geschiedenis van de Nederlandse Taal* (Wolters).
Le Roux: *Oor die Afrikaanse Sintaksis* (Swets en Zeitlinger, Amsterdam).
Le Roux en Le Roux: *Middelnederlandse Grammatika* (Van Schaik).
Beatrys (Van Schaik.)
Karel ende Elegast (Van Schaik).
2. Nederlandse Letterkunde: *Sedert 1830.
De Raaf en Griss: *Stroomingen en Gestalten* (Brusse, Rotterdam), of 'n ander literatuurgeskiedenis.
Hildebrand: *Camera Obscura* (De Bussy).
Buning: *E. Douwes-Dekker* (Van Schaik).
Dekker: *Van Staring tot Gorter* (Van Schaik).
Perk: *Gedichten* (Van Schaik).
Kloos: *Poëzie en Proza* (Van Schaik).
Van Eeden: *De Kleine Johannes I.* (De Bussy).
Hedendaagsche Nederlandsche Novellen (Van Schaik).
Gezelle: *Bloemlesing* (De Bussy).
Styn Streuvels: *De Vlaschaard* (Van Schaik).
3. Afrikaanse Letterkunde: *Poësie en Kritiek.
Dekker: *Afrikaanse Literatuurgeskiedenis* (Nas. Pers).
Hoogenhout: *Gedigte* (Voortrekkerpers).

Celliers: *Die Vlakte en ander Gedigte* (Nas. Pers).
Totuis: *Rachel.*
Leipoldt: *Oom Gert vertel en ander Gedigte* (H.A.U.M.)
Skoonheidstroos (Nas. Pers).
Van den Heever: *Eugene en ander Gedigte* (Van Schaik).
E. Eybers: *Die Vrou en ander Gedigte* (Constantia).
Louw: *Die Halwe Kring; Gestaltes en Diere* (Nas. Pers.).
Opperman: *Heilige Beeste* (Nas. Pers.).

M.A. Kursus.

Die Leergang vir M.A. word vasgestel in oorleg met die student.

Onderwysdiploma.

1. Die eksamen vir Afrikaans as voertaal bestaan uit:—

(a) 'n Lees- en spreektoets.
(b) 'n Skryftoets.
(c) 'n Proefles.
(d) 'n Toets oor die kennis van Afrikaanse Fonetiek.
Handboek: Le Roux en Pienaar, *Afrikaanse Fonetiek* (Juta).

2. Kandidate vir die eksamen in Afrikaans as Hoërskool-vak moet aanskaf:—

Jespersen: *How to teach a Foreign Language* (Allen and Unwin, London).
Jespersen: *The Philosophy of Grammar* (Allen and Unwin).
Le Roux en Schoonees: *Die Nuwe Taal- en Stylgids* (Nas. Pers).

*Studente wat hierdie tydperk of vakke in hulle 2de jaar gehad het, doen die leerplan van 1946.

DEPARTMENT OF ECONOMICS.

STAFF:—

Professor: H. R. Burrows, M.C., E.D., M.Com. (Leeds).
Senior Lecturer: R. J. Randall, B.Com (Rand), A.S.A.A., C.A. (S.A.), Assoc. Inst. T.
Lecturer: N. Hurwitz, B.Com.
Research Fellow: R. H. Smith, M.Com.
"Dunlop" Research Fellow: S. Ngcobo, M.A. (Yale), B.A., B.Econ.
Research Assistants: G. E. Stent, B.A.
V. Sirkari Naidoo, B.A., B.Com.
B. Nomvete, B.A. (Soc.Sc.), "Creteweld" Research Scholar.

COURSES:—

The Department offers the following courses, for the degrees of B.A. and B.A. (Social Science):
Economics I.
Economics II. (Value, Distribution, and Monetary Theory).
Economics III. (International Trade, Foreign Exchanges, History of Economic Thought, Public Finance, Social and Industrial Economics).
Economics II. (Special Course for the B.A. Social Science).

M.A. courses are also available for full-time and part-time students. The Bibliography is given in the Calendar of the University of South Africa.

One-year Special Course for non-degree students, providing they undertake to read the prescribed books and do written work.

Details of Course I in Economics and Economic History are as follows. Details of the other courses will be found under the syllabuses of the Faculty of Commerce.

Economics and Economic History I.

A—Economic History.

Feudalism and the Manor: Growth of industry and commerce: mercantilism: rise of capitalism: agrarian, industrial and commercial revolutions and their social consequences.

Books.

Lipson: *Economic History of England* (Middle Ages—The Age of Mercantilism, Vols. I and II).
Knowles: *Industrial and Commercial Revolutions of the 19th Century.*
Cambridge Economic History.
Ogg and Sharp: *Economic Development of Western Europe.*
Pirenne: *Economic and Social History of Mediaeval Europe.*
Redford: *Economic History of England, 1760-1860.*
Usher: *Introduction to the Industrial History of England.*
Soltau: *Outline of European Economic Development.*

B—Economics.

1—*Fundamental Concepts*: Its relation to other social sciences. Methods of economic investigation. Wants, utility, economic and free goods, wealth (individual and social), welfare, production, consumption, saving, capital, income.

2—*Value and Prices*: Elementary treatment of the theory of value.

3—*Production*: The Factors of Production; land and natural forces. Labour. Factors influencing efficiency and productivity. Division and specialisation of labour. Mobility of labour. Capital—Consumers' and producers' capital; Fixed and floating capital. Capital accumulation. Organisation—Functions of the entrepreneur.

4—*Distribution*:
Wages.—Nominal and real wages. Wages and labour cost. Principal theories of wages.
Interest.—Nature of interest. Abstinence, Exploitation, Austrian, and other theories, etc.
Profits.—Gross profit and net profit. The influence of profits in determining the direction of production. Allocation of profits in different forms of organsation.

5—Elementary treatment of money, banking, and foreign exchanges.

6—*Population*: Brief consideration of the economic aspects of population problems.

Books recommended:

Benham: Economics.
Dearle: Economics.
Clay: Economics for the General Reader.
Jones: Economics of Private Enterprise.
Henderson: Supply and Demand.
Dobb: Wages.
Hartley Withers: Meaning of Money.
Robinson: The Structure of Competitive Industry.
Smart: Introduction to the Theory of Value.
Meade: Introduction to Economic Analysis and Policy.
Wright: Population.
Hicks: The Social Framework.

NOTE:
Students desiring to pursue further the study of economics are recommended to acquire a knowledge of statistics.

ENGLISH.

Professor: G. H. Durrant, M.A. (Cantab).
Senior Lecturer: Miss E. Sneddon, M.A.

(The following syllabuses are subject to revision).

B.A. Syllabuses.

Course I.

1. Essay Writing and Practical Criticism.
2. Introduction to the Study of English Literature:
   (a) Prose, with special reference to the work of Defoe, Jane Austen, Hardy, and one modern novelist.
   (b) Verse; a selection of lyrical and narrative verse.
3. Drama: Outline History of the stage, and the special study of three plays of Shakespeare, and of one modern play.
4. An Outline History of the English Language.

Course II.

1. Essay Writing and Criticism.
2. (a) English Verse from the Restoration to Wordsworth, with a special study of *Paradise Lost*.
   (b) English Essayists and Novelists from Defoe to Jane Austen, with special study of Swift, Fielding, Sterne, and Johnson.
3. Shakespeare.
4. (a) Phonetics.
   (b) Introduction to Old English.
   (c) Chaucer: Selection from the *Canterbury Tales*.

Course III.

1. Essays and Criticism.
2. (a) English Verse from Browning to the Present Day, with special study of Browning, Hopkins, and Eliot.
   (b) Victorian and Modern Prose, with special study of Dickens, Arnold, Samuel Butler, Carlyle, Ruskin, Hardy, and Virginia Woolf.
3. Shakespeare.
4. Old English (for those students who wish to proceed to post-graduate studies in English.)
4. Old English. (Instead of 3b, for those students who wish to proceed to post-graduate studies in English).
5. Middle English Literature: Chaucer: *Troilus and Creseyde*, *The Canterbury Tales*; other XIV C. writers.
6. Metaphysical Poetry, with special study of Donne.

A list of prescribed books will be supplied on request by the Head of the Department.

University Education Diploma.

(a) For students presenting English as a medium of instruction only; oral and written work.
(b) For students presenting English as an academic subject:
Sampson: *English for the English* (C.U.P.)
Board of Education Report on the Teaching of English in England (H.M. Stationery Office, London).
Culture and Environment (D. Thompson and F. R. Leavis).

M.A. Course.

Students who propose to take this course must ordinarily have obtained a first-class in English as a major subject for the B.A. degree. For details consult the Head of the Department.

FRENCH.

Temporary Lecturer: Mr. J. L. Cattaneo, B.ès L. (Switzerland), M.A. (S.A.)

SPECIAL FRENCH.

The aim of this course is to enable students who have not taken French as a matriculation subject to acquire a reading knowledge of the language.

The course extends over two years and makes provision for two lectures a week. Some private work is expected of students during the intervening vacations, bilingual books being prescribed for that purpose.

First Year.

Charles Duff: The Basis and Essentials of French (Thomas Nelson).
French Basis and Essential Reader by J. P. Vinay (Nelson).
Simpler French Course for First Examinations. W. Whitmarsh. (Longman).
Daudet. *Lettres de Mon Moulin.* (Harrap Bilingual Series).
Maupassant. *Mademoiselle Perle.* (Harrap Bilingual Series).
About. *Jumeaux de l'Hôtel Corneille.* (Harrap Bilingual Series).
Hills and Dondo. *La France.* (Harrap).
English-French, French-English Dictionary. (Cassells).

Second Year.

G. Flaubert: *La Légende de St. Julien* (Harrap Bilingual).
J. Conrad: *Les Idiots* (Harrap Bilingual Series).
Henri Becque: *Les Corbeaux* (Harrap).
French Unseens, Book III. Kastner and Marks. (Dent).
Petit Miroir de la Civilisation Française. Denoeu. (Heath).
Modern French Short Stories. (Oxford, Clarendon).

Students are requested to see that they procure the correct edition of texts wherever the edition is specially stipulated.

TEXT-BOOKS (for all courses):

Pellissier. *French Unseens for Upper Forms* (Blackie).
Blanchaud. *Progressive French Idioms* (Harrap).
Mansion. *Grammar of Present Day French* (with exercises). (Harrap).
Elements of French Pronunciation and Diction by Dumville (Dent).
A French Phonetic Reader by Richards (Dent).
Brush Up Your French: First Series by W. G. Hartog (Dent).
Brush Up Your French: Second Series by W. G. Hartog (Dent).
Ritchie and Moore. Vol. I. *French Prose...* Vol II. *French Verse.* (Dent).
Morel: *Abrégé de l'Histoire de la Littérature Française* (Harrap).
Seignobos: *Histoire Sincère de la Nation Française* (Penguin Books).
Chevalley: *Concise Oxford French Dictionary.*

Course I.

1. Language. Revision of Grammar. Idioms. Unseen Translation and Prose Composition.
2. Elementary Phonetics. Dictation. Conversation.
3. Outline of the History of French Literature and Civilisation.
4. Lecture Expliquée. Literary Criticism of the writers included in the syllabus. Essay writing.

Prescribed Works:

French Composition... Book I. Kastner & Marks (Dent).
Molière. *Le Bourgeois Gentilhomme* (Harrap. Edited Warren).
Corneille. *Le Cid* (Harrap. Edited Warren).
Hugo. *Hernani* (Harrap. Edited Matzke).
Georges Sand: *La Mare au Diable* (Nelson).
Contes Choisis de Maupassant (Harrap. Edited Mansion).
Henri Becque. *Les Corbeaux* (Harrap. Edited Dawson).
Anatole France: *Le Crime de Sylvestre Bonnard* (Harrap).

Course II.

1. Language. Revision of Grammar and Syntax. Idioms. Translation work. Prose Composition.
2. Study of Phonetics. Dictation. Conversation.
3. History of French Literature and Civilisation in the 17th and 18th Centuries.
4. Lecture Expliquée. Literary Criticism. Essay Writing.

Prescribed Works:

French Prose Composition by Niklaus and Wood (Duckworth).
Corneille. *Cinna* (Harrap).
Racine. *Andromaque* (Harrap).
Molière. *Le Misanthrope* (Harrap).
La Favette. *Princesse de Clèves* (any edition).
La Fontaine. *Choix de Fables* (Clarendon Press).
Selections from La Bruyère (Harrap Advanced Texts).
Montesquieu: *Lettres Persanes* (Nelson).
Voltaire. *Meilleures Pages* (Univ. of London Press).
Diderot: *Extraits* (ed. Giese) (Harrap).
Meilleures Pages de Rousseau (Univ. of London Press).
Marivaux. *Jeu de l'Amour et du Hasard* (Harrap, edited Fortier).
Beaumarchais. *Barbier de Séville* (Harrap).

Course III.

1. Language. Revision of Grammar and Syntax. Idioms. Translation work. Advanced Prose Composition.
2. Study of Phonetics. Dictation. Conversation.
3. History of French Literature and Civilisation in the 16th and 19 Centuries. Outline of the Literature of the 20th Century
4. Lecture Expliquée. Literary Criticism. Essay writing.
5. Study of Versification.

Prescribed Works:

French Prose Composition by Niklaus and Wood (Duckworth).
Bush and Young. *16th Century French Anthology* (Harrap).
Auzas. *Poètes du XIX^e siècle.* (Oxford).
Nine French Poets by H. F. Berthon (Macmillan).
Montaigne. Extracts (Harrap, edited Conrad Wright).
Chateaubriand. *René* (Nelson).

Hugo. *Ruy Blas* (Harrap).
De Musset. *Trois Comédies* (Harrap).
Balzac. *Eugénie Grandet* (Harrap).
Stendhal. *Le Rogue et le Noir* (any edition).
Michelet: *Pages Choisies* (Hachette).

Extensive Reading:
Malcolm McLaren: *Anthologie de la Poésie Française* (Les Modernes). (Hachette, London).
Flaubert: *Madame Bovary* (Nelson).
Zola: *Germinal.*
Claudel: *L'Annonce Faite à Marie.*
André Gide: *Les Faux-Monnayeurs.*
Jules Romains: *Knock ou le Triomphe de la Médecine.*

GEOGRAPHY.

Professor: R. M. JEHU, M.Sc. (Wales), F.R.G.S., F.G.S.
Lecturer: K. M. BUCHANAN, B.A. Hons. (Birm.).

The Geography syllabuses in the Faculty of Arts are the same as those in the Faculty of Science.

GERMAN.

Acting Head: M. SCHMIDT-JHMS, Ph.D. (Leipzig).

SPECIAL GERMAN:

Students without any knowledge of German can take a beginners' course, which extends over two years.

During the *first* year, two hours per week are given, and students are enabled to acquire a basic vocabulary for understanding, speaking and reading simple German. Students are also assisted in reading German texts in their particular field of interest.

There is no University examination at the end of the *first* year, but students can obtain a departmental testimonial certifying attendance and proficiency reached.

During the *second* year, three lessons per week are given. The work of the first year is continued, but in addition students are acquainted with some aspects of German literature and civilisation. In their reading, students may specialise in science texts.

There is a University examination, consisting of two papers, at the end of the year. Paper I demands translation from German into English or Afrikaans; Paper II requires essays in the students' own language on prescribed books. Pass in this examination gives credit for one course towards the B.A. or B.Sc. degree.

SPESIALE DUITS:

Studente wat geen kennis van Duits het nie kan 'n tweejarige beginnerskursus volg.

Gedurende die *eerste* jaar word daar twee uur per week aan die kursus bestee. Studente verwerf 'n minimum wordeskat wat hulle in staat stel om eenvoudige Duits te verstaan, te praat en te lees. Hulle kry ook indiwiduele hulp met die lees van Duitse boeke oor onderwerpe, warin hulle spesiaal belangstel.

Daar is geen universiteitseksamen aan die einde van die *eerste* jaar nie, maar studente kan departmentele getuigskrifte verkry, warin bywoning van die klasse en die standard wat bereik is, gesertifiseer word.

Gedurende die *tweede* jaar word daar drie uur per week aan die kursus bestee. Die werk van die eerste jaar word voortgesit, maar buitendien doen studente ook kennis op van sekere aspekte van die Duitse letterkunde en kultuur. Studente kan hulle ook toelê op die lees van natuurwetenskaplike boeke.

Aan die einde van die tweede jaar is daar 'n universiteitseksamen, wat uit twee vraestelle bestaan. Vraestel I eis vertaling van Duitse tekste in Afrikaans of Engels; in vraestel II moet kandidate opstelle oor voorgeskrewe boeke in hulle eie taal skryf. Die tweejarige kursus geld as een kursus van die B.A. of B. Sc. graad.

Prescribed Books/ Voorgeskrewe Boeke:

First Year/Eerste Jaar.

P. Hagboldt, F. W. Kaufmann: A Modern German Grammar. (Harrap). Plus a Brief Course in German.
O. Koischwitz: Die Bilderfibel. (Harrap).
M. Kelben: So Einfach (Harrap).
P. Hagboldt, B. Q. Morgan, C. M. Purin: Graded German Readers, No. 3 Anekdoten und Erzählungen.
Fleissner und Fleissner: Kleine Anthologie Deutscher Lyrik (Crofts).
Th. Storm: Immensee. (Nasionale Pers.)
Grimmsche Märchen. (Nasionale Pers.)
H. W. Puckett: Contemporary German Prose. (Harrap.)
O. Koischwitz: Introduction to Scientific German. (Harrap.)

Second Year/Tweede Jaar.

Fiedler: The Oxford Book of German Verse.
Fr. Schnack: Klick aus dem Spielzeugladen. (Holt.)
L. Thoma: Cora, Vier Lausbengeschichten. (Holt.)
P. Ernst: Geschichten von Deutscher Art. (Crofts.)
H. Grimm: Moordenaars Graf.
John Nukwa.
A. Droste Hülshoff: Die Judenbuche (Parnass, Scherz.)
Fr. Kleist: Michael Kohlhaas. (Parnass, Scherz.)
J. Truem Pelmann: Deutsche Wirklick Reitsolichter (Nas. Pers.)
A Selection of Scientific texts, depending on the student's particular interests.

KURSUS I.

1. Sprech—und Aufsatzübungen.
2. Geschichte der deutschen Literatur von den Anfängen bis zur Gegenwart.
M. E. Bräm: Geschichte der deutschen Literatur. (Francke, Zürich.)
3. Lektüre.
Lessing: Minna von Barnhelm. (van Schaik.)
Goethe und Schiller: Gedichte in Auswahl. (Nas. Pers.)
Goethe: Hermann und Dorothea. (Harrap.)

Goethe Egmont (Harrap).
Schiller: Wilhelm Tell. (van Schaik.)
Kleist: Prinz Friedrich von Homburg. (van Schaik.)
Michael Kohlhaas (Parnass, Scherz.)
Möricke: Gedichte. (Parnass, Scherz.)
Hebbel: Agnes Bernauer.
Auswahl aus modernen Dichtungen von: George, Rilke, Carossa, Grimm, Wiechert und Mann, Hauptmann.

KURSUS II.

1. Phonetik und Geschichte der deutschen Sprache.
W. Viëtor: Kleine Phonetik.
E. Tonnelat: History of the German Language (Harrap).
H. Maeder: Versuch über den Zusammenhang von Sprachgeschichte und Geistesgeschichte. (Schweizer Verlag.)
H. Wanner: Woher kommt unser Deutsch? (Huber, Frauenfeld.)
2. Geschichte der deutschen Literatur im 18ten Jahrhundert.
Hettner: Geschichte der deutschen Literatur im 18. Jahrhundert.
Gundolf: Shakespeare.
Strich: Goethe und die Weltliteratur. (Schweizer Verlag.)
3. Lektüre:
Haller: Die Alpen.
Gellert: Die zärtlichen Schwestern.
Fabeln und Lehrgdichte.
Auswahl anakroentischer Lyrik.
Klopstock: Oden.
Lessing: Miss Sara Sampson.
Emilia Galotti.
Lenz: Der Hofmeister.
Klinger: Sturm und Drang.
Goethe: Goetz von Berlichingen.
Die Leiden des jungen Werthers.
Iphingenie.
Tasso.
Faust I.
Schiller: Kabale und Liebe.
Die Jungfrau von Orleans.
Maria Stuart.
Die Braut von Messina.
Auswahl von modernen Dichtungen.

KURSUS III.

1. Einführung in die mittelhochdeutsche Sprache, Dichtung und Kultur.
Weinhold-Ehrismann: Kleine mittelhochdeutsche Grammatik.
Hartmann von Aue: Der arme Heinrich.
Gregorius auf dem Steine.
Auswahl aus dem Erec.
Auswahl aus dem Nibelungenlied.
Wernher der Gärtner: Meier Helmprecht.
Walter von der Vogelweide und des Minnesangs Frühling.
2. Geschichte der deutschen Literatur seit Goethes Tod.
P. Fechter: Geschichte der deutschen Literatur.
M. Bräm: Geschichte der deutschen Literatur. (Francke, Zürich.)

3. Lektüre:
Im Anschluss an die Vorlesung.
Auswahl aus modernen Dichtungen.
University Education Diploma.
Ausgewählte Kapitel aus The German Quarterly.
Ubungen im Zusammenhang mit der Special German Klasse.

HISTORY AND POLITICAL SCIENCE.

Professor: A. F. Hattersley, M.A. (Cantab.), F.R.Hist.S.
Senior Lecturer: Mr. F. Prestwich, B.A. (Cantab.).
A. W. Rees, M.A. (Wales).
Lecturer: Mrs. F. M. MacDonald, M.A. (Glasgow).

HISTORY

Course I.

There is one paper covering the following syllabus:—
1. Outline of the history of Western Civilisation, and
2. Special study of Athenian democracy in contrast with modern democracy.

Students will need to provide themselves with copies of the following books: Hattersley: *Western Civilisation* (3rd edition, 1946, Cambridge Press.), and Hattersley: *Short History of Democracy* (Cambridge, 7/6.).

Course II.

The following subjects will be studied during 1946 for this course:—
1. Medieval History, 700-1215, including an outline of English constitutional history in this period. Text-book: W. O. Ault: *Europe in the Middle Ages.*
2. British Colonial History, 1763-1860. Students will require: Keith: *Select Documents* Vol. I. (World's Classics.).

Course III.

The final course includes:—
1. European History, 1598-1715. Text-book: Wakeman: *Ascendancy of France* (Rivington, 12/6).
2. South African History, 1795-1884, using as a class-book, Hattersley: *More Annals of Natal* (Shuter: Warne, 7/6).
3. History of England, 1547-1625, using Prothero: *Select Statutes*, 1558-1625 (Oxford, 10/6).

M.A. Course.

There are five papers taken in December on the following subjects:—
1. The French Revolution, 1789-95.
2. Historical Method and Historiography.
3. Mercantilism, or Comparative Study of the Democratic State.
4. Medieval History, 496-1494.
5. Translation from French (1½ hours).

Students will need: Wickham Legg: *Select Documents of the French Revolution* (Oxford, 15/-), Langlois & Seignobos: *Study of History* (Duckworth), Adam Smith: *Wealth of Nations, iv.* (Oxford, 2/6). There is also a thesis, the work for which is carried out, under the guidance of the Professor, in the Natal Archives. This thesis is on a subject of Natal history.

Students proposing to take the Master's course must ordinarily have taken History as a major course for the Bachelor's degree. They should have taken Special French during their second and third years of study.

Graduate Diploma.

There is one paper on the following syllabus:—

1. Principles and methods of History Teaching.
2. Application of these methods to certain periods of European and South African history.
   Students will require copies of: Hattersley: *History Teaching in Schools* (Longmans, 6/-), and *A Memorandum on the Teaching of History* (Assistant Masters' Association).
   History (Assistant Masters' Association).

POLITICAL SCIENCE

Course I.

The scope of politics and its relation to ethics, sociology and history. Main theories of the origin, nature and function of the state: Plato, Aristotle, Hobbes, Locke, Rousseau, Bentham, Hegel, Mill, Spencer: development of institutions: the family, social groups and types of society: legal and administrative institutions.

Functions of modern government, legislative, judicial, executive and administrative: forms of modern government and types of constitution: sovereignty: international relations.

Class-book: F. W. Coker: *Readings in Political Philosophy* (Macmillan, New York).

Course II.

Paper One. (1) History of International Relations: Roman Empire, Medieval System, Renaissance and origin of diplomacy, Grotius and early international law, balance of power and nationalism, the Concert of Europe and The Hague system.

Class-book: F. M. Stawell, *Growth of International Thought* (Oxford, 3/6).

(2) Nature and sources of international law; private international law; recognition; acquisition of territorial rights, jurisdiction; state responsibility; reprisals; the laws of war including neutrality and neutral rights; treaties and arbitration.

Students must have an adequate knowledge of cases.

Text-book:—W. H. Briggs: *The Law of Nations* (Harrap, 21/-).

Paper Two. (1) International Government. League of Nations, its place in history, constitution and practical working; other institutions, Universal Postal Union, etc. The United Nations Organisation.

Text-book:—J. F. Williams, *Some Aspects of Covenant of League of Nations* (Oxford, 8/6).

(2) Colonisation as an international problem: British, French, Dutch, Portuguese and American colonial systems; relations of colonies to parent states; the Crown Colony; the dual mandate and the Trustee principle; distribution of colonial areas among the Great Powers; international problems of the African continent.

Text-book:—E. A. Walker: *Colonies* C.U.P., 3/6).

M.A. Course.

The following is the M.A. Syllabus in Political Science (Part One):—

1. Political Philosophy (for details see University Calendar, 1946, p. 468).
2. The history of Political Thought in the 16th Century.
3. The organisation of the State in connection with modern economic development.
4. History of Native policy in South Africa.
5. Comparative study of the constitutions of Switzerland, France and the U.S.A.
6. Advanced translation test, either from the second official language or from French or German.

Part II. consists of a Thesis, showing evidence of original research.

Economic History I.

At present this is a half-course combined with Economics I.

A. Economic History.

Feudalism and the Manor: growth of industry and commerce: mercantilism: rise of capitalism: agrarian, industrial and commercial revolutions and their social consequences.

Books:

Lipson: *Economic History* (*Middle Ages—The Age of Mercantilism, Vols. I. and II.*).
Knowles: *Industrial and Commercial Revolutions of the 19th Century.*
Waters: *Economic History of England,* 1066-1874.
Cambridge Economic History.
Weber: *General Economic History.*
Ogg and Sharp: *Economic Development of Western Europe.*
Pirenne: *Economic and Social History of Mediaeval Europe.*
Redford: *Economic History of England,* 1760-1860.
Usher: *Introduction to the Industrial History of England.*
Economic History of Europe (Knight, Barnes and Flugel).

Economic History II.

Economic History of South Africa.

Paper I.

1—*The Regime of the Dutch East India Company.*
2—*British Occupation, Abandonment, and Reoccupation.*
3—*Colonisation and expansion*: Immigration, land settlement and agriculture. Systematic colonisations and other schemes.
4—*Native Policy and its Evolution*: The Transkei and Natal experiments. Segregation.
5—*The development of internal and foreign trade, and of commercial policy*: British and Imperial preferences, free trade and protectionism.
6—*Transport and Communications*: With particular reference to the railway.
7—*Banking*: Currency and Finance.

PAPER II.

8—*The Mineral Industries.*

9—*The trend of secondary industry and industrial policy*: The movement towards protection for "infant industries." Social problems and legislation. Industrial policy and legislation.

10—*Agricultural problems and policies.*

11—*Labour problems*:

(a) The "slave background," Kaffir work," etc.

(b) Trade Unions, recruiting, "white labour" policies, etc.

(c) Economic and social effects of contact between European and Bantu.

Books recommended:

Frankel: Capital Investment in Africa.
Hailey: African Survey.
Goodfellow: Modern Economic History of South Africa.
De Kock: Economic History of South Africa.
Arndt: Banking and Currency Development in South Africa.
Hattersley: *More Annals of Natal.*
de Kock: Econmic Development of South Africa.
De Kiewiet: A History of South Africa.
Van der Horst: Native Labour in South Africa.
Brookes: History of Native Policy.
Hattersley: *The Natalians.*
Van der Poel: Railway and Customs Policy in South Africa.
Bruwer: Protection in South Africa.
Van Biljon: State Interference in South Africa.
v.d. Merwe: Die Kaap onder die Bataafse Republiek.
Cambridge History of British Empire. Volume VIII. South Africa.
Various Government Publications and Union Year Books.

MATHEMATICS.

Professors:

Pure Mathematics: J. McKINNELL, M.A., B.Sc. (Glasgow).

Applied Mathematics: P. STEIN, B.A. (Cape), M.A., Ph.D. (Cantab.).

Senior Lecturer:

R. L. ROSENBERG, M.A. (Cape), Ph.D. (Berlin), D.I.C. (London).

Lecturer:

F. J. SCHUDDEBOOM, M.Sc. (Stell.).

The Mathematics Syllabus in the Faculty of Arts are the same as those in the Faculty of Science.

PHILOSOPHY.

Professor: J. N. FINDLAY, M.A. (S. Africa), M.A. (Oxford), D.Phil. (S. Africa), Ph.D. (Graz).

There are in this Department a General Introductory Course and two more specialised courses (Philosophy I and II). Students are advised but not compelled to take the former before the latter.

General Introduction To Philosophy.

(1 paper: 4 lectures per week.)

This course will provide (a) a general introduction to philosophical problems, suitable both for Arts and Science students, and laying special emphasis on issues connected with physical nature and its relation to life and mind. It will also provide (b) a treatment of the beginnings of philosophical thought in antiquity. In 1947 this will emphasise anthropological and ethical theory in Greece from the time of the Sophists. Students are recommended to read Russell: *Problems of Philosophy* (Home University); Joad: *Guide to Philosophy*; Wisdom: *Problems of Mind and Matter*; Robin: *Greek Thought*; Plato: *Euthydemus, Charmides, Gorgias*; Aristotle: *Ethics* (Bks. 1-3).

Philosophy I.

(2 papers: 4 lectures per week.)

In 1947 this course will consist of:—

(a) A paper covering the whole field of Logic, with an elementary introduction to logical symbolism and to the philosophy of science. Students are recommended to read Stebbing: *A Modern Introduction to Logic*; Chapman and Henle: *Fundamentals of Logic*; Mill: *System of Logic*; Keynes: *Treatise on Probability* (Part I.). (In 1948 this course will be superseded by one on Ethics and Value-theory.)

(b) An historical paper on German Idealism from Kant to Hegel. Students should make a thorough study of Kant's *Critique of Pure Reason* (N. Kemp-Smith's abridged translation), and of *Selections from Hegel* (Scribner's Student's Library). They should also read *Kant* by A. D. Lindsay, A. C. Ewing's *Short Commentary on the Critique of Pure Reason*, and W. T. Stace's *Philosophy of Hegel*. (In 1948 this course will be superseded by one on Platonism and Aristotelianism in antiquity and in the Middle Ages.)

Philosophy II.

(3 papers: 6 lectures per week.)

In 1947 this course will consist of:—

(a) Paper 1. As for Philosophy I.

(b) Paper 2. As for Philosophy II.

(c) Paper 3. The special subject for 1947 will be an Introduction to Aesthetic Theory (two lectures per week) with special study of Kant's *Critique of Aesthetic Judgement*. Students are recommended to read Carritt: *Theory of Beauty*; Dewey: *Art as Experience*; Helmus and Kuhn: *History of Aesthetics*. Students of literature or fine art are invited to attend this special subject.

It will be the general practice in the Department to take Philosophy I and II together for two common papers. Ethics will be taught in one year and Logic the next, and the periods of history will vary over a four-year cycle. Students must arrange their courses with the Professor, as no student may repeat the same option for Philosophy I. and II.

For M.A. Syllabus consult the Professor and the University of South Africa Calendar.

PSYCHOLOGY.

Head of Department: E. Pratt Yule, M.A., Ph.D. (St. Andrews).
Professor: B. Notcutt, B.A. (Oxon), D.Ph. (Stell.).

Course I.

1. Elementary Principles of Psychology.
2. Elementary Experimental Psychology.

The following books are useful:—
R. B. Cattell: *General Psychology.*
Mottram, V.H.: *The Physical Basis of Personality.*
R. Knight: *Intelligence and Intelligence Tests.*
G. Murphy: *A Briefer Course in General Psychology.*

Course II.

1. *Child Psychology*: Family Backgrounds: Parental Attitudes and Personality: Routine: Discipline: Play: Imagination: Intellectual Development.
2. *Delinquency and Deficiency.*
3. *The Neurotic Personality.*
4. *Instruments of Adjustments* Child Guidance Clinics; Vocational Guidance; Nursery Schools; Occupational Therapy.
5. *Social Psychology*: Individuals and Society: Historical review of theories; Freud's views on human nature and society: criticism of Freudian theory: contemporary theories of society and man.
6. *Contemporary Problems*: Propaganda: caste and class: attitudes.
7. *Clinical Techniques*: Study and observation of children and adults: interviewing: tests: questionnaires: cast study.
8. *Psychological Measurements* Intelligence, temperament, personality and attainment tests: Measures of interests and attitudes: special abilities: statistical analysis.

No texts can be prescribed for this course, since reference to original works is required for all sections. A reading list is obtainable on application to the Head of the Department.

SOCIAL ANTHROPOLOGY.

Professor: J. D. Krige, B.A., L.L.B.

Course I.

Paper One: Emergence in man of characteristics significant for culture. Nature of culture. Sociology of primitive society and theory of custom and belief, especially of the economic system, marriage, kinship and the social structure, political organisation, ritual and ceremonial, primitive law and its sanctions, magic and religion, the military organisation, class, rank and caste. Comparisons with modern western society. Race, environment and diffusion as factors in the development of culture. Schools of thought in investigating and interpreting culture.

Paper Two: Ethnography of the peoples of S. Africa, particularly the Bushman, Hottentots and Bantu. Study of one Bantu tribe and comparison of its insitutions with those of *either* the Zulu *or* the Lovedu. Impact of western civilisation upon Union Bantu culture. Problems

of culture contact and culture change. Anthropology as applied to problems of race relations and colonial administration.

Books: Wide reading is desirable with the following books as a basis:—

R. Firth: *Human Types.*
A. A. Goldenweiser: *Anthropology.*
Brown and Hutt: *Anthropology in Action.*
I. Schapera (ed.): *The Bantu-speaking Tribes of S. Africa.*
Krige: *The Realm of a Rain-Queen.*
E. Krige: *Social System of the Zulus.*

COURSE II.

Paper One: Modern trends in theoretical Anthropology. Advanced study of culture determinants and of cultural diversity. Principles and theories of selected primitive institutions such as mythology, religion and magic, taboo, kinship, social organisations, economic, political and legal systems.

Paper Two: Theories of the origin of African cultures. African culture areas and complexes. Comparisons of African cultures, especially their religious, magical, political, legal and economic systems. Detailed knowledge of one African tribe. Culture contact and problems of culture change. Applied Anthropology and its use, particularly in African colonial administration.

Books: Free use of library facilities is recommended as preferable to any specific books, but the following bear closely on the course:—

R. H. Lowie: *History of Ethnological Theory.*
R. Linton: *The Study of Man.*
F. Boas: *General Anthropology.*
E. Durkheim: *Elementary Forms of the Religious Life.*
Krige: *The Realm of a Rain-Queen.*
C. G. Seligman: *Races of Africa.*
Fortes and Evans Pritchard: *African Political Systems.*
M. J. Herskovits: *Economic Life of Primitive Peoples.*
Malinowski: *Crimes and Custom in Savage Society.*

ZULU.

Temporary Lecturer: D. McK. MALCOLM.

COURSE I.

1. The grammar and simple phonology of the Zulu language.
2. Simple translation from Zulu into an official language, and from an official language into Zulu.
   N.B. Passage for translation from Zulu will be taken in part from a prescribed book.
3. Simple free composition in Zulu: essay, letter, dialogue, etc., of about a page in length.

One paper will be set, divided into two sections, the first section covering paragraph (1), and the second covering paragraphs (2) and (3). Candidates will be expected to secure a minimum of 30 per cent. in each section.

Course II.

1. More advanced grammar and phonology of the Zulu language.
2. The study of two prescribed books. Questions may be set involving the translation or re-translation of the text, or on the language, style and subject matter.
3. Unseen translation from Zulu into an official language, and from an official language into Zulu.
4. Free composition in Zulu: essay, letter, dialogue, etc., of about two pages in length.

Two papers will be set, the first covering paragraph (1), and the second covering paragraphs (2), (3) and (4). Candidates will be expected to secure a minimum of 30 per cent. in each paper.

Course III.

1. The phonetics of the Zulu language. The nature and classification of its sounds. Intonation.
2. The morphology and syntax of the Zulu language in detail, and in outline with reference to Xhosa and Swazi.
3. The study of three prescribed books. Questions may be set involving the translation or re-translation of the text, or on the language, style and subject matter.
4. Unseen translation of passages of an advanced nature from Zulu into an official language, and from an official language into Zulu. Translation of easier passages from either Xhosa or Swazi into an official language.
5. A survey of the literature of the Nguni group of languages. Some knowledge to be shown of the subject-matter of the chief works in the Zulu language, including both traditional and modern literature, together with the elements of literary appreciation.

Two papers will be set, the first covering paragraphs (1) and (2), the second covering paragraphs (3), (4) and (5). Candidates will be expected to secure a minimum of 30 per cent. in each paper.

Bibliography.

Colenso: *First Steps in Zulu* (P. Davis); Doke: *Text-book of Zulu Grammar* (Longmans); Doke and Grant: *Graded Zulu Exercises* (Lovedale); Colenso: *Zulu-English Dictionary* (P. Davis); Bryant: *English-Zulu Word Book* (Mariannhill); Doke: *The Phonetics of the Zulu Language;* Doke: *Bantu. Modern Grammatical, Phonetical, and Lexicrgraphical Studies Since 1860* (Percy Lund, Humphries & Co.).

Prescribed Works, 1947:—

Course I. Bengani: *UPhetheni* (Shuter & Shooter).

Course II. Molefe-Masondo *Ezomdaƀu wesizwe saƀansundu* (Shuter & Shooter).
Dhlomo: *Indlela Yaƀaƀi.* (Shuter and Shooter).

Course III. Dhlomo: *UDingane* (Shuter & Shooter).
Made:*Indlala yaseHarrisdale* (Shuter & Shooter).
Vilakazi: *Amal' Ezulu* (University of Witwatersrand Press).

Department of Fine Arts.

Regulations.
Syllabuses.

DEPARTMENT OF FINE ARTS.

REGULATIONS—SYLLABUSES

FINE ARTS.

Professor: O. J. P. Oxley, A.R.C.A. (Lond.).
Senior Lecturer: Rosa S. Hope, A.R.E.
Lecturer: Hilda L. Rose, B.A. (S.A.).
Geoffrey Long.

REGULATIONS FOR THE DEGREE OF BATCHELOR OF ARTS (FINE ARTS).

MINIMUM PERIOD OF ATTENDANCE.

A.18. Every candidate for the degree of B.A. (Fine Arts) must attend as a registered matriculated student at a constituent college for at least four academic years.

CURRICULUM.

A.19. Candidates for the degree shall be required to take the following subjects but shall not take more than four subjects in the first, three in the second, third and fourth years of the course, twelve in all.

(1) English I. or Dutch I.
(2) A modern language (this may include the official language not taken under (1.) or Latin or Greek or History or Music).
(3) Painting I. or Moddelling I.
(4) Design I.
(5) Painting II. or Design II. or Modelling II.
(6) Painting III. or Design III. or Modelling III.
(7) Painting IV. or Design IV. or Modelling IV.
(8) Drawing from Life I.
(9) Drawing from Life II.
(10) History of Art I.
(11) History of Art II.
(12) History of Art III.

CHOICE OF MAJOR SUBJECTS IN SECOND YEAR.

A.20. Candidates who have a credit in Painting I. and desire to major in Modelling may be exempted from Modelling I. Similarly condidates who have a credit in Modelling I., and desire to major in Painting may be exempted from Painting I.

CONDITIONS GOVERNING ADMISSION TO WORK OF SECOND OR ANY SUBSEQUENT YEAR.

A.21. No candidate for the degree shall be allowed to enter upon the work of the second or any subsequent year in any subject taken by him unless he has attained a satisfactory standard of proficiency in his previous work in such subject.

For this purpose the Senate will accept certificates of proficiency issued by the Senate of a college at which the candidate has studied.

ADMISSION TO FINAL EXAMINATION.

A.22 No candidate will be admitted to the final examination before the end of his fourth year of study.

REGULATIONS FOR THE DEGREE OF MASTER OF ARTS (FINE ARTS).

45. (1) Every candidate for the degree of Master of Arts in Fine Arts as an internal student must attend approved courses at a Constituent College of the University for a period of at least one year after being admitted to the degree of Bachelor of Arts in Fine Arts or to the status of that degree; provided that no holder of a B.A. (Fine Arts) degree of another University be admitted to the M.A. (Fine Arts) degree examinations of the University in less than two years from the date of his admission to the B.A. (Fine Arts) degree, unless he has previously completed a four years' course for the B.A. (Fine Arts) degree.

(2) (a) The M.A. (Fine Arts) Examination shall consist of two parts, namely:—

Part I: A practical examination, occupying a period of twelve days of six hours each, to be held normally in the period November-December each year, and

Part II: A dissertation on some art subject or period of art history which affords an opportunity for original research. This should be submitted not earlier than the 31st May in the year following the commencement of the course.

Part II. of the examination may, if desired, be taken before Part I. with the previously obtained consent of the Committee of Studies concerned.

(b) The title of the proposed dissertation shall be submitted for approval to the Head of the Department concerned at least six months before the dissertation is presented.

(*N.B.*—In general, the dissertation should be typed in double-spacing and properly bound; where possible, it should be illustrated.)

DEPARTMENT OF FINE ARTS.

Professor: O. J. P. Oxley, A.R.C.A. (Lond.).
Senior Lecturer: Rosa S. Hope, A.R.E.
Lecturer: Hilda Rose, B.A..
Geoffrey Long.

SYLLABUSES.

PAINTING.

Course I.

Drawing in perspective and painting in oil or water colours from group of common objects.

Course II.

Painting Still Life in oil or water colours. A continuation of the work of the First Year.

NATAL UNIVERSITY COLLEGE (COMMERCE BUILDING), DURBAN.

Course III.

Painting heads from life in oil colours from models of either sex and of various ages. Figure composition will be studied during this year though the examination in this subject will not be taken until the end of the Course.

Course IV.

Figure composition for various purposes, i.e., Mural Decoration, Book Illustration, Posters, etc.

MODELLING

Course I.

Study of historical examples of low relief ornament, architectural details, with a view to creative work.

Course II.

Modelling design and figure details from life and the antique. Casting.

Course III.

Modelling and casting of a head in the round from life. Figure composition will be studied during this year though the examination in this subject will not be taken until the end of the Course.

Course IV.

Modelling from life and figure composition.

DESIGN.

Course I.

Studies from nature and the Principles of Design with a view to creative work, i.e., all-over patterns, borders, lettering, etc.

Course II.

A continuation of the first year's work. Historic ornament. Craftwork.

Course III.

Design applied to Industry, i.e., Textiles, Ceramics, Printing, etc. In their third year students must become proficient in at least one craft, and must obtain a working knowledge of one other craft.

Course IV.

Design for Architectural and Industrial purposes.

LIFE DRAWING.

Course I.

Drawing heads from life in various black and white media. Throughout this year drawing from the nude and Anatomy will also be studied though the examination in the former will not be taken until the end of the third year.

Anatomy: The muscular and bony structure of the human figure with special reference to the effect on the surface forms, proportions of various parts of the figure, changes and differences dependent on age and sex.

COURSE II.

Life Drawing: Studies in various black and white media from the living model (nude) both in action and repose.

HISTORY OF ART

COURSE I.

The study of Painting, Sculpture and Architecture from pre-historic time to the commencement of the Romanesque period.

Text-books:—
H. Gardener: *Art through the Ages.*
H. B. Walker: *The Art of the Greeks.*
H. B. Walker: *The Art of the Romans.*
A. W. Lawrence: *Classical Sculpture.*
Sheldon Cheney: *A World History of Art.*

COURSE II.

The study of Romanesque and Gothic Art through Europe, and of Painting, Sculpture, Architecture and Craftwork from the end of the Gothic period to the present time in Italy.

COURSE III.

The study of Painting, Sculpture, Architecture and Craftwork in Holland, France, England, Belgium, Spain and Germany from the end of the Gothic period to the present time.

Text-books for Courses II. and III.
H. Gardener: *Art through the Ages.*
S. Reinach: *Apollo.*
J. Pijoan: *History of Art.*
Vasari: *Lives.*
B. Fletcher: *History of Architecture.*
Sheldon Cheney: *A World History of Art.*

FINE ART

COURSE I.

History of Art: The study of Painting, Sculpture ,Architecture and Artistic Craftwork from pre-historic times to the commencement of the Romanesque period.

Design: As for B.A. (Fine Arts), Course I.

COURSE II.

History of Art: The study of Romanesque and Gothic Art throughout Europe, and of Painting, Sculpture, Architecture and Craftwork from the end of the Gothic period to the present time in Italy.

Painting: Painting common objects singly and in groups.

Course III.

History of Art: The study of Painting, Sculpture, Architecture and Craftwork in Holland, France, England, Belgium, Spain and Germany, from the end of the Gothic period to the present time.

Drawing heads and figures from life or imaginative drawing, i.e., illustration of narrative or incident.

ART HISTORY (B.A. and B.Sc.).

The study of Architecture, Sculpture and Painting in Europe from the commencement of the Romanesque period until the present time.

For text-books see under B.A. (Fine Arts).

The College has an excellent library of Art books which are at the disposal of students, also a collection of nearly 2,000 mounted photographs representing all periods of art. This collection of photographs was presented to the College by the Carnegie Corporation, together with a collection of Art books. The library is one of the best in the country.

Students' tours abroad are organised periodically to enable students to obtain a first-hand knowledge of the old masters and contemporary art of other countries. The tour is under the supervision of a member of the College staff, and forms a very important part of the students' course.

SYLLABUS FOR THE DEGREE OF M.A. (FINE ARTS)

Part I.

A practical examination occupying a period of twelve days of six hours each. The subject will be set by the examiners, and will in the case of those who have specialised in Painting or design, comprise the design for a complete scheme of interior decoration suitable for a Council Chamber, Theatre, Airport Restaurant, Library or work of a similar nature and scope, involving a knowledge of mural decoration in colour.

The Architectural layout of the design must show a reasonable understanding of architectural requirements and architectural drawing.

Full size details must be in colour and must show a knowledge of the technique of the particular medium to be employed in the finished design.

Life models may be employed in the examination room, but no life drawings, or any other drawings, may be taken into the examination room.

For candidates who have specialised in Sculpture or Modelling, the subject to include decorative carving or modelling, or a design for a Monument, Memorial, or work of similar nature and scope. Architectural drawings to comply with the above requirements.

The candidate will be examined upon a selected period of Art History:—

(*a*) One paper on the Architecture and Craftwork of the period.
One paper on the Painting of the period.
One paper on the Sculpture of the period.

(*b*) The drawing of a figure from Life.

Part II.

A thesis on some art subject or period of Art History which affords an opportunity for original research. Where possible this should be illustrated.

REGULATIONS FOR THE DEGREE OF B.A. (SOCIAL SCIENCE).

The curriculum for the degree shall consist of eleven courses, although twelve courses may be taken and must, except as otherwise allowed by the Senate, be arranged as follows:—

(1.) One major subject is Sociology. The second major subject shall be Social Work, Economics, Psychology, or Social Anthropology without the requirement of a Bantu Language as compulsory ancillary subject). Each of the two latter subjects as major comprises two courses, and each of the other subjects as major comprises three courses.

(2.) Every curriculum shall include at least two courses in Social Work.

(3.) Every curriculum shall include at least two courses in Economics and at least one course in Psychology. (Candidates taking two courses in Economics will write the papers set for the B.A. examinations, except that insead of Economics II, paper 2, they will write a paper on the contents of Economics III, paper 3. Candidates taking three courses in Economics will write the three papers set for the B.A. examinations.)

(4.) The remaining courses shall be selected from the following: Social Work III, Economics III, Psychology II, Social Anthropology I and II, South African Criminal Law, Native Law or S.A. Bantu Law, Native Administration, Politics, Constitutional Law, General Introduction to Philosophy, History I, Mathematics I, Social Statistics, and a language as indicated under (5.).
(*N.B.*—One of these courses must be Social Work III or Economics III or Psychology II or Social Anthropology II (without the requirement of a Bantu Language as compulsory ancillary subject), in order to complete the courses for the second major subject.)

(5.) The language shall be one of the following: English I, Hollands I, Alternative English, Alternative Hollands or a Bantu Language. (*N.B.*—Alternative English and Alternative Hollands may only be taken by internal students, who have not passed the subject concerned on the higher grade at the Matriculation or an equivalent examination.)

(6.) Candidates who have successfully completed the above academic courses shall be entitled to receive the degree of B.A. in Social Science. The certificates granted to such candidates shall, however, be endorsed with the words "not qualified as social worker."

ADDITIONAL REQUIREMENTS FOR SOCIAL WORKER

(1.) Students will devote one day weekly to practical work throughout the three years. In addition, students in the first year will devote four weeks, and students in the second and third years will devote six weeks in each year to full-time practical work during the vacations. Students must obtain a minimum college record of 40% before they are allowed to take the practical work examination.

(2.) At the end of each year of study an oral examination of about half-an-hour shall be taken by each candidate in connection with the practical work done during the year. The oral examination shall be conducted by the head of the Department in conjunction with the person responsible for the training in practical work.

Faculty of Social Science.

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(3.) All candidates who take Social Work as a two-year course only, and who desire to qualify as social workers, shall be required to carry out practical work during the third year as well, in addition to the oral examination at the end of the third year, to take a three-hour written examination in connection with practical work.

(4.) Candidates must complete the corresponding courses in practical and theoretical Social Work, in the same year. Suppelmentary examinations in practical Social Work will be allowed. Candidates who have passed the practical Social Work I, but who must repeat the first year because they failed to obtain the minimum passes, must repeat practical work. Candidates having taken practical Social Work I (not for degree purposes) while taking B.A., may be granted exemption for Course I B.A. (S.S.) only. In very special cases the Head of the Department of Sociology and Social Work may recommend further concessions to Senate Executive.

(5.) A separate college record for practical social work shall be given and shall be combined with the marks obtained in the oral examination.

(6.) All candidates who desire to qualify as social workers shall be required to furnish proof, at the end of the second or third year of their degree course (preferably at the end of the second year) of ability to employ both official languages competently. This examination will consist of a written test of two hours, and an oral test of about half-an-hour in each language, and shall be conducted by the Head of the Language Department concerned (or his representative), with the Head of the Department of Sociology and Social Work. Candidtaes not domiciled in the Union of South Africa may be granted exemption from this test, provided that they furnish proof of their ability to employ at least one of the official languages competently, together with one or more modern language of the same standard as required for the official languages; their certificate will be endorsed accordingly.

Indian and Bantu students may substitute an Indian or a Bantu language, respectively, for one of the official languages.

Should a candidate fail in one of his language tests in his final year, he may be allowed to write a supplementary examination.

(7.) The certificates issued to candidates who have satisfied the above additional requirements, as well as the academic requirements specified under A, shall be endorsed with the words "qualified as social worker."

FACULTY OF SOCIAL SCIENCE.

SYLLABUSES FOR B.A. (SOCIAL SCIENCE).

Economics and Economic History I.:
For syllabus see this Course given for the Degree of B.A.

Economics II.:
See Courses IIId. and IIIe. in Economics III. for B.A., B.Com. and B.Econ. in the Commerce Syllabuses.

English I. and Dutch I.:
See B.A. Syllabuses.

Psychology I. and II.:
See B.A. Syllabuses.
Economic History of South Africa:
See Syllabuses for B.A. Economic History II.
Politics I.:
See B.A. Syllabus, Course I.
Social Anthropology:
See Syllabus for B.A.
Sociology I., II., III.:
See below.
Social Work I., II., II.:
See below.

SOCIOLOGY.

Senior Lecturer: Dr. P. J. de Vos, M.A. (Pret.), D.Phil.
Lecturer: L. T. Badenhorst, M.A. (Stell.).

Course I.

1. *Introduction.*
Matter, scope and method of Sociology. Relation to the other sciences.
2. *Systematic Sociology.*
Human nature, the individual, person, social forces. Groups and group heritage. Social Institutions. Culture Conflict.
3. *Social Development.*
General Characteristics. Development of food production, clothes, habitation, labour organisation and differentiation.
4. *Poverty and Dependency.*
Dependency, poverty and impoverishment: extent and cost. The Poor White Problem in the Union of South Africa and in the U.S.A.
5. *Social Pathology.*
Introduction to the study of Social Pathology. Crime as a social problem. Nature and frequency of anti-social conduct. Distribution according to age, sex, occupation, etc., causes.
6. *Seminar.*
7. *Social Research.* Consult Head of Department.

Course II.

1. *History of Sociological Theory*:
   (a) The social theories of Plato, Aristotle, the Graeco-Roman philosophers, Jesus of Nazareth, St. Augustine.
   (b) Social theories of the Middle Ages: Thomas Aquinas, Dante.
   (c) Social theories of the Renaissance and Humanism: the Reformers, Bodin.
   (d) The theories of Social Contract: Hobbes, Locke, Spinoza, Rousseau.
   (e) Early inductive thought: Vico, Montesquieu, Turgot, Condorcet, Saint-Simon.
   (f) Advent of sociology: Auguste Comte.

2. *Systematic Sociology*:
Detailed study of social contracts and the forms of social interaction. Mechanism of social control.
3. *The Family*:
The family, marriage and divorce amongst primitive peoples. General development of the family and marriage union. The history of marriage and the family in the occident. Modern marriage union as a psychological relationship. Marriage and family disorganisation and divorce—its causes and consequences.
4. *Social Pathology*:
(a) Neglect of children: (i) Child labour; (ii) Delinquency: its causes and consequences.
(b) Unmarried parenthood. Infanticide. Abortion.
5. *History of the Development of Criminology*.
Definition of crime. Classification of crimes. Criminology during the Middle Ages, Renaissance, Reformation and the XVIIth and XIXth Centuries. The statistician-sociologists; anthropological criminology, the French School, criminal psycho-pathy; psycho-analysis and crime, etc.
6. *Population*:
The history of world population. The present population of the world: number, distribution, origin, constitution and growth of world population; social, economic and political implications. The number, constitution, origin, distribution and density of population in South Africa.
Population growth in South Africa: percentage increase, vital statistics, birth and general fertility rates, gross and nett reproduction rates.
Decline of fertility in other countries; social and economic implications of declining fertility.
Differential fertility with reference to ethnic, income, occupational, educational and religious groups.
Population problems.
Eugenic principles and a eugenic programme.
7. *Social Statistics*:
Sampling.
Statistical units, classification and tabulation. Frequency distributions. Measures of typical size—averages: Arithmatic mean, Median, mode, quartiles. Application and characteristic features of measures of central tendency. Measures of variability: Range, mean deviation and semi-interquartile range. Coefficient of variation. Reliability.
The normal curve. Skewness.
Correlation: The Pearsonian or product-moment coefficient of correlation (r) Rank-difference method of correlation.
Other methods of correlation analysis.
Time series: Secular or long time trends, periodic fluctuations, undulatory or cyclical movements, irregular variations.
8. Seminar once per week.
9. Research: Consult the Head of the Department.

Course III.

1. *Modern Sociological Theories*:
(a) Evolutionist theories: Malthus, Darwin, Bagehot, Fiske, Kidd, Spencer.

(b) Telic thought: Lester F. Ward.
(c) Cultural social thought: Sumner, Wundt, Thomas, Weber, Ogburn.
(d) Theories of social conflict: Nietzche, Carver, Gumplowitz, Veblen.
(e) Theories of social co-operation: Kropotkin, Ratzenhofer, Hobhouse.
(f) Theories of social interaction: Tarde, Ross.
(g) Durkheim and his followers: Breuhl and Halbwachs.
(h) Theory of consciousness of kind: Gibbings and McDougall.
(i) Detailed study of sociological formalism: von Wiese, Vierkandt, etc.
(j) The sociological contribution of Pareto.

2. *Rural-Urban Sociology*:
Rural-Urban Sociology and Sociology. Rurality and Urbanity defined; general differences between rural and urban life and the characteristics of each. Social processes in urban and rural communities. Interaction, isolation, solidarity, differentiation, stratification, etc.
Rural-Urban Population, with special reference to South Africa: Constitution, origin, density, distribution, birth, death, vitality, marriage and growth rates, and migration.
The physical characteristics of Urban and Rural Populations.
The Psychological traits and social processes in Urban and Rural Societies. The Social Ecology and Organisation of the Urban and Rural Worlds.

3. *Social Pathology*:
(a) Prostitution and promiscuity.
(b) Alcoholism.
(c) Suicide.
(d) Drug addiction.
(e) Feeble-mindedness.
(f) Insanity.
(g) The Unmarried.
(h) The Aged.

4. *Race Relations*:
Problems in connection with population and race relations, with special reference to the conditions in South Africa.

5. *Sociology of Labour*:
Sociology, social psychology and labour. Labour and society. Labour and industry. Labour and property.

6. *Methods of Social Research*:
Science and the scientific method. Scientific methods and procedures in sociology. The development of scientific social surveys in Europe and America. Social surveys, social investigation and social research. Scientific field observation, interviews, schedules and questionnaires. Ecological methods, Sociometric methods. Attitudes, aptitude, and personality tests and rating scales. Basic content, principles and methodology of specific research studies. The organisation of social research.

7. *Seminar*:
One period per week.

8. Research: Consult Head of the Department.

SOCIAL WORK.

Senior Lecturer: P. J. DE VOS, M.A. (Pret.), D.Phil.
Lecturers: C. A. M. MURRAY, B.Sc. B.Ch., M.B., D.P.H.
MISS C. C. GREEFF, B.A. (Stell.), M.A. (S.W.), (Pret.).

COURSE I.

1. *Introduction*:
Nature, scope and method of social work. The relation of social work to other sciences. Social work as a vocation.
2. *History of Social Work*:
Social work amongst primitive peoples, during early Christianity, the Middle Ages, Renaissance, Reformation, Industrial Revolution. The advent of modern social work.
3. *The School as Social Institution*:
Aims of education. The school as a social institution. Relation between school and family problems. The role of the social worker. Retardation, elimination and acceleration. Vocational guidance.
4. *Personal Hygiene*:
   (a) Elementary anatomy, physiology and bacteriology. Diets and dietetics. Deficiency diseases. Causes of malnutrition. Infectious and communicable diseases. Influence of social conditions on the incidence. Morbidity and mortality rates of certain infectious diseases.
   (b) First Aid.
5. Practical Work.

COURSE II.

1. *Family Care*:
The Functions of the Family.
The small family system.
Care of the disorganised home.
Organisation and administration of family care.
Methods of socio-economic rehabilitation.
2. *Care of Children*:
   (a) Administration of child legislation in the Union: adoption, social care, child welfare societies, hostels, orphanages, mothers' pensions.
   (b) Subnormal, retarded and problem children. Types of problem children. Causes and treatment. Retardation at school. Treatment in the Union. Legislation; special classes and school. Care and treatment of the feeble-minded child.
   (c) Social work with reference to youth in employment: vocational guidance, juvenile affairs board, employment agencies, clubs, industrial schools.
   (d) Delinquent child: treatment of delinquent children; legislation with reference to the Union of South Africa.
3. *Social Care with reference to Pathological Conditions*:
   (a) Penology. History of the Development of penology, prisons and prison labour; probation; parole. Punishment, corporal capital. Courts and legislation.
   (b) Sexual enlightenment and education.
   (c) Care of the unmarried mother and her child.

(d) Prevention of abortion.
(e) Care of the aged and physically unfit.

4. *Case Study of Methods*:
Types of social work.
Technique of social work.
Interviews.
Social Diagnosis and prognosis.
Social Therapy.
Office administration.
Records.

5. *Personal and Public Hygiene*:
Helminthology.
Disinfection.
Infant and Child Welfare including the influence of certain social conditions on the infantile mortality rate.
Water supply.
Milk supply.
Disposal of nightsoil and refuse.
Relationship between the type and condition of houseing and the health of the inhabitants.
Townplanning.

6. *Practical Work*.

COURSE III.

1. *Poor Relief*:
(a) Poor Relief by the State, public and private bodies.
(b) Encouragement of agriculture and rural economic life.
(c) Adoption of the rural poor to urban conditions.

2. *Social Care with reference to Employment*:
(a) Prevention of unemployment—General policy of the state private organisations; employment agencies; unemployment insurance; workmen's compensation.
(b) Treatment of transiency, begging and workshyness; labour colonies. Legislation with reference to the Unio nof South Africa.
(c) Encouragement of rural economic life; adaptation of the rural poor to urban conditions.

3. *Social Work with reference to Health, Food and Housing*:
(a) Organisation of health services. Hospitalisation. Socialised medicine. Health insurance. Medical work.
(b) Food policy.
(c) Housing policy.

4. *Organisation and Administration of Social Work*:
(a) Poor relief by the state, public and private bodies.
(b) Dept. of State and social work.
(c) Central, provincial and local control of practical work.
(d) Co-operation between various social agencies.
(e) Co-ordination of social work.
(f) Organisation and administration of social agencies.

5. *Public Administration*:
(a) Types of administration.
(b) Types of government activity.
(c) Government Dept.—functions, organisation and relations.
(d) Revenue and expenditure of the Union.

Faculty of Science.

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6. *Care of the Mentally Defective, disordered and unstable persons:*
   (a) Types.
   (b) Treatment.
   (c) Institutionalisation.
   (d) Private Care.
   (e) Prevention.
   (f) Legislation.
7. *Personal and Public Hygiene:*
   Industrial Hygiene.
   Venereal Diseases.
   The relationship between the V.D. and Delinquency.
   The Public agencies which exist for the prevention of disease
   Personal hygiene.
8. *Practical Work.*

FACULTY OF SCIENCE

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DEGREES IN THE FACULTY OF SCIENCE.

S.1. The flollowing are the degrees in the Faculty of Science:—

Bachelor of Science	B.Sc.
Master of Science	M.Sc.
Doctor of Philosophy	Ph.D.
Doctor of Science	D.Sc.

REGULATIONS FOR THE DEGREE OF BACHELOR OF SCIENCE.

S.2. Every candidate for the degree of Bachelor of Science, as an internal student, must attend as a registered matriculated student, except as provided for in paragraph G.7, at a constituent college of the University for at least three academic years.

S.3. Every curriculum for the degree of Bachelor of Science shall contain at least nine qualifying courses. The number of courses with which a candidate will be credited towards his degree shall be distributed over the three years of study, as follows:—

First year: not more than four.
Second year: not more than four.
Third year: not more than three.

A candidate who fails in one or more courses in his first or second year may repeat one of such courses in a subsequent year, and receive credit for it, in addition to the maximum given above.

A qualifying course in any subject consists of not less than sixty separate meetings of the class extending over one academic year.

S.4. The following subjects are approved for the B.Sc. curriculum:—

GROUP I.: Pure Mathematics, Applied Mathematics, Physics, Chemistry, Botany, Zoology, Geology-and-Mineralogy, Geography, Psychology (Science), Astronomy, Biology, Physiology, Physical Education (Science), Theory of Surveying (one-year course).

GROUP II: Latin, Greek, Hebrew, English or Alternative English, Dutch or Alternative Dutch, French, German, Italian, Philosophy, Politics, Economics and Economic History, History, Music, Special French, Special German, Art History and Appreciation, General Introduction to Philosophy, Social Anthropology, Theory of Statistics.

S.5. The following provisions shall apply in the selection of subjects for which a candidate will be credited towards the B.Sc. degree:—

(i). Credit will not be given for more than one qualifying course from Group II.

(ii). Candidates who have matriculated in French shall be debarred from obtaining credit towards the degree for Special French, and similarly candidates who have matriculated in German shall be debarred from obtaining credit towards the degree for Special German.

(iii). No candidate will obtain credit for Biology and either Botany or Zoology or Physiology, except as is required by Regulation S.6.

S.6. Every curriculum for the degree shall contain at least two subjects known as major subjects.

The major subjects of the curriculum shall be selected, subject to the provisions of para. S.8., from the following:—

(a) Major subjects in which three qualifying courses shall be taken: Pure Mathematics, Applied Mathematics, Physics, Chemistry, Botany, Zoology, Geology-and-Mineralogy, Geography, Biology.

(b) Major subjects in which two qualifying courses shall be taken: Biology (following first courses in both Botany and Zoology); Psychology; Astronomy (following a first course in Mathematics); Physiology (following first courses in Chemistry, Physics and either Botany or Zoology); Physical Education (following on a first course in each of Physics, Chemistry and Zoology).

A candidate taking Physical Education as a major subject must select his second major from para. S.6 (a) above.

Note.—The Natal University College does not, at present, offer courses in Biology, Astronomy, Physiology and Physical Education as major subjects.

S.7. No candidate for the B.Sc. degree shall be permitted to offer as a major subject for the B.Sc. degree a subject already taken as a major subject for the B.A. degree.

S.8. The selection of major subjects in a B.Sc. curriculum shall be made subject to the fulfilment of the following conditions:—

(a) Candidates taking Pure Mathematics as a major subject shall take at least one qualifying course in Applied Mathematics.

(b) Candidates taking Applied Mathematics as a major subject shall take at least two qualifying courses in Pure Mathematics.

(c) Candidates taking Physics as a major subject shall take at least two qualifying courses in Pure Mathematics.

(d) Candidates taking Chemistry as a major subject shall take at least one qualifying course in Physics. (Candidates are also recommended to take one course in Mathematics.)

(e) Candidates taking Botany as a major subject shall take at least one qualifying course in Chemistry.

(f) Candidates taking Zoology as a major subject shall take at least one qualifying course in Chemistry.

(g) Candidates taking Biology as a major subject shall take at least two qualifying courses in Chemistry. (Candidates are also recommended to include one course in Physics.)

(h) Candidates taking Geology-and-Mineralogy as a major subject shall take at least one qualifying course in Chemistry, and one in Physics or Botany or Zoology or Biology.

(i) Candidates taking Geography as a major subject shall take at least one qualifying course in *one* of the following: Mathematics, Physics, Botany, Zoology, Biology.

(j) Candidates taking Psychology as a major subject shall take at least one qualifying course in any *two*, or two qualifying courses in *one* of the following: Physics, Mathematics, Zoology, Biology.

(k) Candidates taking Astronomy as a major subject shall take Course II. in Mathematics.

(l) Candidates taking Physiology as a major subject shall take two qualifying courses in Chemistry, one in Physics, and one in either Botany or Zooolgy.

(m) Candidates may take Physical Education I. only after a first course in each of Physics, Chemistry and Zoology, and after a year's practical work in Physical Education; and Physical Education II may only be taken after a second course in Chemistry.

S.9. There shall be a University examination in each subject at the end of each course, but it shall not be compulsory for candidates to take a University examination except at the end of their last course in a subject.

A student, who on account of certified illness or by duly certified family circumstances, cannot sit for an examination for which he has entered, may be permitted to take the subject or subjects concerned at a supplementary examination. (See para. G.11, General Regulations.)

S.10. No candidate shall be allowed to enter upon the work of the second or any subsequent course in any subject taken by him unless, in the opinion of the Senate of the University of South Africa, he has attained a satisfactory standard of proficiency in his previous work in such subject.

For the purpose of this regulation, the Senate of the University will accept certificates issued by the Senate of the college at which the candidate has studied.

Students entering a constituent College for their first year of study may be allowed to proceed direct to Course II. in any subject if the head of the department concerned is satisfied that their school training and matriculation record justifies this course.

In such cases, the final examination in any such subject shall not be taken before the usual regulation time.

S.11. Candidates who, after the first year of study, have not passed the University Examination, or been permitted by the College, in terms of paragraph S.10, to enter upon the work of the second course in at least three subjects, will be required to commence their curriculum again as from the beginning.

An exception may be made to this regulation to the effect that candidates (a) who produce satisfactory evidence that they have been engaged in normal full-time employment for at least three-quarters of the academic year prior to sitting for the examination, or (b) who are students in training as teachers at a recognised training college for a

full year's course, may be allowed to continue their curriculum after passing in two subjects. A candidate taking advantage of this privilege shall be required to devote one year beyond the normal to his degree curriculum.

S.12. Candidates will be required to pass the final examinations in at least two major subjects simultaneously.

S.13. The examination or examinations in the subject or subjects required under paragraph S.8, must be passed either before, or at the same time as the examination in the related major subject; provided that a candidate who has passed the final examination in two major subjects simultaneously, but who has failed in one or more related ancillary subject or subjects, shall not be required to rewrite such major subjects, but will only obtain credit towards the B.Sc. degree for these major subjects when he has passed in the related ancillary subject or subjects.

S.14. Candidates who distinguish themselves at the B.Sc. examinations shall be granted "distinction," which distinction shall be based solely on the University Examination, and applicable only to final courses in major subjects taken simultaneously and to each subject individually.

S.15. The minimum required for a pass with distinction is 66% (with a sub-minimum of 40% in the written papers).

The minima required for a pass, and the percentage of the total marks assigned to the college record and to practical examinations, are shown in the following table:—

	Percentage allowed for:		Minimum for a pass in:	
	(a) College Record.	(b) Practical Examinations.*	(a) University Examination.	(b) University Examination and College Record combined.
In Mathematics, Applied Mathematics, and Astronomy	33.3	—	30	35
In Physics, Chemistry, Botany, Zoology, Biology, Geology, Geography Psychology	40	40	33.3	40

In addition, the submina shown in the subjoined list are prescribed:—

A.—Courses I., II.

In all subjects: 30 per cent. in both the written examination and the practical examination.

B.—Final Courses.

In the final examinations in major courses in Physics, Chemistry, Botany, Zoology, Biology, Geology, Geography, Psychology: 33⅓ per cent. in both the written and the prectical examinatoins.

*The mark for practical examinations is a percentage of the number of marks given for the University examination, not of that for the University examination and college record combined.

DEGREE OF MASTER OF SCIENCE, DOCTOR OF PHILOSOPHY AND DOCTOR OF SCIENCE.

For details consult head of department concerned.

DEGREES IN AGRICULTURE, MEDICINE, DENTISTRY AND VETERINARY SCIENCE.

Complete courses for the Bachelor's degrees in Agriculture, Medicine, Dentistry, and Veterinary Science are not at present provided by the University of South Africa; but students who have passed first year courses in the subjects of Physics, Chemistry, Botany and Zoology, are credited with the first year of study for the above degrees at other South African Universities, and, as a rule, at overseas universities also.

Candidates for the degrees of Bachelor of Science in Agriculture and Bachelor of Veterinary Science are advised that they will usually be required to pass, at some time during their curriculum, a translation test in either French or German.

SYLLABUSES.

BOTANY.

Professor: A. W. Bayer, D.Sc. (S.A.).
Senior Lecturer: Beryl S. Fisher, M.Sc., Ph.D. (S.A.).
Temporary Lecturer: D. J. Clarkson, B.Sc. (S.A.).
Herbarium Assistant: K. D. Huntley, M.Sc. (S.A.).

Course I.

A general knowledge of:—

1. The external morphology of the seed plants; different forms of stem, leaf and root with special emphasis on those modifications which are important from the ecological point of view: corms, rhizomes, blubs, tubers, phylloclades and phyllodes, spines, tendrils; different forms of inflorescences and flowers, fruits and seeds.

2. The plant cell: the protoplasm with its nucleus and plastides, vacuoles and their contents; the cell-wall; multiplication of vegetative cells and division of their nuclei (mitosis); free cells (unicellular organisms, zoospores of Algae, non-motile spores of Fungi, pollen-grains), and the tissue cells of the seed plants (parenchymatous, collenchymatous and sclerenchymatous cells, tracheids and vessels, seive tubes, wood and phloem fibres, cork cells).

3. The internal structure of seed plants; structure and arrangement of the primary tissues in stem, leaf and root of a Monocotyledon (e.g., Zea) and of a Dicotyledon (e.g., Helianthus); changes due to the activity of the wood cambium and of the phellogen in a Gymnosperm (e.g., Pinus) and in a Dicotyledon (e.g., Quercus).

4. Principles of plant physiology: the principal constituents of the plant body; transpiration and absorption of water and of nutrients contained in it; the assimilation of carbon dioxide by plants possessing chlorophyll; storage and transport of carbohydrates, oils and proteins; respiration and fermentation; growth; phototropism and geotropism.

5. Ecology of South African seed plants; hydrophytes, mesophytes and xerophytes; autotropism and various kinds of parasitism; bacterial symbiosis of the Leguminosae; mycorrihza, insectivorous plants; pollination by wind, insects and birds; dispersal of fruits and seeds; germination; vegetative propagation.

6. Structure, propagation and economic importance of the Bacteria; saprophytic and parasitic forms; methods of sterilisation; structure, life-history and ecology of a few fresh-water Algae (Chlamydomonas, Spirogyra, Vaucheria); structure, life-history and ecology of a few Fungi (Saccharomyces, Mucor, Pythium or another parasitic fungus, Agaricus); structure and vegetative propagation of a lichen; structure and life-history of a moss (Funaria), of a homosporous Pteridophyte (Asplenium or Aspidium), and of a heterosporous Pteridophyte (Selaginella); structure of the pollen-sacs and of the ovule, and the process of fertilisation in a Gymnosperm (Pinus) and in an Angiosperm (Lilium or an equivalent type).

7. General characters of Dictoyledons and Monocotyledons, and of a few families belonging to them, e.g., Aizoaceae, Ranunculaceae, Geraniaceae, Cruciferae, Crassulaceae, Leguminosae, Rosaceae, Umbelliferae, Labiatae, Solanaceae, Compositae, Liliaceae, Amaryllidaceae, Iridaceae, Gramineae, or equivalent types.

8. Economic botany illustrated by plants belonging to the families studied; food plants (cereals and other plants with edible fruits or seeds; vegetables; food plants for stock); plants yielding products of economic importance, such as wood, fibre, gum, oil, sugar, starch, tannin, alkaloids.

The practical examination will deal with all sections, including interpretation of experiments under Section 4. Candidates will have to show their acquaintance with the use of the microscope; and with a few simple micro-chemical tests for starch, cellulose and lignin, and they must konw how to make sections through stems, leaves and roots for the study of their internal structure.

Text-books:—

Henkel: *Woody Plants of Natal and Zululand* (Durban).

Holman and Robbins: *Elements of Botany* (John Wiley & Sons).

Hill, Overholts and Popp: *Botany: A Text-book for Colleges* (McGraw-Hill).

Lowson: *Text-book of Botany* (University Tutorial Press).

Students must also provide themselves with a section razor, a hand lens, laboratory note books, and dissecting needles.

Courses II. and III.

1. Morphology and ecology of the Thallophyta. Study of representatives of the following classes and orders: Myxomycetes (Myxogastrales and Plasmodiophoraceae); Bacteria; Cyanophyceae; Conjugatae (Desmidiaceae and Zygnemales); Chlorophyceae (Volvocales, Protococcales, Ulotrichales, Siphonocladiales, Siphonales); Phaeophyceae (Ectocarpales, Dictyotales, Laminariales, Fucales); Rhodophyceae; Charophyta; Phycomycetes (Oomycetes, Zygomycetes); Ascomycetes (Erysiphales, Plecascales, Pyrenomycetes, Discomycetes, Tuberales, Exoascales, Saccharomycetes); Basidiomycetes; Lichens.

2. Morphology and ecology of the Bryophyta. The principal characters of the Hepaticae and the Musci, and of the orders Anthocerotales, Marchantiales, Jungermanniales, Sphagnales, Andreaeales and Bryales.

3. Morphology and ecology of the Pteridophyta. The principal characters of the Lycopodiales (Lycopodiaceae, Psilotaceae, Selaginellaceae, Isoetaceae), the Ophioglossales (Ophioglossaceae), the Equisetales (Equisetaceae), the Filicales (Eusporangiatae, Leptosporangiatae), and the Hydropterideae (Salviniaceae, Marsileaceae). Some knowledge of the fossil Lepidodendrons and Sigillarias.

4. Morphology and ecology of the Gymnosperms, including a reference to a few of the more important fossil types.

5. Classification of the Angiosperms. Inter-relationships of the the more important orders. Knowledge of local flora.

6. Internal morphology and physiological anatomy of the vascular plants. The stelar theory.

7. Plant physiology: colloidal nature of the protoplasm and of the cell-wall; semipermeability and the phenomenon of osmosis; difference in permeability of the protoplasm for various substances; transpiration and the ascent of sap; absorption of water and of substances which are dissolved in it; mineral nutrients; photo- and chemosynthesis; assimilation of atmospheric nitrogen; autotrophism and heterotrophism; storage and translocation of food material; activity of enzymes; respiration and fermentation; denitrification and sulphate reduction; growth and development; hygroscopic movements; tropisms and nasties; tactic reaction; autonomous movements.

8. Ecology and geography of plants; climatic, edaphic and historical factors; the principal types of vegetation of the world; formations and associations in South Africa; succession.

9. Principles of plant cytology. Reduction division and its bearing on the alteration of generations. Individuality of the chromosomes. Apospory and Apogamy.

10. Principles of genetics; variability and mutability; pure lines; hybridisation and the laws of Mendel; chromosome theory of heredity; linkage and crossing over.

11. Botanical aspects of the theory of evolution.

12. Elements of economic botany.

The practical examination will deal as far as possible with the whole syllabus. Candidates will have to show that they can tell at first view the family and genus of the more common plants of the local flora, and that they are able to find, with the aid of a flora, the family and genus of any South African plant submitted to them.

Text-books:—

Adamson: *The Vegetation of South Africa...* (British Empire Vegetation Committee.)
Barton Wright: *General Plant Physiology* (Williams and Norgate).
Cavers: *Practical Botany* (University Tutorial Press).
Henkel: *The Woody Plants of Natal and Zululand.*
Phillips: *Genera of South African Flowering Plants* (Government Printer, Pretoria).
Willis: *Flowering Plants and Ferns* (Cambridge University Press).
Smith: *Cryptogamic Botany* (McGraw-Hill).

M.Sc. Course.

Part I. The syllabus will include advanced studies in:—
(a) Morphology, anatomy, histology, and cytology of plants.
(b) Phylogeny and Taxonomy of plants, recent and fossil.
(c) Plant physiology.
(d) Plant Ecology and Geography, with special reference to the South African flora.
(e) Selected aspects of the History of Botany.

The minimum requirements for a pass in Part I. of the examination will be an average mark of 50 per cent.

Part II. A thesis on original research work undertaken by the candidate.

The proposed title of the thesis should be submitted by the Head of the Department concerned for approval by the Committee of Studies in Botany. In cases in which the work for the thesis is not performed at one of the constituent colleges, the candidate must submit a certificate to the satisfaction of the examiners that he has not received more than general guidance in performing the work and in preparation of the thesis.

CHEMISTRY AND CHEMICAL TECHNOLOGY.

Professor: F. L. Warren, A.R.C.S., D.I.C., Ph.D. (London), F.R.I.C.
Professor Emeritus: R. Beckett Denison, Ph.D. (Breslau), D.Sc. (Leeds), D.Sc. (S.A.).
Senior Lecturer: A. D. Mudie, M.A., B.Sc. (St. Andrews).
Lecturers: F. H. H. Valentin, M.Sc. (Rand).
L. D. C. Bok, M.Sc. (Chem.) (Stell.), M.Sc. (Geol.) (Stell.), Dr.rer.nat. (Leipzig).
H. A. Candy, B.Sc. (S.A.).
Professor's Assistant: Vacant.

General.

Students wishing to take chemistry as a major subject must take one course in physics and are recommended to take one course in mathematics. Those who wish to proceed to research in Chemistry are recommended to acquire a reading knowledge of French and German during their B.Sc. course. Those who intend to seek a position in applied chemistry are advised to consult the Professor on entering the College.

The chemistry laboratories may not be used outside normal class hours except by special permission. Subject to the payment of laboratory fees, apparatus is supplied free.

Course I.

EXAMINATION: One theoretical paper of 3 hours.
One practical paper of 6 hours.

The first course in inorganic chemistry is intended to prepare students for the first year examinations in the University of South Africa in pure science. Students who are preparing for the first B.Sc. in medicine, agriculture or veterinary science require in addition a short course in

organic chemistry. Such students will arrange with the Professor regarding the hours of meeting. Students in medicine are notified that they should acquaint themselves with the requirements of the Medical Council as regards chemistry.

THEORETICAL.

General: Matter and its composition. Physical and chemical changes. Properties of pure substances. Mixtures and compounds. Fundamental chemical laws. Reversible reactions and chemical equilibrium. Atomic and molecular theories. Determination of equivalent and molecular weights. Valency and chemical formulae. Properties of gases and the gas laws. Elementary kinetic theory. Diffusion. Properties of aqueous solutions of solids and gases. Oxidation and reduction. The electromotive series. Acids, bases and salts and their reactions. Avogadro's hypothesis. The molecular theory and its applications. Dissociation, association and allotropy. Chemical equations and caluculations. Standard solutions and the principles of volumetric analysis. Periodic classification of the elements. The ionic theory. The chief sources, preparation and properties of the commoner elements and thier chief compounds including a fairly close study of the non-metals and the following: sodium, potassium, calcium, mercury, copper, iron, lead, manganese, chromium, and arsenic. The other metals are studied insofar as their reactions are required for analysis. The chemistry of certain technical processes treated in an elementary manner: fuel gases; hydrochloric, sulphuric and nitric acids; sodium hydroxide, carbonate and bicarbonate; lime, bleaching powder; glass.

Organic (see above): Aliphatic section:—The classification of organic compounds with special reference to those included in brackets: saturated and unsaturated hydrocarbons (ethane, ethylene, acetylene) and their halogen derivatives (chloroform, iodoform); alchohols (methyl, ethyl); ethers (diethyl); aldehydes and ketones (formaldehyde, acetaldehyde, chloral, acetone); fatty acids (formic, acetic); amines. Fermentation and enzyme action. An elementery study of some organic compounds derived from plant and animal sources: oxalic, lactic, citric and tartaric acids; fats and oils; glycerine; carbohydrates, urea and uric acid. The concept of the terms alkaloid and glucoside. Aromatic section:—Distillation of coal; benzene, nitrobenzene, aniline, phenol, benzaldehyde, benzoic and salicylic acids.

PRACTICAL.

Inorganic: The balance. Preparation of pure inorganic substances. Simple gravimetric estimations. Volumetric analysis involving acidimetry and alkalimetry, and oxidation with permanganate. Qualitative analysis of simple mixtures of not more than four of the following radicals: carbonate, fluoride, chloride, bromide, iodide, sulphate, sulphite, nitrate, nitrite, borate; silver, lead, mercurous, mercuric, copper, cadmium, bismuth, arsenic, antimony, tin, iron, aluminium, chromium, zinc, manganese, nickel, cobalt, calcium, strontium, barium, magnesium, sodium, potassium, ammonium.

Organic (see above): Simple preparations; properties and reactions of common aliphatic and aromatic compounds; elementery qualitative analysis.

Course II.

EXAMINATION: Three theoretical papers of two hours (*i.e.*, inorganic and analytical, physical, and organic).
One practical paper of seven hours (qualitative and volumetric analysis and either a gravimetric estimation or an organic identification and preparation.

THEORETICAL.

Inorganic: The development of the Periodic Classification. The properties of cathode rays. The ratio of charge to mass. Structure of atom-nuclear charge. Frequencies of characteristic X-rays. The Electron Theory of Valency; electrovalent, covalent and co-ordinate convalent bonds, and the properties associated therewith. Werner's co-ordinate theory of complex formation. Electrochemical series. Introduction to the concept of oxidation and reduction. The theoretical basis of analysis.

A detailed study of the chemistry in terms of the periodic law and structure of the elements of the first two short periods together with Groups IA, IIA, IVB, VB, VIB and VIIB.

Organic: A short historical review. Purification, qualitative and quantitative analysis and the determination of the molecular formula of organic molecules. Structural formulae, isomerism, optical activity, the tetrahedral theory of the carbon atom, homology.

The synthesis and general reactions of the following classes of aliphatic compounds:—Saturated and unsaturated hydro-carbons and their halogen derivatives; mono- and poly-hydric alchohols; ethers, alderhydes and ketones; fatty acids, acid halides, anhydrides, esters, amides, nitriles; nitro compounds and amines; organo-metallic compounds; monosaccharides; dicarboxy and hydroxy acids; amino-acids and proteins; fats and oils; fermentation and enzyme action. Introduction to aromatic compounds.

PHYSICAL.

The Gaseous State: Gas laws and deviations therefrom. Kinetic theory of gases, pressure of a gas, kinetic energy and temperature, molecular velocity, diffusion of gases.

Dilute Solutions: Colligative properties, osmosis and osmotic pressure. Determination of molecular weights. The ideal solution. Raault's law.

Chemical Equilibrium: Law of mass action, equilibrium constant. Principle of mobile equilibrium. Homogeneous equilibrium; the hydrogen iodine reaction, formation of NO_2, the water gas reaction. Dissociation of N_2O_4 and PCl_5. Formation of SO_3, synthesis of NH_3. Equilibrium in liquid systems; heterogenous equilibrium.

Chemical Kinetics: Order of reaction. First order gas reactions, first order reactions in solution. Pseudo-unimolecular reactions. Second order reactions. Determination of order of reactions.

Phase Equilibrium: Solutions of gases in liquids. Absorption and solubility coefficients. Henry's law of solubility of gas mixtures. Composition of liquid and vapour. Distillation of binary mixtures. Maximum and minimum boiling points. Partially miscible liquids. Completely miscible liquids. Distribution in liquid-liquid systems. Association and dissociation of solute. Extraction with second liquid. Solid-liquid systems.

Electro-chemistry: Phenomena of electrolysis. Mechanism of electrolytic conduction. Conductance of electrolytes, results. Strong and weak electrolytes. Equivalent conductivity at dilution. Viscosity and conductance.

Independent migration of ions. Application of ion conductances; determination of solubility and conductimetric titration, absolute velocities of ions, transport numbers.

Colloidal State: General properties. Lyophobic and lyophilic solutions. Properties of gels. Colloidal electrolytes. Emulsions.

PRACTICAL.

Inorganic: Qualitative analysis of both cations (excluding phosphate and fluoride) and anions of a more advanced character. Standard methods of volumetric analysis. Typical gravimetric analysis by Gooch crucible and filter paper.

Organic: Preparation and identification of typical aliphatic organic substances and simple quantitative determinations by chemical methods.

COURSE III.

EXAMINATION: Three theoretical papers of three hours.
Three practical papers of seven hours.

THEORETICAL.

Inorganic. Atomic Structure and Atomic Spectra: Constitution of nucleus, the neutron. Quantum theory, emission and absorption of radiation, the photon. Atomic spectra, the extra nuclear electrons. Bohr theory of atomic spectra.

Radioactivity: α and β particles, γ rays. Theory of radio-active disintergration. Isotopes.

Electronic Theory of Valence: Nature and properties of the ionic, homopolar, metallic and van der Waal's bonds in terms of atomic structure. Building up of electronic groupings in the long periods. Co-ordination.

Systematic Inorganic Chemistry: Completion of Groups I., II., III., IV., V., VI., VII. Comparisons and contrasts in terms of electronic structures.

Crystal Chemistry: Classification of crystal structures. Introduction to structural characteristics of ionic compounds.

Organic: Further studies in structural formulae and isomerism, Baeyer's simple strain theory, simple laws of aromatic substitution.

Carbohydrates and glycosides. Homocyclic compounds: cyclic polymethylenes, benzene and simple aromatic fused ring compounds. Synthesis and general reactions of the following aromatic compounds: nitro, amino and halogen compounds, alchohols, phenols and quinones, aldehydes and ketones, carboxlic and sulphonic acids, amides, azo, hydrazo and azoxy compounds. Distillation of coal. Cellulose industries. Explosives.

Physical. Kinetic Theory of Gases: Simplified distribution law. Mean free path and other properties of gases. Molecular collisions. Van der Waal's equation, continuity of state, corresponding states. Specific heats of gases. Equipartition of energy.

Solid State: Application of X-rays to determination of structure of crystals, methods and results.

Liquid State: Surface tension and surface energy. Viscosity of liquids. Structure of liquids. Liquid crystals.

Physical Properties and Molecular Structure: Molar volume, molar refraction, optical rotation, magnetic rotatory power .

Phase Equilibrium: Components parially miscible in liquid state. Two components forming compounds with congruent and incongruent melting points. Systems involving salt and water. Salt hydrate. Gas-solid systems.

Electrochemistry: Introduction to qualitative theory of electrolytes. Conductances at high frequencies and high voltages. Transport numbers, experimental methods and results. Hydration of ions, "true" transference numbers. Electrode potentials and E.M.F.'s of cells. Concentration cells with and without transport. Standard electrodes. Oxidation-reduction cells. Solubility and solubility product. Complex ions. Acids and bases. Ionic equilibrium in water. pH. Neutralisation and hydrolysis. Determination of hydrolysis constant.
Determination of ionic product. Amphoteric electrolytes, iso-electric point. Neutralisation indicators. Indicator range. Neutralisation curves. Potentiometric titration. Precipitation titration. Buffer solutions. Electrolysis and polarisation. Separation of metals by electrolysis.

Chemical Kinetics: Reactions of fractional order. Autocatalytic reactions. Third order reactions. Simultaneous reactions. Consecutive reactions. Energy of activation. Theory of Arrhenius. Theory of kinetic activation. Influence of temperature.

Surface Phenomena: Langmuir's adsorption isotherm. Types of adsorption. Adsorption by solids from solution. Electrometric potential. Catalyses.

PRACTICAL.

Inorganic: Qualitative analysis including phosphate and fluoride; gravimetric and advanced volumetric analysis; preparation of pure substances.

Physical: Measurement of density, refractive index, optical rotation, electrical conductivity, electromotive force, pH by indicator and E.M.F. methods. Solubilities, transition temperatures, etc. Electrometric titration.

Organic: Characterisation of the well known groups present in organic molecules and the identification of simple aliphatic and aromatic compounds. Simple quantitative determinations (acylation, hydrolysis).

Text-books:—

Partington: *Everyday Chemistry* (Macmillan). (For those students taking Course I. only.)
Mellor: *Modern Inorganic Chemistry* (Longsman); or Phillbrick and Holmyard: *Theoretical and Inorganic Chemistry* (Dent).
Caven and Lander: *Systematic Inorganic Chemistry* (Blackie).
Vogel: *Text Book of Quantitative Chemical Analysis* (Longmans).
Knox: *Examples in Physical Chemistry* (Methuen).
Findley: *Introduction to Physical Chemistry* (Longmans, Green); or Lowry and Sugden: *A Class-book of Physical Chemistry* (Macmillan).
Findlays *Practical Physical Chemictry* (Longmans, Green).
Perkin and Kipping: *Organic Chemistry Parts I. and II.* (Chambers).
Karrer: *Organic Chemistry*.
Mann and Saunders: *Practical Organic Chemistry* (Longmans); or Cohen: *Practical Organic Chemistry* (MacMillan).
Smith and Rindl: *Numerical and Constitutional Exercises in Organic Chemistry* (Methuen).

M.Sc. Course.

EXAMINATION: Three theoretical papers of three hours plus one special paper in one of the three branches selected by the candidate.
One practical paper of four days of seven hours per day.
Two translation papers (French and German) of one hour each (optional).

Students will be accepted only if they have shown special aptitude during the B.Sc. Course. The M.Sc. Course is normally a full-time course ,and no student is permitted to pursue other courses at the same time without the permission of the Professor.

The Course requires a minimum of 18 months' study after the B.Sc. examination. Part I. necessitates advanced theoretical and practical studies in all branches of chemistry and leads to an examination after 12 months (see above), whilst additional study may be arranged to meet the particular requirements of students or local industries. Part II requires a research thesis, the subject for which will be arranged in consultation with the Professor.

THEORETICAL.

Inorganic and Analytical (General). Radioactivity: Positive ray analysis. Spectography of Aston, Dempster, Bainbridge. Packing fraction. Separation of isotopes. Artificial disintigration of atoms. Induced radioactivity. Isotopes as indicators.

Atomic Structure: Limitations of Bohr Theory. Elliptic orbits. Electron spin. Magnetic quantum numbers. X-ray spectra. Pauli exclusion principle. Electronic structure of elements.

Molecular Structure..

Crystal Chemistry.

Inorganic Steriochemistry.

Theory and Practice of Analysis: Gravimetric, colourimetric and chromatographic methods. Radio-active elements, organic precipitants, adsorption indicators, fluorescence, etc.

Inorganic and Analytical (Special): A choice of TWO or more of the following topics:—

Intermetallic and Interstitial Compounds.

Methods used in Structural Analysis of Inorganic Compounds.

Reactions in Non-aqueous Media.

Recent Chemistry of Metals and Non-Metals.

Free Radicles.

Organic (General): Critical study in stereo chemistry, the relation between the structure of organic molecules and their physical properties, the mechanism of some organic reactions. A study of the chemistry of the following: Fused rings, terpenes; heterocyclic compounds containing nitrogen, oxygen and sulphur; ureides; alkaloids; glycosides; anthocyanins; dyes.

Organic (Special): A more detailed study of groups and molecular rearrangements. The chemistry of at least FOUR of the following: vitamins, sterols, triterpenes, hormones, nucleic acids, high molecular weight polymers, chemotherepeutic compounds, biological syntheses.

Physical (General). Electrostatic Theory: Interaction between two ions, permanent dipoles, etc. Polarisability. Clausius-Mosotti equation. Drude-Voigt dispersion law. Delye-Langerin equation. Determination of dipole moments, results.

Chemical Thermodynamics: First and second laws. Conditions of equilibrium. Partial molar quantities. Chemical potential. Determination of partial molar quantities. Thermal properties of homogeneous mixtures. Activity and activity coefficient. Variation of activity with temperature. Determination of activities. Debye-Hückel theory.

Molecular Spectra: (i) Rotation spectra, isotope effect; (ii) Vibration, rotation spectra, anharmonic vibrattions, fine structure of bands, restoring force in diatomic molecules, isotope effect in vibrational bands; (iii) Electronic spectra, rotational fine structure, isotope effect; (iv) Application

of potential energy curves, the Morse equation, Franck-Condon principle, calculation of heats of dissociation, predissociation; (v) Raman effect, classical and quantum theories, vibrational, rotational and vibrational-rotational Raman spectra.

Chemical Kinetics. Collision theory: (a) Bimolecular reactions, molecular statistics of bimolecular reactions; equation for rate of bimolecular reaction, relation of heat of activation to heat of reaction; (b) Unimolecular reactions, radiation and Lindemann theories, mechanism of activation process; (c) Chain reactions; (d) Reactions in solution.

Photochemistry. Laws of light absorption: Primary light processes (i) Dissociation type; (ii) Activated molecule type. Photo-sensitisation. Secondary processes, chain reactions. Factors influencing quantum yield.

Phase Rule: Three component systems.

Physical (Special): A study of ONE of the following subjects:—

Quantum Mechanics: Survey of elements of classical mechanics. Mathematical theory of function spaces. Types and algebra of operators. Rules of quantum mechanics. Stationary states. Free particle in one and three dimensions. Simple Harmonic oscillator. Hydrogen-like atoms. Momentum operators. Perturbation theory. Applications of quantum mechanics, e.g., dispersion forces, theory of valence.

Statistical Mechanics: Phase space, Liouville's theorem. Classical distribution law and evaluation of Maxwell-Boltzman constants. Mean values. Quantum statistics. Bose-Einstein, Fermi-Dirac applications, e.g., electron gas in metals, thermionic emission, heat capacity of solids.

Statistical Thermodynamics: Entropy and probability. Thermodynamic functions. The partition function. Entropy and free energy. Determination of partition functions. The translational, rotational and vibrational partition functions. Applications of partition functions, e.g., Heat capacity, free energy and equilibrium constants.

PRACTICAL.

Inorganic: Analysis of complex materials: fertilisers, alloys, steels, non-refractory ores. The utilisation of physical and semimicro methods.

Physical: Use of physical instruments in quantitative determinations, reaction mechanisms, and problems of structure.

Organic: More advanced preparations. Separation and analysis of mixtures. Quantitative organic analysis including micro methods.

NOTE: Further details may be obtained from the University Calendar.

NOTICES Research students are NOT permitted at any time to work alone in the laboratories.

LIBRARY: For suitable text-books reference should be made to the lecturers concerned, who will instruct students in the use of chemical literature and libraries. A departmental library is available for reference.

UNIVERSITY EDUCATION DIPLOMA COURSE.

One lecture per week will be given throughout the session on the teaching of chemistry in schools, and on such matters as are likely to be helpful in the teaching of chemistry in class room laboratory.

Text-books:—

Newbury: *The Teaching of Chemistry* (Heinemann).

John Brown: *Teaching Science in Schools* (University Press, London).

GEOGRAPHY.

Professor: R. M. Jehu, M.Sc. (Wales), F.R.G.S., F.G.S.
Lecturer: K. M. Buchanan, B.A. Hons. (Birm.).

1. Physical Geography.

(a) The Earth as a Planet: its form, size and motions; the inter-relations of the Sun, Earth and Moon, causing day, night, the seasons; the measurement of time; latitude and longitude; the phases of the Moon and Eclipses; the structure of the earth; Terrestrial Magnetism.

(b) The Atmosphere: the local and world distribution of pressure, temperature and humidity; the major climatic regions of the World.

(c) The Oceans: their form and configuration; the depth of the Ocean Floor; the distribution of temperature, salinity and density; tides and currents.

(d) The Lithosphere: Elevation and subsidence; shore lines; the processes of denudation, deposition and volcanic activity, their effects on topographical features; the waters of the Lithosphere.

2. Cartography.

(a) Elements of Map-reading: Map-setting; conventional signs; representation of relief; visualisation in three dimensions; special emphasis on the interpretation of contoured maps, representing glacial, fluvial, aeolian and marine topography in their various stages of evolution; use of meteorological maps.

(b) Simple Map-construction: Making of sketch-maps in the field, using prismatic compass, clinometer, Aneroid barometer and plane table; contouring.

(c) Elements of Map-projection. Properties and uses of the chief types of map-projections found in atlases; e.g., conical, zenithal, cylindrical and World projections. The construction of simple map projections.

(d) Practical Work: field work; enlargement and reduction of maps; construction of scales and sections, etc.

3. Biogeography.

(a) Geographical distribution of plants, animals and man in broad outline.

(b) The influence of geographical environment on the life, arts, social organisation and migrations of certain peoples.

(c) The Influence of Man on his Environment: The factors governing the production and distribution of crops; the development and course of trade, its influence on transport, communication, and colonisation; the origin and growth of towns.

Course II.

1. Physical Geography.

(a) The Atmosphere: Fuller treatment of Course I (b), together with a discussion of instruments and units used in meteorology. Factors which determine climate; climatic zones and provinces; changes of climate in historic times; preparation of climatological maps.

(b) The Hydrosphere: Methods of observation; tides; the causes and nature of oceanic circulation; marine deposits and coral islands; characteristics of chief seas; temperature and salinity.

2. Cartography.

(a) Map-analysis: Study of topographic, military, aeronautical and hydrographic maps of the various survey departments; the International map of the World; meteorological maps.

(b) Map-construction: Principles of traversing and triangulation; discussion of instruments and methods used.

(c) Map-projection: The principles underlying the construction of girds and graticules of simple type.

(d) Practical Work: Field work with plane table and accessories.

3. Biogeogrphy.

(a) The influence of geographical factors upon the distribution and development of plant and animal life; the natural vegetation regions of the continents.

(b) Anthropogeography: Classification of races of Mankind, and the physical characters on which it is based; the geographical distribution of races.

4. Regional Geography.

Structural and Comparative Geography of the continents, with special attention to Europe; the influence of physical conditions upon the economic and political development of those regions. A detailed regional study of European Russia.

Course III.

1. Physical Geography.

Division of the earth into stable and mobile regions; geosynclines. The structure of mountain ranges. Isostasy. Theories bearing upon the distribution of continents and oceans. Constitution, origin and age of the earth.

Advanced geomorphology. Landscape evolution of Southern Africa. Geomorphologic Provinces of the Union. Eustasy.

2. Cartography.

Principles of mapping from photographs obtained from the air; delimitation and demarcation of boundaries; Gravity survey; discussion of the figure of the Earth; Planimetry; advanced interpretation of contour-maps; construction of block diagrams, and of statistical maps, graphs, and diagrams.

3. Human Geography.

The importance of race and environment in determining the habits and organisation of peoples; the philosophy of "determinism"; the effect of man on environment. The factors of physical, racial and social Geography which have influenced the establishment of nationalities and states; principles of frontier making.

4. Regional Geography.

A detailed study of Africa. The Economic Geography of South Africa.

5. History of Geography.

The Geographical ideas of classical times and prior to the Age of Discovery.

M.A. and M.Sc. Courses.

Part I. The examination comprises six papers:—

(a) Three papers on General Geography.

These papers are intended to cover a revision of and additional reading in those branches of Geography not specifically chosen by the candidate as special subject. In addition to the alternatives available for special study, other branches of Geography, such as Cartography, Oceanography and Biogeography must be included, and the candidates should have an adequate knowledge of the

regional geography of the continents. The bibliography printed in the Calendar for Courses I.—III., Economic Geography and M.A. in Geography should form the basis of study.

(*b*) Three papers on one of the following special subjects chosen by the candidate for intensive study. In the bibliography will be found a short list of leading text-books for each of the special subjects listed below. These are intended as a guide to the scope of the special subjects, but students will be expected to follow up references made in these works, and should also be familiar with the leading geographical periodicals.

Economic Geography.
Geomorphology.
Human, Political and Historical Geography.
Meteorology and Climatology.

Part II. A dissertation on a region or subject to be selected by the candidate and approved by the Committee of Studies.

BOOKS RECOMMENDED FOR COURSES IN GEOGRAPHY.

COURSE I.

King: *South African Scenery* (Oliver and Boyd).
Manual of Military Map Reading, 1929 edn. (H.M.S.O.).
Bryant and Hughes: *Map Work* (Oxon).
Brown, R.: *Principles of Economic Geography* (Pitman).
Newbigin: *Man and his Conquest of Nature* (Black).
Philips: *University Atlas*.

COURSE II.

Stamp: *An Intermediate Commercial Geography*. Vol II. (Longhmans).
Hinks: *Maps and Survey* (Camb.). 3rd Edition.
Adams: *A Little Book on Map Projections* (Philip).
Steers: *An Introduction to the Study of Map Projections* (Univ. Lond.).
Haddon: *The Races of Man* (Camb.).
Hardy: *Geography of Plants* (Oxon), *and*
Gadow: *Wanderings of Animals* (Camb.).
Newbigin: *Plant and Animal Geography* (Methuen).
Johnston: *Introduction in Oceanography* (Hodder and Stoughton).
Kendrew: *Climates of the Continents* (Methuen).

COURSE III.

Semple: *Influences of Geographic Environment* (Constable).
Brunhès: *Human Geography* (Harrap).
Fawcett: *Frontiers* (Oxon).
Wooldridge and Morgan: *The Physical Basis of Geography* (Longmans).
Steers: *The Unstable Earth* (Methuen).
Africa: *Oxford Survey of the British Empire* (Oxon).
Fitzgerald: *Africa* (Methuen).
Dickinson and Howarth: *The Making of Geography* (O.U.P.).
Close & Winterbotham: *Text-book of Topographical and Geographical Surveying* (H.M.S.O.).

University Education Diploma Course.

Brown, Howarth & McFarlane: *The Scope of School Geography* (Oxon).
Febvre: *A Geographical Introduction to History* (Kegan Paul).
Barker: *Geography in Education and Citizenship* (Univ. of London).
Memorandum on the Teaching of Geography (Philip).
Fairgrieve: *Geography in School* (University of London).
Beazley: *Local Geography* (Murby).

GEOLOGY.

Professor: L. C. King, Ph.D. (S.A.), D.Sc. (N.Z.), F.G.S., F.R.G.S.

Course I.

(1) Elements of crystallography.

(2) Mineralogy:

Composition and chief physical characteristics of the following minerals: Diamond, Sulphur, Gold, Silver, Copper, Zinc Blende, Pyrite, Chalcopyrite, Chalcocite, Bornite, Galena, Orpiment, Stibnite, Cinnabar, Mispickel, Quartz, Chalcedony, Opal, Corundum, Magnetite, Chromite, Haematite, Limonite, Cassiterite, Pyrolusite, Psilomelane, Cuprite, Malachite, Azurite, Calcite, Dolomite, Magnesite, Siderite, Apatite, Barite, Gypsum, Anhydrite, Halite, Fluorite, Orthoclase and Plagioclase Feldspars, Microcline, Muscovite, Biotite, Augite, Hornblende, Tourmaline, Olivine, Garnet, Kaolin, Talc, Chlorite, Serpentine, Asbestos.

(3) Petrology:

Igneous Rocks: The physical characters and mineral composition of: granite, syenite, diorite, gabbro, norite, peridotite quartz porphyry, dolerite, rhyolite, obsidian, andesite, basalt, kimberlite, nepheline syenite, phonolite.

Sedimentary Rocks: The composition, structure and modes of origin of: conglomerate, sandstone, mudstone, shale, tuff and agglomerate, limestone, coal and petroleum.

Metamorphic Rocks: Characters and mode of formation of: quartzite, hornfels, marble, slate schist, gneiss.

(A knowledge of microscopic petrology will not be expected.)

(4) Physical Geology:

The geological action of the atmosphere, rain, rivers, glaciers, ocean, underground water, lakes, ice, animals and plants with special reference to South African examples. The weathering of rocks, general products of weathering, and the formation of soil. Deposits on land and under water, and the cycle of erosion. Applications to South African conditions.

Volcanic activity and its geological results. Geographical and geological distribution of volcanoes. Earthquakes.

Evidences of elevation and subsidence of land.

(5) Structural Geology:

Structures peculiar to sedimentary, igneous and schistose rocks; structures shown by rock masses; faults and their effects on the outcrop of beds; general structure of mountain chains; effect of denudation on

various geological structures. Influence of geological structure on the topography of a country, with special reference to South African types of topography.

(6) Historical Geology:

Conditions necessary for the preservation of fossils. Use of fossils. Classification of strata into systems. General lithological nature and chronological succession of the following South African systems:

The more important Primitive Systems, Witwatersrand, Ventersdorp, Nama, Transvaal, Bushveld Igneous Complex, Waterberg, Cape, Karroo, Cretaceous, Tertiary.

General nature of the fossil contents of the Cape, Karroo and Cretaceous systems. Comparison with the European classification and succession.

General features of the Palaeozoic, Mesozoic and Cainozoic faunas and floras of the world.

(7) Practical Work.

1. Recognition of simple crystal forms.

2. Recogition of hand specimens of the minerals and rocks specified in paragraphs (2) and (3).

3. Recognition of common fossils.

4. Simple problems on the drawing of Geological maps and sections.

Text-books:

Hamilton and Cooke: *Geology for South African Students* (Central News Agency).

Platt and Challinor: *Simple Geological Structures* (Murby).

King: *South African Scenery: A Text-book of Geomorphology* (Oliver and Boyd).

Holmes: *Principles of Physical Geology* (Nelson).

Course II.

(Either Option A or Option B.)

Option A.

Mineralogy and Petrology.

(1) Crystallography: mode of formation and occurrence of crystals; general properties and crystal structure; characters of the crystal systems and their classes of symmetry. Twinned Crystals. Isomorphism and polymorphism. Pseudomorphs. Use of Miller's method of crystal notation. Stereographic and gnomonic projections.

(2) Mineralogy: the general characters of minerals; modes of occurrence and aggregation of minerals; physical properties of minerals. Application of optical properties to the determination of the common rock-forming minerals in thin section under the microscope.

Chemical composition, descriptive and determinative characters of the principal rock-forming minerals, ores and gangue minerals. South African mineral occurrences.

(3) Petrology:

Igneous Rocks: their geological occurrence, classification, and structure as extrusions and intrusions. Characters, composition and textures of the more widely known classes of igneous rocks. Alkaline rocks. The solidfication of magmas, eutectics, magmatic differentiation. Pneumatolysis. A special study of the Bushveld Igneous Complex and its associated alkaline rocks.

Sedimentary Rocks: the relation of the various types of sedimentary rocks to physical and chemical conditions at the time of their formation. Description of the more general types and their properties. The superficial rocks of South Africa.

Metamorphic Rocks: distinctive minerals of metamorphic rocks. The nature of metamorphic processes. Clastic, contact, regional and plutonic metamorphism and the structures and textures of rocks due to each. Influence of original composition on the final product. Grades of metamorphism. Metasomatism.

(4) Elementary geology of ore deposits.

(5) Advanced Geomorphology. Landscape evolution of Southern Africa. Geomorphologic Provinces of the Union. Eustasy.

(6) Practical Work: Determination of the various crystal forms and combinations, and of crystal elements, use of stereographic and gnomonic projections, and determination of minerals by physical, microscopic, blowpipe and chemical tests.

Identification and description of hand-specimens and thin sections of typical rocks. Preparation of thin rock-sections.

Text-books:

Tyrrell: *Principles of Petrology* (Methuen).
Tyrrell: *Volcanoes* (Everyman's Library).
Harker: *Petrology for Students* (Cambridge U.P.).
Dana: *Text-Book of Mineralogy* (Wiley).
Haughton ed.: *Mineral Resources of South Africa* (Govt. Printer).

Option B.

Palaeontology and Stratigraphy.

(1) A detailed study of the various groups of animals and plants of palaeontological importance, their distribution in time and their bearing on the theory of evolution. Indications afforded by organisms of climatic or other physical conditions at the time of their existence.

(2) General principles of Stratigraphy and Palaeogeography. Outline of Historical Geology, with particular emphasis on the geological succession in South Africa.

(3) Division of the Earth into stable and mobile regions; geosynclines. The structure of mountain ranges. Isostasy. Theories bearing upon the distribution of continents and oceans. Constitution, origin and age of the Earth.

(4) Practical Work: Identification and description of characteristic fossils, with special reference to South African types.

Interpretation of, and construction of sections from, geological maps. Simple plane-table surveying.

Text-books:

Steers: *The Unstable Earth* (Methuen).
Swinnerton: *Outlines of Palaeontology* (Arnold).
du Toit: *Geology of South Africa* (Oliver and Boyd).
Woods: *Palaeontology* (Cambridge), or
Zittel: *Text-Book of Palaeontology*, Vol. I. (Macmillan).

Course III.

Either Option A or Option B, whichever has not been previously taken. In addition: local field work with the presentation of a short essay embodying the results obtained.

M.Sc. Course.

Courses will be arranged as required.

Field excursions will be arranged which students in all classes are expected to attend.

MATHEMATICS (PURE AND APPLIED).

Professors:—
Pure Mathematics: J. McKinnell, M.A., B.Sc. (Glasgow).
Applied Mathematics: P. Stein, B.A. (Cape), M.A., Ph.D. (Contab.) (in Durban).
Senior Lecturer: R. L. Rosenberg, M.A. (Cape Town), Dr. Phil. (Berlin), D.I.C. (Lond.).
Lecturer: F. J. Schuddeboom, M.Sc. (Stell.).

PURE MATHEMATICS.

Course I.

Pure Geometry: Similar triangles and polygons, concurrency theorems; Ceva's Theorem; Menelaus's Theorem; harmonic ranges and pencils; harmonic properties of a circle; elementary solid geometry, including mensuration of simple solids.

Algebra: the quadratic function; arithmetic, geometric and harmonic series; sum of squares and allied series; undertermined co-efficients; partial fractions; permutations and combinations; binomial theorem; simple curve-tracing.

Plane trigonometry: elements of.

Analytical Geometry: the straight line and circle.

Calculus: elementary differentiation and integration, and applications.

Course II.

Algebra: determinants; theory of equations; approximate solution of numerical equations.

Calculus: differentiation and integration; partial differentiation; geometrical applications (tangents and normals, lengths and areas of curves, volumes, surfaces of revolution); standard expansions; maxima and minima

Trigonometry: elimination; hyperbolic functions; inverse functions; simple series; complex numbers; De Moivre's Theorem.

Analytical Geometry: circle, parabola, ellipse, and hyperbola.

Course III.

In addition to the work of the Second Year, the following syllabus will be covered:—

Calculus: partial differentiation; expansions; curvature; curve tracing; envelopes; further intergration; double integration; lengths, areas, volumes, surfaces; differential equations of the first order, and linear equations with constant co-efficients.

Albegra and Trigonometry: infinite series; elements of theory of the exponential, circular, hyperbolic, and logarithmic functions of a complex variable.

Analytical Geometry: conics referred to any cartesian and to polar co-ordinates; general equation of the second degree; further treatment of tangents and normals, poles and polars, conjugate diameters; systems of conics; confocal conics; plane and straight line in three dimensions.

Master's Courses.

M.A. and M.Sc. syllabuses can be obtained from the Professor.

APPLIED MATHEMATICS.

Course I.

Kinematics: constant velocity and constant acceleration in a straight line: composition and resolution of velocities and accelerations; projectiles; relative motion; uniform circular motion and simple harmonic motion.

Kinetics: Newton's laws; inertia; force; work; energy; power; composition and resolution of forces; conservation of momentum and energy; impact; friction; simple pendulum.

Statics: parallel forces; couples; centre of gravity; conditions of equilibrium of a rigid body under the action of a system of coplanar forces; graphic statics; machines.

Hydrostatics: pressure at a point of a fluid; laws of fluid pressure; Archimedes' Principle; laws of floating bodies; gases; Boyle's and Charles' laws; barometer; pumps; hydrometers; syphon; diving bell.

Practical work to illustrate the syllabus.

Course II.

Dynamics of a particle; rectilinear motion; simple harmonic motion; resisted motion; motion in a plane; elliptic-harmonic motion; polar co-ordinates; elementary central orbits; properties of a conservative field of force.

Dynamics of a system of partcles and rigid bodies: principles of linear and angular momentum; kinetic energy; impact of elastic bodies; kinematics of a rigid body in a plane; instantaneous centre; the equations of motion of a rigid body in one plane; moments of inertia; compound pendulum; easy problems on the motion of a rigid body in one plane; impulsive motion of a rigid body.

Statics: graphic statics; equilibrium of chains; virtual work; elementary elasticity.

Hydrostatics: centre of pressure; pressure on a curved surface; rotating liquid; floating equilibrium; metacentre; equilibrium of the atmosphere.

Practical work to illustrate the syllabus.

Course III.

Dynamics of a particle: central orbits, disturbed central orbits; disturbed simple harmonic motion; constrained motion; rotating axes; motion with varying mass; motion of a chain; three dimensional motion.

Dynamics of a rigid body: moments and products of inertia; momental ellipse; the equations of motion of a rigid body in one plane; harder problems on the motion of a rigid body; generalised co-ordinates; Lagrange's equations; small oscillations; three dimensional motion of a rigid body; the spinning top.

Statics: three dimensional statics; Poinsot's central axis; homogeneous and heterogeneous strain; stress; energy of a strained isotropic body; Hooke's law; the elastic constants; strains and stresses in spherical and cylindrical shells; the problem of de Saint-Venant; torsion; flexions.

Hydrodynamics: the equations or motion; Bernoulli flow; Torricelli flow.

Practical work to illustrate the syllabus.

M.Sc. Course.

Syllabus for M.Sc. can be obtained from the Lecturer in Charge.

PHYSICS.

Professor: P. Mesham, M.Sc. (Liverpool).
Associate Professor: D. B. Hodges, B.A. (Cape), M.Sc., Ph.D. (Cape Town).
Senior Lecturer: J. R. H. Coutts, D.Sc. (S.A.), M.Sc. (Lond.), F.Inst.P.
Lecturer: H. W. Scott, M.Sc. (S.A.).
Temporary Lecturer: N. D. Clarence, B.Sc. (S.A.).

Course I.

1. Mechanics, Hydrostatics, Properties of Matter.

Velocity, uniform acceleration. Rectilinear motion under constant force. Mass force, weight. Composition and resolution of forces, moment of force, parallel forces. Laws of motion. Work, energy, power.

Statical equilibrium of liquids. Fluid pressure. Density, specific gravity. Archimedes' principle. Barometers. Boyle's law. Surface tension of liquids, capillarity. Elasticity (Young's modulus). Hooke's law.

2. Heat.

Thermometry: mercurial thermometers, methods of graduation and correction, sources of error. Electrical and other thermometers.

Expansion of Solids: methods of measurement, linear and cubical expansion. Practical applications.

Expansion of Liquids: methods of measurement.

Expansion of Gases: laws of gases. Constant pressure and constant volume gas thermometers, gas scale.

Calorimetry: specific heats of solids, liquids and gases (simple treatment).

First Law of Thermodynamics: determination of the mechanical equivalent of heat.

Fusion: latent heat. Melting point, ice calorimeter. Change of volume, effect of pressure. Freezing of solutions, freezing mixtures.

Evaporation: latent heat, total heat of steam. Freezing by evaporation. Pressure of saturated vapours.

Conduction: conductivity of solids, methods of measurement.

Convection and Radiation.

Hygrometry.

3. Light.

Rectilinear propagation, photometry. Laws of reflection and refraction. Formation of images by plane and spherical reflecting surfaces. Mirrors, lenses, spectacles.

Dispersion: prism, spectrometer, colour.

4. Sound.

Nature of sound waves in air. Velocity of sound. Characteristics of musical note. Vibrations of strings and air columns. Resonance.

5. Magnetism and Electricity.

Magnetic Poles. Laws of force, unit poles, methods of verifying laws of force between magnetic poles. Magnetic moment, intensity of magnetisation. Magnetic intensity, magnetic induction. Molecular theory of magnetism. Strength of field, lines of force. Terrestrial magnetism.

Electrification by friction: insulators and conductors. Electroscope. Laws of electric force, lines of force, potential, capacity. Dielectric constants.

Laws of flow of electric currents. Electromotive force, resistance, resistivity. Practical units and standards. Divided circuits.

Magnetic field of current in simple cases. Galvanometers. Electromagnets. Measurement of currents, resistances and potential differences. Joule's law and application.

Primary and secondary cells. Electrolysis, Faraday's laws.

Descriptive account of electromagnetic induction, induction coil.

Rudiments of alternating current.

6. Practical work on the subjects of the above syllabus.

Text-books:—

Willows: *Text-Book of Physics* (Arnold) or
Watson: *Intermediate Physics* (Longman) or
Duncan and Starling: *Text-Book of Physics* (Macmillan).
Clark: *Mathematical and Physical Tables* (Oliver and Boyd).
N.U.C. Tutorial Questions.

Course II.

1. Properties of Matter.

Gravitation. Capillarity. Viscosity. Diffusion.

Osmosis, boiling and freezing points of solutions.

Dynamics: elementary dynamics of rotation, moments of inertia.

Simple harmonic motion, composition of simple harmonic motions. Small oscillations of vibrating systems.

2. Heat.

Thermometry: gas thermometers, platinum thermometers, thermo-couples.

Gas laws, elementary kinetic theory. Simple application of principle of equi-partition of energy to specific heats. Mean free path; thermal conductivity and viscosity of gases. Deviations from Boyle's law, equations of state, critical constants, corresponding states. Liquefying machines.

First Law of Thermodynamics: mechanical equivalent of heat. Specific heats of gases, ratio of specific heats. Isothermal and adiabatic expansions and compressions. Isothermal and adiabatic elasticities.

Second Law of Thermodynamics: Carnot's cycle, pv and T-S diagrams and their uses. Efficiency of a reversible engine. Absolute scale of temperature. Maxwell's thermodynamical relations. Gibbs-Helmholtz equation. Latent heat equations. Porous plug experiment, simple applications.

Radiation: theory of exchanges. Radiation laws and applications. Optical and total radiation pyrometers. Conduction of heat. Experimental determination of conductivities.

3. Magnetism and Electricity.

Laws of force between magnetic poles. Diamagnetic and paramagnetic substances. Curie's law. Mutual action between short magnets. Magnetic forces and magnetic potentials in the field of a short magnet.

Ohm's law and its application to the measurement and comparison of resistances, currents, and potential differences. Potentiometers.

Magnetic fields due to straight and circular currents. Solenoids. Galvanometers. Electromagnets.

Work done on a current moving in a magnetic field. Electromagnetic induction. Earth inductor, standard inductors. Effect of self inductance on the rise and fall of a current in a circuit. Mutual inductance. Standardisation of ballistic galvanometers. Comparison of inductances and of capacities.

Magnetic induction. Permeability, susceptibility and methods of measurement.

Alternating currents: impedance and phase changes in circuits containing resistance, self inductance, and capacity. Oscillatory and non-oscillatory discharge of a condenser. Simple treatment of transformer. Virtual value of current, E.M.F., and power in alternating current circuit. Simple treatment of series and parallel resonance circuits. Elementary treatment of dynamos and motors. Simple treatment of valve characteristics. Elements of radio communication. Simple experiments with high frequency currents.

Thermoelectricity: Seebeck, Peltier, and Thomson effects. Thermo-electric diagram.

Electrolytic conduction.

Thermodynamical theory of galvanic cells.

4. Practical work on the subjects of the above syllabus.

Text-books:—

Hart: *Advanced Heat* (Bell) or
Mitton: *Heat* (Dent).
Starling: *Mechanical Properties of Matter* (Macmillan).
Starling: *Electricity and Magnetism for Higher School Certificate and Intermediate Students* (Longmans).
Bedford: *Text Book of Practical Physics* (Longmans).
Tarrant: *Physics, a Supplementary Text Book* (Dent).
Ratcliffe: *Physical Principles of Wireless* (Methuen).

Course III.

1. Electrostatics.

Gauss's theorem and applications. Mechanical action on an electrified surface, Coulomb's theorem. Capacity and energy of condensers. Dielectric constant. Boundary conditions.

Quadrant and attracted disc electrometers. Electrostatic voltmeters. Dimensions of electrostatic and electromagnetic quantities.

Conduction of electricity through gases. Electrons and penetrating radiations. Measurement of e/m for charged particles. Principle of the cathode ray oscillograph and some of its uses in Physics. Nature of Alpha, Beta, and Gamma rays and X-rays. The neutron, subatomic particles. Positive rays. Elementary treatment of nuclear atom. Simple treatment of radio-active transformations. Photoelectricity and thermionics. Kerr effect and applications.

2. Light.

Reflection and refraction of small pencils at plane and spherical surfaces. Focal lengths and cardinal points of a thick lens and of a

combination of thin lenses on the same axis. Eyepieces, prism spectrometer, wave-length spectrometer. Dispersion, chromatic and spherical aberrations (simple treatment).

Velocity of light. Wave theory. Interference. Diffraction. Polarisation: quarter-wave and half-wave plates, rotation of the plane of polarisation, polarimeters.

3. Elasticity and Sound.

Strain and stress. Hooke's law. The elastic constants.

Nature of sound waves in air. Velocity of transverse and longitudinal disturbances. Measurement of frequency. Energy and intensity; loudness, the decibel and the phon. Strings, pipes. Diatonic scale and temperament.

Interference of sound waves, beats, concord and discord. Combination tones. Doppler's principle.

4. Practical Work on the subjects of the above syllabus.

Text-books:—

Barton: *Light* (Longmans).
Catchpool: *Sound* (University Tutorial Press).
Chadwick: *Radioactivity and Radioactive Substances* (Pitman).

M.Sc. Course.

Candidates for this course must satisfy the professors of Physics and Mathematics that they have sufficient knowledge of those branches of Mathematics necessary for their work in Physics.

The course extends over 18 months; the examination in Part I. is taken at the end of the first year, normally in December, and that in Part II. in the following June.

Part I.—Three papers and two days' practical work. The general scope of the course and subdivision of the examination will be as follows. It should, however, be noted that there may be overlapping, e.g. quantum ideas occur in Paper I., and so on.—

Paper I: Heat, kinetic theory, general physics, sound, optics.

Paper II: Electricity, magnetism, electromagnetic theory.

Paper III: Quantum theory, Radioactivity, X-rays, Atomic structure.

Part II.—Either a thesis embodying original research on the part of the candidate;

Or a paper on a special syllabus approved by the Committee of Studies in Physics and a dissertion on some subject of modern physics. (This dissertion should not be more than about 50 sheets of typed script in length.)

University Education Diploma Course.

The course comprises a series of lectures on the historical development of Physics and methods of teaching the subject; together with practical work on laboratory arts.

Buckley: *A Short History of Physics* (*Methuen*).
Woollatt: *Laboratory Arts* (*Longmans*).

PSYCHOLOGY.

Head of Department: Ella Pratt Yule, M.A., Ph.D. (St. And.).
Professor: B. Nocutt, B.A. (Oxon.), D.Ph. (Stell.).

Course I.

As for Course I. (Arts) with the addition of the following:—
(3) *Physiological Psychology*: Skin senses: taste: smell: hearing vision, monocular and binocular: Psycho-physics.
(4) *Elements of Industrial Psychology*: fatigue: efficiency: work-curves: accidents.
(5) *Elements of Statistics*:
Experiments on the above sections will be arranged.
Text:
Collins and Drever: *Experimental Psychology*.

Course II.

As for Course II. (Arts) with the addition of the following:—
(9) *Experimental Techniques*: Outstanding contemporary experimental work on basic problems: experiments on mental measurements (to be arranged).
Students are also expected to carry out and report on two original investigations during the session.
No text-books are prescribed: reference and reading lists may be had on application.

ZOOLOGY.

Professor: S. F. Bush, M.Sc., (S.A.), D.Phil. (Oxon.).
Lecturer: D. W. Ewer, M.A. (Cantab.), Ph.D. (B'ham).
Temporary Lecturer: R. F. Ewer, B.Sc., Ph.D. (B'ham).

Course I.

The course extends over one year, and is especially arranged to meet the requirements of First Year students who are preparing for degrees in Arts, Pure Science, Medicine, Agriculture, and Veterinary Science. It constitutes a general introduction to the study of Zoology, and is suitable for all beginners in the subject.
Students should provide themselves with note-books, a set of coloured pencils, pocket-lens magnifying 10 diameters, a pair of small dissecting scissors (straight and fine-pointed), a pair of straight, fine-pointed forceps, and two small scalpels.
The general trend of the course will be that adopted in Dakin's *Elements of General Zoology*.
Syllabus:—
1. The elements of anatomy, histology and physiology, as exemplified by the frog or rabbit.
2. The distinguishing characters of the following groups and of the sub-divisions mentioned under each, with a knowledge of the morphology, physiology and reproduction of the types specified:

Protozoa:
Rhizopoda (*Amœba* or *Entamœba*).
Flagellata (*Euglena, Trypanosoma*).
Infusoria (*Paramæcium, Vorticella*).
Sporozoa (*Plasmodium*).
Cœlenterata:
Hydrozoa (*Hydra, Obelia*).
Anthozoa.
Platyhelminthes:
Trematoda (*Fasciola* or *Schistosoma*).
Cestoda (*Tænia*).
Nematoda (a Nematode). Nemertea.
Annelida:
Polychæta.
Oligochæta (*Lumbricus*).
Arthropoda:
Crustacea (*Palinurus* or *Astacus* or *Jasus*).
Insecta (Locust or Cockroach, and the general characters of the chief orders of Insects, with special reference to South African forms).
Mollusca:
Gasteropoda (*Helix* or *Achatina*).
Lamellibranchia (*Unio* or *Anodonta* or *Mytilus*).
(One only of the molluscs to be studied and dissected.)
Vertebrata:
Pisces (*Scyllium* or *Acanthias*).
Amphibia (*Rana* or *Xenopus* or *Bufo*).
Reptilia.
Aves.
Mammalia (*Lepus* or other type).

3. The fundamental facts relating to the structure and functions of the cell. The elements of Embryology: structure of the germ cells, maturation, fertilisation, segmentation, germinal layers, as illustrated by *Amphioxus* and the Frog.

4. An elementary knowledge of Evolution, Variation, Heredity, Natural Selection and Degeneration.

5. The life-histories of malarial parasite (*Plasmodium*), liver-fluke (*Fasciola*), and the tape-worm (*Tænia*).

6. Candidates must be prepared to dissect, to examine microscopically, and to describe or identify specimens or parts of the animals listed in *italics* in paragraph 2. They may also be expected to refer typical examples of the groups named to their proper systematic position.

Text-books:—
Borradaile: *Elementary Zoology for Medical Students* (O.U.P.); or
Thompson: *Outlines of Zoology*.
Marshall and Hurst: *Practical Zoology* (Murray).
Marshall, A. Milnes: *The Frog* (Macmillan).
Dakin: *Elements of General Zoology* (O.U.P.), or
Kühn-Grobbellaar: *Grondbeginsels van die Algemene Zoölogie* ("De Sikkel," Antwerp).
Dendy: *Outlines of Evolutionary Biology* (Constable), or
Shull: *Animal Biology* (McGraw-Hill).

Courses II. and III.

The work of Courses II. and III. forms a single unit extending over a period of two years. At least nine hours a week must be devoted to this class.

Syllabus:

1. The anatomy, development and inter-relationships of the main divisions of the following groups of the animal kingdom, with special knowledge of types specified in brackets. Some knowledge of the habits and physiological activities of the animals listed is expected:—

INVERTEBRATES:

Protozoa (common types of freshwater forms, *Entamœba*, Foraminifera, Radiolaria, *Trypanosoma*, *Monocystis*, *Eimeria*, *Plasmodium*, *Piroplasma*, *Paramæcium*, *Balantidium*).

Porifera.

Cœlenterata (*Hydra*, *Obelia*, *Bougainvillea*, *Physalia*, *Alcyonium*, *Aurelia*, *Actinia*, a Madreporan).

Platyhelminthes (*Dendrocœlum* or *Leptoplana*, *Fasciola*, *Schistosoma* (*Bilharzia*), *Tænia*).

Nematoda (*Ascaris*).

Nemertea (*Lineus*).

Rotifera.

Annelida (*Polygordius*, *Nereis* or *Arenicola*, *Lumbricus*, *Hirudo*).

Sipunculoidea.

Polyzoa (*Flustra* or *Bugula*).

Brachiopoda.

Mollusca (*Helix*, *Sepia* or *Octopus*, *Unio* or *Anodonata* or *Mytilus*).

Arthropoda (*Apus*, *Daphnia*, *Lepas*, *Carcinus* or other crab, *Periplaneta*, *Scorpio*).

Echinoderma (*Asterias*, *Echinus*, a Holothurian).

CHORDATES:

Hemichorda.

Urochorda (a simple Ascidian).

Cephalochorda (*Amphioxus*).

Cyclostomata.

Pisces (*Scyllium* or *Acanthias*, *Dentex* or other Teleost).

Amphibia (an Anuran).

Reptilia (a Lacertilian or Ophidian).

Aves (*Columba*).

Mammalia (*Lepus*, or other type).

Allied local types may be chosen as alternatives for dissection in all cases.

2. The fundamental facts of cytology, sexual and asexual reproduction.

3. The palæozoological and other evidences of evolution; general hypotheses of variation, heredity, adaption, degeneration, parasitism and mimicry.

4. A general knowledge of the geographical distribution of animals with special reference to South African mammals.

5. Demonstration of the main facts of vertebrate osteology.

6. An elementary knowledge of miscroscopical methods.

7. Candidates must be prepared to dissect, to examine microscopically, and to describe or identify specimens or parts of the animals listed in brackets in paragraph 1. They will also be expected to refer typical examples of the groups named to their proper systematic position.

Text-books:—

Parker and Haswell: *Text-Book of Zoology*, 2 vols. (Macmillan).

Borradaile, Eastham, Potts and Saunders: *The Invertebrata* (Camb. Univ. Press).

De Beer: *Comparative Zoology of Chordates* (Sidgwick and Jackson).

Saunders & Manton: *A Manual of Practical Vertebrate Morphology* (Oxford Univ. Press).

Marshall and Hurst: *Practical Zoology* (Murray).
Broom: *Origin of the Human Skeleton* (Witherby).
Dendy: *Outlines of Evolutionary Biology* (Constable).
Wallace: *Darwinism* (Macmillan).
Carter: *General Biology of the Invertebrata* (Sidgwick & Jackson).
Ford: *Mendelism and Evolution* (Methuen).
Crew: *Sex Determination* (Methuen).
Lull: *Organic Evolution* (Macmillan).

M.Sc. Course.

Students desiring to take the M.Sc. course in Zoology will be directed in their studies and laboratory work.

The requirements are:—

Part I.—An examination consisting of three written papers and two practical papers, and dealing, in part, with some special group or branch of Zoology approved by the Committee of Studies in Zoology of the University of South Africa.

Part II.—A dissertion on some problem of Zoology.

Faculty of Education.

Regulations.
Syllabuses.
Training of Teachers.

FACULTY OF EDUCATION

DEGREES AND DIPLOMAS IN THE FACULTY OF EDUCATION.

The following degrees and diploma are granted in the Faculty of Education:—

The University Education Diploma.
Master of Education: M.Ed.
Doctor of Philosophy: D.Phil.

THE UNIVERSITY EDUCATION DIPLOMA.

COMMON REGULATIONS

T.1. The University Education Diploma is issued in three forms entitled respectively:—

The University Education Diploma (General);
The University Education Diploma (Special);
The University Education Diploma (Technical).

The academic and the professional requirements in each case shall be as laid down in the Special Regulations following.

In addition, the University may also, under certain conditions specified in the Special Regulations, grant a University Education Diploma (Non-Graduate).

Every diploma issued under these regulations shall be endorsed with full particulars of the professional and also of the academic courses completed by the candidate.

T.2. The duration of the professional course shall in all cases be not less than one complete academic year entirely devoted to the course prescribed.

In no circumstances may a candidate who has not been exempted from what is judged by the Senate to be an equivalent portion of the professional course, undertake in his professional year a new qualifying course in an academic subject, but he may repeat in his professional year one academic course in which he has failed.

Candidates who have included a course in Education in their curriculum for a previous Bachelor's degree may be exempted from the course and examination in the History of Education, but must in all cases add one further qualifying degree course.

T.3. No candidate will be granted a University Education Diploma in any of the above forms unless he has taken a full course of professional training as an internal student of the University, or can produce evidence to the satisfaction of the Senate that he has taken an equivalent or similar course of training at an approved institution.

T.4. A final university examination covering all the professional subjects will be held at the conclusion of the course, but the subjects of Elocution, Blackboard Work, Hygiene and also the subjects hereinafter referred to as "practical subjects" may, where these are prescribed, be completed at any time of the candidate's academic or professional course by internal examination.

When a student elects to take any part of the professional examination prior to the final year of training, he shall enter his name for examination in that subject and shall pay the required fee, such payment to be deducted from the total examination fee chargeable in the final professional year.

T.5. The examinations in The Principles, The Psychology, and The History of Education shall be conducted by two examiners, one of whom shall be an external examiner not connected with the teaching of the students under examination and the other an internal examiner nominated by the constituent college concerned and approved by the University.

In all other subjects of the professional course the examination shall be conducted by one or more examiners nominated by the Constituent College concerned and approved by the University, one such internal examiner, working in general consultation with the professor of Education or his representative, being deemed sufficient for each subject save as hereinafter provided in the cast of Teaching and of Language Tests.*

T.6. The proficiency of candidates in teaching will be judged by means of two separate teaching tests, each of which shall be heard by two examiners appointed in accordance with the preceding paragraph: provided that it shall also be competent for a constituent college, if it deems fit, to nominate as second examiner in any such test or tests a local examiner who is not connected with the College.

T.7. Every candidate will be required to pass a test on the higher grade in the use of at least one of the official language media of the Union, and by passing a test, which may according to the decision of the examiners be marked as of higher or of lower grade, in the second, may obtain an endorsement certifying ability—together with the grade of the proficiency attained—in both.

Every such language test shall consist of three parts: (a) a written test, consisting of an essay of suitable type; (b) an oral test, including any necessary phonetics; and (c) a teaching test, which shall be one of the two teaching tests prescribed under the preceding paragraph: all of which shall be judged solely from the point of view of proficiency in the use of the medium.

Evidence of the candidate's proficiency shall be furnished as regards the written and the oral portions of the test by one or by two examiners appointed in accordance with Regulation 5, second paragraph. For the teaching portion of the test, a language mark to be assigned by the examiners appointed to hear the Teaching Tests shall be accepted.

T.8. Candidates are required to pass in each separate subject of the examination.

T.9. For the purpose of these regulaitons, the following are defined as principal subjects of examination: the Teaching Tests, the three papers in the Principles, the Psychology, and the History of Education, and the paper or papers in Special Method (or on principal teaching subjects).

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*In the case of Special-Method papers—Regulations T.16 (ii.), 18 (ii.), 20 (ii.)—the University appoints an external moderator of the question paper.

T.10. Failure in two or more of these five principal subjects at the final university examination will involve re-examination in all principal subjects, provided that a candidate may on the recommendation of the Dean be exempted from re-examination in the Teaching Tests.*

Candidates who fail in one only of the five principal subjects and/or in one only of the remaining or subsidiary subjects, or who, having passed in all of the principal subjects, have failed in not more than two subsidiary subjects, may be allowed a supplementary examination in such subject or subjects before the 30th of April of the following year, provided that where the failure is in Teaching Tests, the examination shall not be held earlier than the month of May (or later than 30th June). Entries for such supplementary examinations must be received by the University before the 15th of February.

T.11. A candidate who already holds a teaching certificate granted by a recognised institution or Education Authority may apply to be exempted from any or all of the subsidiary subjects included in his previous certificate, and, if he holds a certificate which is judged by the University to be the equivalent of the University Education Diploma in any of its forms, may apply for admission to status.

Candidates who, on the ground of a previous certificate, have been exempted from two or more of the principal subjects of examination must pass in all the remaining principal subjects at one and the same examination, provided that they may on the recommendation of the Dean be exempted from re-examination in the Teaching Tests.

T.12. The minimum percentage required for a pass in each separate subject of examination is 40 per cent., but, in the computation of this mark for the subjects of the first paragraph of Reg. 5 only, account will also be taken of the college record obtained by the candidate, the percentage of the total mark allowed for college record in each such subject being 25 per cent., a minimum mark of 35 per cent. being required in the university examination, and a minimum combined mark of 40 per cent. being required in university examination and college record taken together.

Candidates who have done exceptionally well in the final examination will be granted a diploma with distinction, regard being had for this purpose to the number of subjects in wihch the candidate has obtained a first-class mark (a first-class mark being defined as a mark of 66 per cent. or more) and to the number of these subjects which are principal subjects of examination.

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*Candidates who have obtained an average mark of 50 per cent. or over in the two Teaching Tests will, under this and the following paragraph, be automatically exempted from re-examination in Teaching Tests.

SPECIAL REGULATIONS.

I.

UNIVERSITY EDUCATION DIPLOMA (GENERAL).

T.13. The previous academic qualification required for admission to the course for the University Education Diploma (General)—hereinafter referred to as the General Course—is a Bachelor's degree in Arts or in Science*, which shall, unless by special permission of the Senate, include:—

I. (a) Three first-year courses in subjects selected from (i.) English (or Alternative English), (ii.) Hollands (or Alternative Hollands), (iii.) Any third language, (iv.) History, (v.) Mathematics, (vi.) Geography or Geology, (vii.) Physics or Chemistry, (viii.) Biology or Botany or Zoology.

(b) A fourth first-year course which may be taken in any of the subjects (irrespective of grouping) mentioned in the preceding list or in any of the following: Art History or Fine Arts, Music, Classical Culture, Special French, Special German, Applied Mathematics, Economics and Economic History, Economic Geography, Physical Education.

II. Second-year courses in any *two* of the four subjects selected under I. (a) and I. (b) above, provided that neither Economics II. nor Economic History II. may be counted as a second-year course for the purposes of this paragraph.

III. A third-year course in *one* of the two second-year subjects selected under II. above.

T.14. Students who have attended the full number of courses required for a degree under the regulations of the Faculty of Arts or of the Faculty of Science, but whose curriculum lacks one or more of the qualifying courses in school subjects prescribed by the above regulations, may complete the course of training in the professional subjects of the Diploma, but shall only be granted a provisional diploma until all the conditions, academic as well as professional, have been complied with.

T.15. The above regulations notwithstanding, any student in the Faculty of Arts or of Science who had already entered on a degree course prior to the year 1935 shall be entitled to proceed to the University Education Diploma (General) with the same academic qualifications as would have admitted him to the Higher Education Diploma formerly granted by the University.

(Reg. I. of the H.E.D. required the candidate to have included as major subjects in his previous degree two school subjects, it being also provided that, in place of one such major subject only, the Senate might allow the substitution of another teaching subject in which a minimum of two qualifying courses had been taken).

T.16. Every curriculum for the University Education Diploma (General) shall include courses in the following subjects:—

(i.) Principles of Education; Psychology of Education; History of Education.

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*For the purpose of these regulations, candidates holding Bachelor's degrees other than those specified above will be deemed to have satisfied the regulation on completion of the full number of qualifying courses in Arts or Science subjects prescribed under pars. I., II. and III. of the text (Maths. and Applied Maths. III. in B.Sc. (Eng.) to count in such cases as Maths. III.).

(ii.) Short "Special Method" courses in not less than four and not more than six of the following: (a) English; (b) Afrikaans; (c) a Bantu language or under special conditions, a third modern European language; (d) Arithmatic and Elementary Mathematics; (e) History; (f) Geography; (g) Nature Study; (h) Bible History—in place of two of which, however, a graduate* candidate may, by permission of a Constituent College, substitute a longer Teachers' Course of about thirty lecture periods in one of the two principal teaching subjects included in his degree; or in place of all of which a graduate* may, by permission, substitute not less than two and not more than three such longer courses in principal teaching subjects.

A principal teaching subject for the purpose of these regulations is a school subject (as defined by Reg. 13), which has been taken by a candidate as a major subject in his Bachelor's degree, provided that one of the two (or three) longer Method courses allowed under the preceding paragraph may, with the consent of the Constituent College concerned, be in a school subject in which a minimum of two qualifying courses has previously been taken.†

(iii.) Courses in at least two and in not more than three of the following practical subjects: Physical Education; Woodwork; Needlework; Craftwork; Singing: Instrumental Music; Drawing or Elements of Art; Elements of Domestic Science; Rural Arts; Librarianship; Shorthand or Type-writing‡; Bookkeeping: in place of two of which, however, a candidate may, by permission of a Constituent College, substitute a course on a higher grade in a single practical subject.

(iv.) Language work in one or in both of the official language media; Elocution; Blackboard Work; School Hygiene.

(v.) Teaching practice, to the extent of about 35 to 45 school days.

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*Candidates admitted to the non-graduate form of the Diploma under Reg. 24, who have obtained a pass mark in both major subjects or in one teaching major and in a second teaching subject in which at least two qualifying courses have been taken, shall be allowed the same privileges under this regulation as graduate candidates.

†Under this paragraph a candidate with Geology III. and at least one course in Geography may offer Geography as a principal teaching subject; candidates with the following combinations of courses may offer Biology as a principal teaching subject: Biology II. + Botanty I. + Zoology I.; Botany III. + Zoology II.; Zoology III. + Botany II.—*N.B.* No candidate offering Biology as a principal teaching subject may offer either Botany or Zoology as a further teaching subject.

‡Standard for a pass in Shorthand, 50 words per minute; in Typing, 20 words per minute (together with the necessary theory in each case).

II.

UNIVERSITY EDUCATION DIPLOMA (SPECIAL).

T.17. Every candidate for admission to the course for the University Education Diploma (Special) must hold a Batchelor's degree in Arts or in Science, and must, in addition, have successuflly completed by

university examination a prescribed course of a year's duration towards a Master's degree in a subject of the Arts or Science curriculum which is a recognised subject of instruction in secondary schools.

The following special qualifications—taken in a secondary-school subject—are recognised as admitting under this paragraph:—

(a) A Master's degree in Arts or in Science of the University.

(b) A certificate granted by the University that the candidate has successfully completed Part I. of such Master's degree, or, in the case of departments not providing a Part I., has successfully completed such portion of the Master's examination as is judged by the Senate to be the full equivalent of a Part I.

(c) Admission by the University to status under one of the above heads, provided that admission under (b) shall be for Diploma purposes only and shall be endorsed accordingly.

T.18. Every curriculum for the University Education Diploma (Special) shall include courses in the following subjects:—

(i.) Theory and Practice of Education; Psychology of Education; History of Education.

(ii.) Two special method courses of about 30 lectures each, one of which shall be in the subject of the candidate's Master's examination, the other in a secondary-school subject in which at least two courses have been included in his Bachelor's degree curriculum.

(iii.) Language work in one or in both of the official language media; Elocution; Blackboard Work; School Hygiene.

(iv.) Teaching practice, to the extent of about 35 to 45 school days.

III.

UNIVERSITY EDUCATION DIPLOMA (TECHNICAL).

T.19. The previous academic qualification required for admission to the course for the University Education Diploma (Technical) is a Bachelor's degree taken in Commerce, Engineering, Fine Arts, Hygiene, or Domestic Science, or any other such special or technical degree as may from time to time be approved for this purpose by the University.

T.20. Every curriculum for the University Education Diploma (Technical) shall include courses in the following subjects:—

(i.) Principles of Education; Psychology of Education; History of Education.

(ii.) (a), Special Method courses in the two principal teaching subjects offered by the candidate (which shall, unless by special permission of the Senate, be the major or principal subjects taken by him in his degree), except in the case of graduates in Commerce, from whom, in consideration of the special method course prescribed in sub-paragraph (v.) below, only one special method course under this paragraph will be required; or (b), an equivalent general course on the teaching of the Fine Arts or of Domestic Science or of Hygiene or of Commerce, as the case may be.

(iii.) Language work in one or in both of the official language media; Elocution; Blackboard Work.

(iv.) Teaching practice, to the extent of about 35 to 45 school days.

(v.) In addition, if a satisfactory test has not already been passed, a special course (or courses) in the following practical subjects:—

(a) For graduates in Commerce: subject matter and method of Commercial Arithmetic, and an advanced course in Shorthand and Typewriting.*

(b) For graduates in Engineering: First Aid.

(c) For graduates in Fine Arts: Craftwork.

(d) For graduates in Domestic Science: Bookkeeping or Horticulture or First Aid.

(e) For graduates in B.Sc. (Hygiene): First Aid.

IV.

UNIVERSITY EDUCATION DIPLOMA (NON-GRADUATE)

T.21. Registered students of the University who have completed a full two years' course of study towards a Bachelor's degree in Arts or in Science or in Commerce in such a manner that all the requirements of a degree may be fulfilled by one further year of study, may be admitted to a final year of professional training and, on its successful conclusion, to a diploma to be called the University Education Diploma (Non-graduate), under the following conditions:—

(i.) *In the case of Arts and Science:*

(a) That their previous curriculum for the degree contains at least two school subjects in each of which two qualifying courses have been taken, and in addition two further qualifying courses in subjects of the school curriculum.

(b) That these subjects have been selected in accordance with Reg. 13, I. and II., of the General Diploma.

(c) That throughout one of the preceding academic years they should have taken a preliminary course of teaching practice.

(ii.) *In the case of Commerce:*

Completion of the whole of the first and second year work as prescribed for the B.Com. degree, together with a preliminary year of teaching practice as in (i.) (c) above.

T.22. The above regulation nowithstanding, any student in the Faculty of Arts or of Science who had entered on a degree course prior to the year 1935, shall be entitled to be admitted to the final professional year of the University Education Diploma (Non-graduate) under the same conditions as would have admitted him to the third year of the Lower Education Diploma formerly granted by the University.

(Reg. 2 of the L.E.D. required eight qualifying courses in Arts or six in Science; inclusion of two school subjects taken for two years each; exclusion of Education; completion of each subject by university examination; selection of courses to allow completion of degree by one further year of study; preliminary teaching practice during second year.)

T.23. Candidates admitted under either of the preceding paragraphs will, in their final professional year, take the same course and examination as are prescribed in the Special Regulations of the General Diploma in the case of B.A. and B.Sc. candidates, or of the Technical Diploma in the case of B.Com. candidates.

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*Candidates for the U.E.D. (Technical) are required to attain a speed of 80 words per minutes in Shorthand and of 30 words per minute in Typewriting, together with the necessary theory in each case.

T.24. The following class of candidates shall also be eligible for the non-graduate form of the Diploma.

Registered students of the University who, having been admitted to the final examination for a Bachelor's degree, have failed to obtain the necessary academic qualification for admission to either the General or the Technical form of the Diploma, but who, in terms of Reg. 2 2nd par.) have been allowed to complete the course of professional training: such students, if Arts or Science students, must, unless specially exempted by Senate, have the full number of qualifying courses in school subjects required by pars. 21 (i.) (a) and 21 (i.) (b) of these regulations (or, for pre-1935 students by Reg. 2 (i.) A of the former Lower Education Diploma).

T.25. (a) Candidates who have completed a full two years' course of study towards a Bachelor's degree in Arts or in Science, but whose curriculum lacks one or more of the qualifying courses in school subjects prescribed by Reg. T.21 (i.) (a) and (b), may complete the course of training for the Diploma but shall only be granted a provisional diploma until all the conditions, academic as well as professional, have been complied with.

(b) Any holder of the University Education Diploma in its Non-graduate form may have it converted into the corresponding graduate form—General or Technical, as the case may be—by completion of the remaining academic requirements of such Diploma.

V.

SUPPLEMENTARY COURSES.

T.26. Any holder of the University Education Diploma in either its General or its Special form may, by the satisfactory completion of a further period of training (of the duration of approximately one-half or an academic year) in any portions of the General Course not included in his previous training, have his original certificate endorsed to that effect.

REGULATIONS AND SYLLABUSES FOR THE DEGREE OF MASTER OF EDUCATION.

The qualifications required for admission to the examination are a Bachelor's degree and the University Education Diploma or the status of that diploma, but lacking a Diploma, Certificated teachers with degrees and ten years' successful teaching experience, may be granted certain concessions (generally involving completion of the three theory papers of the U.E.D.) on application to the Registrar, University of South Africa.

The examination consists of a Part I, or paper, part taken after one year's full-time study (two years part-time), and of a thesis (Part II), which may not be handed in until six months after the completion of Part I.

Part I will consist of five written papers: Philosophy of Education; Psychology of Education (2 papers); History of S.A. Education; and a paper on selected periods in the History of Education or on Moral and Political Theory.

For further particulars, including Bibliography, see University of S.A. Calendar.

A proposal is at present under consideration to grant the degree of B.Ed. on the completion of Part I.

REGULATIONS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY.

This degree is a research degree awarded for an original contribution to the subject of Education. Candidates must possess the degree of Master of Education or the status of that degree, and must have held the Master's degree for four years before presentation of their dissertation for the doctorate.

EDUCATION.

Professor: J. G. W. Ferguson, M.A. (St. And. et Oxon.).
Associate Professor: A. H. Allsopp, B.A., M.Ed. (S.A.), Principal of the Natal Training College.
Senior Lecturer: W. H. O. Schmidt, B.A. (S.A.), Ph.D. (Leipzig).

Assistance in the supervision of training and in practical subjects is given by the staff of the Natal Training College, and on the academic side by members of the University College staff.

TRAINING OF TEACHERS.

General Information for Students.

1. Courses for the following teacher's certificates are provided by the Natal University College in co-operation with the Natal Training College.

(a) The Third Class Teacher's Certificate of the Natal Education Department— a two-year post-matriculation course for primary school teachers, including three qualifying courses towards a university degree. For further particulars application should be made to the Secretary, Natal Education Department, P.O. Box 395, Pietermaritzburg.

(b) The University Education Diploma (General) and the University Education Diploma (Non-graduate)—a course for the general purposes of the primary and middle school open to graduates in Arts or in Science, and under certain conditions to non-graduates. (See preceding regulations T.13. to T.16., and T.21. to T.25).

(c) The University Education Diploma (Special)—a course for specialist teachers in the subjects of the secondary-school curriculum, open to graduates in Arts or in Science who have in addition passed Part I. of the Master's examination in a secondary-school subject. (T.17 and T.18, above).

(d) The University Education Diploma (Technical)—a course for teachers in technical or commercial schools or school-departments, open to graduates in Commerce, Engineering, Fine Arts, Hygiene, or Domestic Science. (T.19 and T.20, above).—(Note: This course will only be arranged if tuition in the candidate's special subjects is available and if a sufficient number of candidates present themselves. Early application should, therefore, be made to the Registrar, Natal University College. In the case of B.Com. candidates, it is essential that they should have taken courses in Shorthand and Typewriting during their previous degree years.)

2. Loans may be granted by the Natal Provincial Administration to suitable applicants who express an intention of serving in the primary or secondary schools of the Province.*

3. Intending teachers taking an Arts or Science curriculum in preparation for a University Diploma should consult Regulation T.13 (or, in the cast of Non-graduates, T.21) above, which lays down the conditions which must be fulfilled by any curriculum admitting to the General Course. They are advised at the commencement of their degree course to submit their proposed curricula to the Professor of Education.

Intending teachers should also, during the degree years, bear in mind the desirablity of making themselves proficient in both official language media, and, if possible, in one or more of the practical subjects of Reg. T.16 (iii.) or, in the case of technical degrees, Reg. T.20 (v.). English-speaking candidates should, during at least one of their undergraduate years, attend the short course in Practical Afrikaans given by the Dutch department.

4. Candidates for the Non-graduate Diploma (who, before admission to the final professional year, must have completed at least two years of academic work towards a degree) should note that during their second degree year they are required to attend a preliminary course of teaching practice [Reg. T.21 (i.) (c) and (ii.)].

Candidates intending to proceed to the General Diploma after graduation are also advised to attend, during their second degree year, the preliminary teaching course provided for non-graduates. Preference is given by the Natal Education Department to candidates who have had the two years of training.

The teaching practice of the final professional year will in general commence in February with a period of observation and practice at convenient schools. For this purpose candidates should communicate with the Principal of the Training College as early as possible before the opening of the school year.

All students seeking appointment in the service of the Natal Education Department are expected to have to their credit at least four weeks of such continuous vacation practice.

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*In the case of candidates for the Natal T.3. Certificate, for example, the amount of the loan is sufficient to cover costs of tuition and examination and registration fees, both at the N.U.C. and the N.T.C., cost of essential books, and also of board and residence at a hostel (either the N.T.C. Hostel for women or the N.U.C. Hostel for men), or under approved conditions, at a private residence. These loans are repayable during a period of five years by equal monthly deductions from salary. Applications for such loans should be addressed to The Secretary, Natal Education Department, P.O. Box 395, Pietermaritzburg.

6. The courses for the University Education Diploma, both General and Special, are conducted in conjunction with the Natal Training College. In order that arrangements may be made for their admission to the Training College, candidates should, as a matter of courtesy, notify the Principal of the Training College as early as possible before the commencement of training—where possible, by the end of November in the preceding year.

7. Candidates who under Reg. T.3. have been permitted to enter for the University examination externally and desire to be attached to this College for examination in any of the practical tests for the Special Method papers, should communicate with the College Registrar before 31st August, enclosing the written permission of the University. As these examinations may be held at any time after Michaelmas, late applications cannot be received.

UNIVERSITY EDUCATION DIPLOMA.

Courses and Text Books.

I.—Principles of Education:

Problems of South African education. Education and society. The school and the child. General educational theory. Questions of organisation, curriculum, method, discipline.

Text-books:

Malherbe (ed.): *Educational Adaptations in a Changing Society* (Juta).*

Smith and Harrison: *Principles of Class Teaching* (Macmillan).

Jepson: *Clear Thinking.*

In addition, Special Diploma candidates will study a special text or texts to be prescribed during the course.

II.—Psychology of Education:

Psychology of learning. Intelligence testing. Developmental stages in children. Personality types. Characterology. Delinquency. Methods of investigation and testing.

Texts:

Isaacs, S.: *The Children we Teach* (University of London).

Garrett, H. E.: *Great Experiments in Psychology* (Appleton-Century).

Additional Reading: Knight: *Intelligence and Intelligence Testing;* Mace: *Psychology of Study.*

III.—History of Education:

Greek and Roman Education. Renaissance to Rousseau. Rousseau to present day.

Text:

Boyd: *History of Western Education.*

In addition, Special Diploma candidates will select certain portions of the syllabus for special study.

IV.—Special Method Courses:

Texts:

Board of Education's *Suggestions for Consideration of Teachers* (London), together with special texts on teaching of selected subjects, as follows:—

*By arrangement with the N.E.F., members of the Diploma class who give their names to the Professor of Education may obtain copies of this book at a reduced price.

'A': Short Courses in Primary School Subjects (Training College).—I.A.A.M. *Memoranda on Teaching of English; of History* (Cambridge Univ. Press); *of Geography* (Philip); Math. Assoc. Report (1932) *on Teaching of Arithmetic in Schools* (Bell); Durell: *The Teaching of Elementary Algebra* (Bell); Peacock: *Biology in the School* (Heinemann).

'B': Longer Courses in Secondary School Subjects (N.U.C. Staff).—See under the various Arts and Science departments.

'C': Courses in Special Subjects of Technical Diploma—as prescribed during course.

Note.—Special Diploma candidates will take option 'B' (two courses); Non-graduate candidates, option 'A' (five to six courses); General Diploma candidates will also take option 'A', but as many as possible will be allowed, if they wish, to substitute one longer course under 'B' for two of the short courses under 'A.'

V.—Other Courses:

Language Work: See Arts syllabuses under English and under Afrikaans en Nederlands.
Elocution: Rodney Bennett: *Practical Speech Training for Schools.*
Hygiene: Davies: *Hygiene and Health Education* (Longmans).
Blackboard Work and the prescribed Practical Subjects of Reg. T. 16 (iii.).

VI.—Teaching Practice:

In the final year: given on Friday forenoons throughout the session, together with a preceding period of continuous practice during February.

(A preliminary course of teaching practice is given on Wednesday forenoons during the second academic year.)

Special and Technical Diploma candidates will, in addition to practice in their special subjects, receive a certain amount of training in the ordinary subjects of the primary school.

Macmillan's *Teaching in Practice* may be consulted on the reference shelves of the Library.

COURSE FOR THE MASTER'S DEGREE (M.Ed.)

Candidates desiring to take the course as internal students of the College, should communicate with the Professor of Education as early as possible. Such students should ordinarily have obtained distinction in the examination for the U.E.D. For papers and syllabuses see under Regulations (above) and the University Calendar.

Faculty of Law.

Regulations.
Syllabuses.

FACULTY OF LAW

BACHELOR OF LAWS.

L.1. The following are the degrees in the Faculty of Law:—

Bachelor of Laws	LL.B.
Master of Laws	LL.M.
Doctor of Laws	LL.D.

Professor: F. B. Burchell, M.A., LL.B. (Cantab.), Barrister-at-Law.
Associate Professor: Adv. Maurice Sweeney, B.A., LL.B. (S.A.).
Lecturer: W. G. M. Seymour, B.A. LL.B. (S.A.).

REGULATIONS FOR THE DEGREE OF DEGREES IN THE FACULTY OF LAW.

L.2. Every candidate for the degree of Bachelor of Laws, as an internal student, must, save as in the next succeeding paragraph provided, attend a constituent college of the University for a period of at least three academic years after being admitted to the degree of Bachelor, or to the status of that degree, in some faculty other than Law.

L.3. The period of attendance in the last preceding paragraph mentioned shall not be required to extend beyond two academic years in the case of candidates who have for the Bachelor of Arts degree taken Roman Law I. and not less than three of the following subjects: Roman Dutch Law, Jurisprudence, Constitutional Law, Criminal Law, Public International Law, Native Law, provided that they:

(1.) have obtained an aggregate of at least 50 percent. of the maximum marks assigned in such subjects, and

(2.) complete a course in any subject prescribed for the LL.B., and not taken for the B.A. during the years of the LL.B. curriculum.

Not more than five B.A. Law courses will be recognised for this purpose. (A Major in Roman Law being reckoned as two courses.)

L.4. Any student who has for his B.A. degree obtained an aggregate of at least 50 per cent. of the maximum marks assigned in any one or more of the "law" subjects shall be entitled to exemption from the corresponding subject in the Preliminary or Intermediate LL.B. Examination.

The minimum required for a pass in the University examination shall be 50 per cent.

The minimum required for a pass with distinction at the Final LL.B. shall be as follows: viz., The candidate shall have obtained not less than 70 per cent. of the aggregate marks in the subjects of the Final examination, not less than 66 per cent. of the marks in Roman Dutch Law and in Procedure and Evidence in that examination, and, in addition, not less than 66 per cent. of the aggregate marks for all the subjects of the Intermediate examination.

RE-EXAMINATION IN SUBSIDIARY SUBJECT

L.5. (a) Any student who fails to satisfy the examiners in one only of the subjects ordinarily prescribed for a particular year's study shall be entitled to take such subject in his subsequent year, or years, of study.

This regulation does not apply to the major subjects of the Final LL.B.

(b) No candidate in or after 1949 may be permitted to take the Intermediate or Final LL.B. Examinations unless he shall have passed a qualifying course in this University—the subjects of English, Dutch and Latin—or passed some other examination in each of these subjects which, in the opinion of the Senate, is equivalent thereto.

(See Reg. 66 (2) of Regulations for Internal Students (University Calendar) for further information on the regulation after/before 1949.)

CURRICULUM AND SYLLABUS.

L.6. The examination is held in three parts, extending over a period of three years, save as provided for in paragraphs L.4 and L.5 above, and in accordance with the regulations of the University of South Africa as follows:

FIRST YEAR—PRELIMINARY LL.B.

Roman Law.

Course I.

Elements of Roman Law as set forth in the Institutes of Justinian [omitting Book III. 1-12 (Intestate Succession) and Book IV. 6-18 (Actions)] and an outline of the History of Roman Law.

One and a half papers will be set—the half paper dealing with translation tests from the Institutes.

Books recommended:

Sandar's *Institutes of Roman Law;* Lee's *Elements of Roman Law* or any other annotated edition of the *Institutes of Justinian.*

Sohm's *Institutes of Roman Law* (Ledlie's Translation) omitting the Introduction, Part I., Chapter 3; Part II., Book I., Chapter 2; Book II., ss 46-57, ss 65-67; and Book III., Chapter 2, ss 108-111; or Moyle's *Imperatoris Justiniani Institutiones* (omitting the portions dealing with Intestacy and Procedure).

South African Criminal Law.
(One Paper)

Students are recommended to read Gardiner and Lansdown: *South African Criminal Law and Procedure,* Fouth Edition: Vol. I., Book I., Chapters I. to V. inclusive. *N.B.*—Chapter II. previously omitted, but now included, is a brief résumè, covering eight pages, of the law relating to penal Statutes.)

Vol. II., Sections 1-6 (incl.) of Chapter XXVII., Sections 1-5 (incl.) of Chapter XXIX.; Section 1 or Chapter XXXII.; Sections 1 and 4 of Chapter XXXIII.; Chapter XLIV.; Sections 1-4 (incl.) of Chapter XLV.; Sections 1-3 (incl.) of Chapter XLVI.; Chapters XLVII., XLVIII., L., LI. and LIII.

Pittman: *Criminal Law* (2nd Edition).

Elements of Roman Dutch Law.

Books recommended:
Wille's *Principles of South African Law* (2nd Edition).
Lee's *Introduction to Roman-Dutch Law* (latest edition).
Wille and Millin's *Mercantile Law*, 12th Edition, Chapters I. to IX.
Students should refer to the authorities cited in the above text-books.

Constitutional Law.
(One Paper)

Students will be required to study the present constitution of the British Empire and the principles pervading it, with special reference to the Union of South Africa, and are recommended to read Dicey: *Law of the Constitution*, 8th Edition (including Notes II., III., VII., VIII., IX., X., XII., XIII.); the South Africa Act (9 Edw. VII., c.9) and amendments thereto; Keith: *Constitutional Law of the British Dominions*; Kennedy and Schlosberg: *Law and Custom of the South African Constitution*; Wade and Phillips: *Constitutional Law* (Longmans); Jennings: *The Law and the Constitution*.

Native Law.

(a) The Syllabus covers conceptions of Law and Custom and their inter-relation among the South African Bantu.
Relation of Law to Native political Institutions—Powers of Chiefs, Headmen, Kraal Heads; Councils and Pitsos. Powers of paramount or supreme Chiefs. Methods of changing law. The practice of Native Courts. Native Administration Act (No. 38 of 1927, as amended). Native Divorce Courts.
(b) Family law and custom.
(c) The law and custom of Proprietary rights.
(d) Succession.
(e) Contract and Delict.
(f) Procedure and Evidence.

Books recommended:
Seymour: *Native Law and Custom*.
Stafford: *Native Law as Practised in Natal*.
Whitfield: *South African Native Law*.
Reports of the Native Appeal Courts.
MacLean: *Compendium of Native Law and Custom*.

Public International Law.
(One Paper)

Students are recommended to read: Hall, *International Law* (latest edition); Oppenheim: *International Law, I. and II.*; Pitt Cobbett: *Leading Cases on International Law*.

SECOND YEAR—INTERMEDIATE LL.B.

Jurisprudence.
(One Paper)

Students will be required to acquaint themselves with the principles, notions, and distinctions that underlie legal rules, and are recommended to read Maine: *Ancient Law* (Pollock); Salmond: *Jurisprudence*; Allen: *Law in the Making*; Venogradoff: *Commonsense in Law*; Holland's *Elements of Jurisprudence*; Pound: *Outlines of Jurisprudence*.

History of Roman-Dutch Law.

(One Paper)

Students are recommended to read Wessels: *History of Roman-Dutch Law;* Lee: *Introduction to Roman-Dutch Law;* Wille's *Principles of South African Law;* A. Wypkema: *Die Invloed van Nederland en Nederlands-Indie op Ontstaan en Ontwikkeling van die Regswese in Suid-Afrika tot* 1881 (Swets en Zeitlinger, Amsterdam); and to consult the Appellate Division Reports.

Roman and Roman Dutch Law.—(Special Subject).

(One Paper)

A portion of Voet's Commentary will be prescribed from time to time, which students will be required to study, together with the corresponding portions of the Institutes and Digest.

Special Subject: Letting and Hiring. Candidates are required to study the following:—

Justinian: Institutes III. Title 24.
Digest XIX. Title 2.
Voet Lib. 19. Title 2.
Voet Lib. 20. Title 2, sections 1 to 7
Beinart and Ormonde: Voet 19. Title 2, Translation.
Wille & Millin :Mercantile Law of South Africa, Chapters III. and IV.
Wille: Landlord and Tenant (latest edition).
F. P. van den Heever: The Partiarian Agricultural Lease in South African Law.

Roman Law II.

The principles of Roman Law and Procedure with special reference to their application in the Supreme Court of South Africa.

Two and a half papers will be set—the half paper dealing with translation tests from Latin legal texts.

Books recommended:

Moyle: *Institutes of the Emperor Justinian.*
Buckland: *Manual of Roman Private Law.*
Schultz: *Principles of Roman Law.*
Lee's *Elements of Roman Law.*
Lee: *Introduction to Roman-Dutch Law.*
The whole of Sohm: *Institute of Roman Law,* except Introduction, Chapter I. and Part I., Chapter 3.
Buckland: *A Text-Book of Roman Law.*
Wille's *Principles of South African Law.*

English Law.—(Special Subject).

(One Paper)

A portion of English Law will be prescribed from time to time, which students will be expected to study, with special reference to its influence on Modern Roman-Dutch Law.

Special Subject for 1947: Negotiable Instruments. Students are recommended to read Chalmers: *Bills of Exchange;* or Jacobs: *The Law Relating to Bills of Exchange and Negotiable Securities;* Emmett: *Negotiable Instruments in South Africa.*

THIRD YEAR.

Roman-Dutch Law.

(Including the elementary principles of Private International Law).

Students are recommended to read Maasdorp: *Institutes of South African Law;* McKerron: *Law of Delicts in South Africa;* and Wille's *Principles of South African Law;* and to acquaint themselves with the leading decisions of the Superior Courts of South Africa.

Three papers will be set, one dealing with the law of delicts, and students are recommended to read Voet, IX, 2 (ad Legem Aquiliam), and XLVII., 10 (de Injuriis et Famosis Libellis), and the corresponding portions of the Digest and Institutes. Candidates are recommended to read, in addition to the above, Aquilian Damage by F. P. van den Heever, together with the supplement.

Law of Procedure and Evidence.

First Paper on Civil Procedure (Inferior and Superior Courts).

Second Paper on Criminal Procedure.

Third Paper on Evidence.

Students will be required to acquaint themselves with the leading principles of Evidence and Procedure as applied in the Superior and Inferior Courts of South Africa (civil and criminal), and are recommended to read Jones and Buckle: *Civil Practice of the Magistrate's Court;* Beck: *The Theory and Principles of Pleading in Civil Actions;* Nathan and Bowker: *Rules and Practice of the Supreme Court;* Phipson: *Manual of the Law of Evidence;* Cockle: *Cases and Statutes on Evidence;* Gardner and Lansdown: *South African Criminal Law and Procedure,* Vol. I. (Book II.), 3rd Edition; Scoble: *Law of Evidence in South Africa;* Havenga: *Practice and Procedure in the Appellate Division of South Africa.*

Union Statute Law.—(Special Subject).

(One Paper)

Students will be required to study a portion of the Statute Law of the Union prescribed from time to time.

Special Subject: The Law relating to Insolvency (Act No. 24 of 1936). Students are recommended to read the Commentary on the Insolvency Act of Mars, or Pyemont.

Essay.

The Final LL.B. examination shall include an Essay Paper on one or more subjects arising out of the curriculum.

LAW COURSES FOR B.A.

L.7. Students may take a major course in Roman Law, and also qualifying courses in Roman Law, Constitutional Law, Jurisprudence, Roman-Dutch Law, Public International Law, Native Law and Criminal Law; provided that no more than five courses in all may be taken in "law" subjects.

REGULATIONS FOR THE DEGREE OF MASTER AND DOCTOR OF LAWS.

Degree of Master of Laws.

Any Bachelor of Laws of the University of not less than three years' standing; or any person admitted to the status of Bachelor of Laws in the University, who has held such status for not less than three years, may offer himself as a candidate for the degree of Master of Laws.

Every such candidate shall be required to present, for the approval of Senate, a dissertation dealing with some branch of Law, or of the History or Philisophy of Law.

In the preface to such dissertation and in the notes ,the Candidate must state the sources from which his information is taken, the extent to which he has availed himself of the work of others, and the portions of the dissertation which he claims as original.

Six months' notice of intention to present a dissertation—such notice to be given not later han the 31st May in the year in which the dissertation is to be presented.

Candidates may be required to undergo an examination (written or oral) on the subject of the dissertation if the Senate shall so determine.

See Regulations for Internal students, Section 72, for further information.

Degree of Doctor of Laws.

Any Master of Laws of the University of not less than five years' standing; or any person admitted to the status of Master of Laws in the University and who has held such status for not less than five years; or any Master of Laws of not less than four years' standing who has devoted at least one year subsequent to his passing the LL.B. examination entirely to research work at an Institution approved by the Senate; may offer himself as a candidate for the degree of LL.B.

Every such candidate shall be required to present for the approval of the Senate a thesis dealing with some branch of Law, or of the History or Philosophy of Law.

The candidate shall be required to state generally in a preface to his thesis, and specifically in notes, the sources from which his information is taken, the extent to which he has availed himself of the work of others, and the portions of the thesis which he claims as original.

For further information see regulation 73 of the Regulations for Internal students.

Faculty of Commerce and Administration.

Regulations.
Syllabuses.

FACULTY OF COMMERCE AND ADMINISTRATION.

DEGREES IN THE FACULTY OF COMMERCE AND ADMINISTRATION.

C.1. The following degrees are granted in the Faculty of Commerce and Administration:—

Bachelor of Commerce	B.Com.
Bachelor of Economics	B.Econ.
Master of Commerce	M.Com.
Master of Economics	M.Econ.
Doctor of Philosophy	D.Phil.

REGULATIONS FOR THE DEGREES OF BACHELOR OF COMMERCE AND BACHELOR OF ECONOMICS.

C.2. Every candidate for the degree of Bachelor of Commerce, or Bachelor of Economics, as an internal student, must attend as a registered matriculated student at a constituent college of the University for at least three academic years.

C.3. Candidates for the degree of Bachelor of Commerce shall be required to take the following subjects:—

FIRST YEAR.

(1) Accounting.
(2) Economics and Economic History I.
(3) English or Alternative English, or Hollands or Alternative Hollands, or English-with-Afrikaans.
(4) Elementary Theory of Finance and Statistics or Mathematics.
(5) One of the following: Economic Geography, Physics, Chemistry, Botany, Zoology, Geology, Biology, History, Latin, French, German, English or Hollands (if not already taken under No. 3), Philosophy, Psychology, Political Science, Mathematics (if not taken under 4), Sociology I., an approved Bantu language or other subject approved by the Senate.

Mathematics must be taken by all candidates who take any or all of the following subjects in their degree course, viz.: Theory of Statistics, Theory of Finance, Actuarial Science, Statistics and Demography. It must be taken by candidates who propose to take the M.Com. degree in Commercial Mathematics.

SECOND YEAR.

(1) Commerse I.
(2) Accounting II.
(3) Economics II.

(4) Mercantile Law I.
(5) Economic Geography or Auditing I., or Theory of Statistics, or Economic History II. (S.A. Economic History). Economic Geography must be taken if not taken as (5) of First Year.

Auditing I., if not taken in the second year, may be taken in the Third Year.

THIRD YEAR.

(1) Commerce II.
(2) Economics III.

Two of the following subjects:—
(3) Mercantile Law II.
(4) Accounting III.
(5) Auditing II.
(6) Industrial Organisation and Management I.
(7) Theory of Finance.
(8) Actuarial Science.
(9) A special subject in Economics.
(10) Statistics and Demography.
(11) Practical Banking.
(12) Auditing I. (if not taken in the Second Year). A candidate cannot take Auditing I. and II. in the same year.
(13) Two half-courses from:
(*a*) Cost Accounting
(*b*) Income Tax Practice.
(*c*) Commercial and Industrial Statistics.
(*Note*: Theory of Statistics in the Second Year course is not a prerequisite for this subject.)
(*d*) Accounts of Executors, Liquidators and Trustees.

C.4. The degree of Bachelor of Economics may be taken in (i.) Industrial Administration, or (ii.) Public Administration.

C.4. (i.) Candidates for the degree of Bachelor of Economics (Industrial Administration) shall be required to take the following subjects:—

FIRST YEAR.

(1) Accounting I.
(2) Psychology.
(3) Economics and Economic History I.
(4) English or Hollands, or Alternative English or Alternative Hollands, or English-with-Afrikaans.
(5) One of the following subjects :Hollands or English, if not taken under (4), Sociology, Physics, Chemistry, Botany, Zoology, Geology, History, Latin, French, German, Geography or Economic Geography, Mathematics, Elementary Theory of Finance and Statistics, or any Bantu language approved of by the Senate, or other subjects approved by the Senate.

(Mathematics must be taken by all candidates who take Theory of Statistics in the Second Year Course.)

SECOND YEAR.

(1) Economics II.
(2) Industrial Law I.
(3) Industrial Psychology.

(4) Industrial Organisation and Management I.
(5) Accounting II., or Theory of Statistics, or Sociology I. (if not taken in first year), or Native Administration I., or Public Administration I., or Economic History II., or Philosophy.

THIRD YEAR.

(1) Economics III.
(2) Industrial Organisation and Management II.
(3) A subject of Applied Economics.
One of:
(a) Labour Problems.
(b) Industrial and Wage Legislation with special reference to South Africa.
(c) Rationalization in Industry with special reference to South Africa.
(4) *One of*:
Accounting III.
Practical Banking.

Two of the following half courses:
(a) Cost Accounting (if Accounting II. has been taken.).
(b) Industrial Relations.
(c) Commercial and Industrial Statistics (cannot be taken by candidates who have already taken Elementary Theory of Finance and Statistics).

C.4. (ii.) Candidates for the degree of Bachelor of Economics (Public Administration) shall be required to take the following subjects:

FIRST YEAR.

(1) Accounting I.
(2) Constitutional Law.
(3) Economics and Economic History I.
(4) English or Alternate English.
(5) Hollands or Alternative Hollands.

SECOND YEAR.

(1) Economics II.
(2) Politics I.
(3) *Either* Native Administration I. *or* Public Administration I.
(4) *Two* of:
Theory of Statistics: Accounting II.; Native Administration I. or Public Administration I. (whichever subject has not been taken under (3) above); Economic History II.; Physics; Chemistry; Botany; Zoology; Geology; History; Latin; French; German; Geography or Economic Geography; Mathematics or Elementary Theory of Finance and Statistics; Psychology; Philosophy; Sociology, or any Bantu language approved by the Senate, or other subjects approved by the Senate.

(Mathematics must be taken by all candidates who take any or all of the following subjects in their degree course: Theory of Statistics, Theory of Finance, Statistics and Demography.)

THIRD YEAR.

(1) Economics III.
(2) Politics II.
(3) *Either*, Public Administration II., *or* Native Administration II.
(4) One of:

(a) A special subject in Economics.
(b) Theory of Finance.
(c) Statistics and Demography.
(d) Public International Law.
(e) South-African Criminal Law.
(f) Social Anthropology.
(g) Public Administration II. or Native Administration II., whichever has not been selected under (3) above, provided a first course in the subject has already been taken.
(h) Economic Aspects of African Life.

Students desirous of qualifying for the University Lower Diploma in Bantu Studies concurrently with the B.Econ. degree in Public Administration should, under item (4) in the second year, select a Bantu language, and in the third year, under item (4), option (g).

C.5. There shall be a University examination at the end of each year in each of the subjects of the curriculum.

C.6. No candidate shall be allowed to proceed to a second or third course in a subject until he has completed the first or the second course respectively.

C.7. Candidates who, after the first year of study have not passed in the University Examination referred to in Regulation C.5. in at least three subjects, will be required to commence their curriculum again as from the beginning; an exception may be made to this regulation to the effect that candidates (a) who produce satsfactory evidence that they have been engaged in normal full-time employment for at least three-quarters of the academic year prior to sitting for the examination or (b) who are students in training as teachers at a recognised training college for a full year's course may be allowed to continue their curriculum after passing in two subjects.

C.8 Candidates cannot present themselves for examination for any course of the Second Year unless they also take uncompleted courses of the First Year.

Candidates taking Third Year courses must take any uncompleted courses of the First and Second years, except such as they are precluded from taking by Regulation C.6. above.

C.9. Candidates who have passed in four and failed in one (only) of the subjects of the First Year's course, will be allowed to take the failing subject, with the first courses of the Second Year, at one examination, subject, however, to the condition named in C.6.

C.9. (a) In circumstances not indicated in Regulation C.9., the maximum number of courses that may be offered for the B.Com. or B.Econ. degree in any one calendar year is five.

C.10. Graduates in other faculties may be exempted from the courses in any of the subjects for the B.Com. or B.Econ. degree, which they have taken for the degrees held by them, provided that they shall not be exempted from more than half of the total number of courses prescribed for the Commerce or Economics degree. For further particulars see University Calendar.

C.11. Graduates in Arts who have taken both Economics and Politics as majors shall not be admitted to the degree of B.Econ. (Public Administration).

C.13. For purposes of these regulations, a candidate who has failed in any course of a subject shall not be required to attend the classes in such course again, and on re-examination he shall be given the option of being credited with the college record he has already obtained or taking

the examination without a college record, in which case, in order to secure a pass, he must obtain the minimum percentage required for the university examination and college record combined, provided that such candidate is always at liberty to qualify for an improved college record by attending the classes a second time and performing the work on which the record is based.

C.14. The names of successful candidates in any of the following subjects of the Third Year shall be grouped into two classes:

For B.Com.: Commerce, Economics, Industrial Organisation and Management, Accounting, Auditing II., Mercantile Law, Practical Banking.

For B.Econ.: Economics, Politics, Public Administration, Native Administration, Industrial Organisation and Management.

These are *principal* subjects. The Faculty does not recognise *major* subjects.

C.15. The minimum required (*a*) for a pass, with distinction, (*b*) for a pass, in the subjects mentioned in paragraph C14., and (*c*) the percentage of marks assigned to the college record, are shown in the following table:—

Subjects.	Percentage allowed for College Record.	Minimum for a Pass in		
		(a) University Examination		(b) University Examination and College Record combined.
		Pass with Distinction.	Ordinary Pass.	
		%	%	%
Accounting, Auditing Commerce, Ind. Organisation, Practical Banking	—	75	50	—
Mercantile Law, Economics*	25	75	45	50
Politics, Public Administration, Native Administration	25	66	35	40
Cost Accounting, Income Tax, and Accounts of Executors, Liquidators and Trustees	—	66	35	40
Mathematics, Elementary Theory of Finance and Statistics, Theory of Finance, Actuarial Science, Statistics and Demography ..	33⅓	50		—
Physics, Chemistry, Botany, Zoology, Geology, Geography	as for B.Sc.	30		35
All other subjects	25	35		40

*In and after 1946 a sub-minimum of 33⅓ per cent. (16⅔ marks) will be required in each section of Economics and Economic History I.

REGULATIONS FOR THE DEGREE OF MASTER OF COMMERCE AND MASTER OF ECONOMICS.

C.16. Every candidate for the degree of Master of Commerce or Master of Economics as an internal student must (1) attend approved courses at a constituent college for a period of at least one year after being admitted to the degree or status of Bachelor of Commerce or of Economics, as the case may be, and (2) before admission to such courses satisfy the Senate that he possesses sufficient knowledge of the subject to do his Master's degree work.

C.17. A candidate who has obtained the degree of Bachelor of Commerce may not be given the status of the degree of Bachelor of Economics.

A candidate who has obtained the degree of Bachelor of Economics may not be given the status of the degree of Bachelor of Commerce.

C.18. The following are the departments in which the degree of Master of Commerce may be conferred::—

Economics.
Commercial Mathematics. (Prerequisite: Mathematics A.)
Commerce. (Prerequisite: Industrial Organisation and Management I.)
Accounting. (Prerequisites: Accounting III. and Auditing II.)

C.19. The following are the departments in which the degree of Master of Economics may be conferred:—

Economics.
Politics.
Public Administration.
Native Administration. (Prerequisites: The B.Econ. (Pub. Admin.) degree, including Native Administration I. and II.; a course in a Bantu language; and a course in Social Anthropology. Examinations in these subjects may, however, be written concurrently with the examination for the Master's degree, if they were not taken as part of the Bachelor's degree.)

C.20. The M.Com. and M.Econ. Examinations shall consist of two parts, namely:—

Part I. An examination by means of examination papers, with, in addition, such oral test or translation test as may be prescribed in an individual Department, all to be held normally in the period November-December each year; *and*

Part II. A dissertation certified to be the student's own work indicating an acquaintance with the methods of research and embodying the results of research and connected with the subject offered for examination, to be submitted not earlier than the 31st May in the year following the commencement of the course, and not later than five years after such commencement, except by special permission of Senate. The dissertation may be presented, if desired, before the written examination, with the previously obtained consent of Senate. The title shall be submitted for approval to the Head of the Department concerned at least six months before the dissertation is presented.

C.21. The written examinations in Commercial Mathematics, Politics, Public Administration and Native Administration are held in June-July; in the other Departments, in November-December.

C.22. Students holding the M.A. degree shall be debarred from taking the M.Com. or M.Econ. degree in the same department in which they have taken the M.A. degree.

C.23. The Standards required shall be:—

In Accounting and Auditing, and Commerce: for distinction 75 percent.; for a pass 50 per cent., with a sub-minimum of 40 per cent. in each paper.

In Economics: As for M.A.

NOTE: If a sufficient number of candidates present themselves, lectures in Advanced Economic Theory, in Economic History, in Advanced Theory of Commerce and in Advanced Theory and Practice of Accounting and Auditing, will be arranged for the M.Com. degrees in Commerce, Economics and Accounting. Students will also be advised in the methods of research work, and in the preparation of their dissertations. Application should be made to the Professors of Accounting and Auditing, Commerce, or Economics, according to subject.

REGULATIONS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY.

C.23. (1) (a) Any Master of Commerce or Master of Economics of not less than four years' standing; or

(b) any person admitted to the status of the degree of M.Com. or M.Econ. in the University who has held the qualification by virtue of which such admission has been granted for a period of not less than four years; or

(c) any M.Com. or M.Econ. of not less than three years' standing, of which one year subsequent to his admission to the degree of Bachelor has been devoted entirely to research at an institution approved by the Senate;

will be allowed to offer himself as a candidate for the degree of Doctor of Philosophy in the Faculty of Commerce and Administration.

(2) No Bachelor of Commerce or of Economics, either by examination or admission, shall be admitted to the examination for the Doctorate without passing the Master's Examination, except under special exemption from the Senate.

(3) Every candidate for the degree of Doctor of Philosophy shall be required to present for the approval of the Senate a thesis dealing with some subject connected with Commerce, Economics, Politics, or Sociology.

Sections (4) to (10) of the Regulations for the Degree of Doctor of Philosophy in the Faculty of Commerce and Administration are the same as the corresponding sections of the Regulations for the Doctorate in the Faculty of Arts. In addition, the regulations for candidates desiring to work under a promoter are the same in both faculties.

SYLLABUSES.

ACCOUNTING AND AUDITING.

Professor: K. F. Byrd, M.A. B.Sc. (Econ.), (Lond.), A.C.A., C.A., (S.A.).
Senior Lecturer: B. B. Parkinson, M.Sc. (Econ.), B.Com. (Lond.), A.C.A.
Part-time Lecturers: H. J. L. Brown, B.Com., C.A. (S.A.).
W. J. Fairbairn, C.A. (S.A.).
N. S. Tod, A.S.A.A., C.A. (S.A.).
R. Walker, B.Com. (S.A.), C.A. (S.A.).

ACCOUNTING.

Course I.

1. General survey and meaning of bookkeeping by double entry. 2. The working of a series of transactions involving knowledge and use of the ledger, cash book, sales and purchase books, returns and allowances books, bill books, journal and petty cash book. 3. Trial balance and the preparation of trading and profit and loss accounts and balance sheets. 4. Salient points and utility of cheques, bills of exchange and promissory notes, and their treatment in the books of account. 5. Year-end adjustments, including payments in advance, outstanding liabilities, depreciation, reserves for bad debts. 6. Simple departmental accounts, introducing the principle of columnar books of prime entry and the different bases of allocating indirect or administration chages. 7. Elementary partnership accounts, including interest on partner's capital. 8. Simple consignments, joint ventures and accounts current. 9. Introduction to company accounts, including a knowledge of the usual terms employed. Types of share capital. Treatment of simple share issues. Debentures and their issue. The preparation of simple company accounts, illustrating the method of distributing profits in the form of dividends.

Course II.

1. Revision of the work of the first year. 2. Company accounts. Thorough knowledge of joint-stock company accounts, including: (a) distinction between partnership and a limited liability company, (b) memorandum and articles of association, (c) statutory books, (d) various classes of share capital, (e) application and allotment of shares and calls, (f) forfeiture of shares, (g) mortgages and debentures, (h) preliminary and formation expenses, (i) purchase of private business by company, (j) bonus shares, (k) contingent liabilities, (l) Pre- and post-incorporation profits, (m) Redemption of Redeemable Preference Shares. 3. Single entry; (a) ascertainment of profits and losses, (b) conversion from single to double entry. 4. Depreciations, reserves and sinking funds. 5. Accounts current, introducing different methods of calculating interest. 6. Joint-venture accounts. 7. Partnership accounts, more advanced treatment, including: partnership deeds, admission of new partners, repayment of outgoing partner's capital, dissolutions, goodwill, realisation accounts, closing partnership books and distribution of purchase price upon conversion of private firm into limited company. 8. Control accounts and sectional balancing. 9. Average due date. 10. Departmental accounts. 11. Branch accounts (excluding foreign branches). 12. Revenue and expenditure,

and receipts-and-payments accounts. 13. Preparation of simple Income Tax statements. 14. Voyage accounts. 15. Royalties. 16. Final accounts of traders, manufacturers, etc.

Course III.

1. Advanced work on the subjects of the second year syllabus. 2. Investment and Trustees' Accounts. 3. Foreign-branch accounts. 4. Simple cost accounts. 5. Double-account system. 6. Hire-purchase accounts. 7. Companies: amalgamation, absorption and reconstruction; control by, and published accounts of Holding Companies, with particular reference to consolidated balance sheets. 8. Specialised accounts generally, e.g., Insurance, underwriter's accounts, mining accounts, bank accounts and building society accounts. 9. Simple questions on estates of deceased persons and insolvent estates. 10. More advanced treatment of Income Tax.

Note: Third-year students are not limited to the items shown above, but must show intimate knowledge of all the different forms of accounting. They must be acquainted with modern developments, with criticism of published accounts appearing in financial journals, e.g., Accounts of Holding Companies.

Text Books:

Course I.
Essential: Hartshorn: *Systematic Bookkeeping for South African Students.*
Recommended: Rowland & Magee: *Accounting, Part I.*
Course II.
Essential: Carter: *Advanced Accounts* (Pitman) (S.A. Edition).
Recommended. Hutchinson & Tunstall: *Practical Bookkeeping and Accounts* (Juta).
Course III.
Essential: Carter: *Advanced Accounts* (Pitman) (S.A. Edition).
W. Pickles: *Accountancy* (Pitman).
Barnes: *Income Tax Handbook* (latest edition) and later *Income Tax Acts.*
Recommended: Spicer & Pegler: *Bookkeeping and Accounts.*
Simon or Garnsey: *Holding Companies.*
Cutforth: *Amalgamations.*
Almond: *Modern Accountancy.*
Goldberg: *A Guide to the Preparation of Accounts of Trustees and Liquidators* (Juta).
Kriel: *Executors' Accounts* (Juta).
Professional Accountancy Journals.

COSTING AND ACCOUNTS.

(Half Course).

Definition. Objects and advantages. Various types of costing. Main points in planning a cost system. Elements of cost. Accounting for material in every stage of manufacture. Stores and stock records. Accounting for labour, direct and indirect. Methods of ascertaining and distributing oncost—factory and office expenses, selling and distributive expenses. Calculation of Work-in-progress. Treatment of spoilage, scrap, defectives and by-products. Treatment of finance expenses—interest on capital, etc. Operating statements and Cost sheets. Double-entry system of Cost Accounting. Reconciliation of Cost and Financial books. Process Costs. Elements of Standard-Cost Accounting and treatment in the books.

Text-books:
Essential: Bigg: *Cost Accounts* (Macdonald & Evans).
Recommended: Glover & Williams: *Elements of Costing* (Gregg).
Wheldon: *Cost Accounting and Costing Method* (Macdonald & Evans).

INCOME TAX PRACTICE.

(Half Course).

The law and practice relating to Union Income Tax. The preparation of statements and calculations of assessments relating thereto.
Text-books:
Essential: Barnes: *Income Tax Handbook* (latest edition) and subsequent *Income Tax Acts.*
Blann: *Guide to Excess Profits Duty and Trade Profits Special Levy* (latest edition).
Recommended: Osborne & Cornish: *Excess Profits Duty* (latest edition).

ACCOUNTS OF EXECUTORS, LIQUIDATORS AND TRUSTEES.

(Half Course).

Preparation of Liquidation and Distribution Accounts in deceased estates, treatment of usufructs, fidei-commissary bequests and accounts in general in testate or intestate estates. Preparation of Statement of Affairs. Liquidation and Distribution or Contribution Accounts in Surrendered or Sequestrated Estates and Company Liquidations. Accounts resulting from a Deed of Compromise. The writing up of trust books and accounts.
Text-books:
Essential: Goldberg: *A Guide to the Preparation of Accounts of Trustees and Liquidators* (Juta).
Kriel: *Executors' Accounts* (Juta).
Useful: Carter: *Advanced Accounts* (S.A. Edition).

AUDITING.

Course I.

Duties and responsibilities of auditor. General procedure and requisites in the audit of sole traders, partnerships, limited companies, etc., e.g., consideration of internal check, vouching, posting, verification of assets, certification of Balance Sheet.
Text-books:
Essential: Spicer & Pegler: *Practical Auditing* (H.F.L. Publishers).
Taylor & Perry: *Principles of Auditing, including 100 Questions and Answers* (Macdonald and Evans).
Recommended: De Paula: *Principles of Auditing* (Tenth Edition) (Pitman).
Lancaster: *Auditing* (Gregg).
Harle: *Tutorial Auditing.*

Course II.

The subjects included in Course I. more fully treated. Criticism of balance sheets and methods of presentation to shareholders, e.g., consolidated balance sheets of Holding and Subsidiary companies. Investigations. Advice with regard to Reconstruction schemes, Mergers,

etc. Valuation of shares. Valuation of Goodwill by modern methods, e.g., consideration of super profits. Reports. Legal decisions affecting auditors. Special points in various audits.

N.B.—While in his third year the student is expected to revise thoroughly and be fully acquainted with all the work of the second year, he is also expected to widen his general knowledge and develop his critical faculties. To this end he must have considerable practice in working out schemes of merger, share valuations, etc., which will demand ability in criticism and deductive skill. He is strongly recommended to read the informative articles published in the recognised professional magazines— "The Accountant," "Accountancy" (the organ of the Society of Incorporated Accountants and Auditors), and "The South African Accountant and Secretary"—and to read generally and widely, so as to keep pace with changing conditions.

Text-books:

Essential: Spicer & Pegler: *Practical Auditing.*
Taylor & Perry: *Principles of Auditing, including* 100 *Questions and Answers.*
De Paula: *Principles of Auditing.*
P. D. Leake: *Commercial Goodwill.*
Published by Gee: *Among the Balance Sheets.*

Recommended: Simon or Garnsey: *Holding Companies.*
Cutforth: *Amalgamations.*
Rosenheim & Merriman: *Unit Trusts and How They Work.*
P. D. Leake: *Balance Sheet Values.*

M.Com. (ACCOUNTING) COURSE.

The written examination comprises:

(a) Advanced Theory and Practice of Accounting (two papers).
(b) Advanced Theory and Practice of Auditing (one paper).
(c) Advanced Theory and Practice of Costing and Cost Accounts (one paper).
(d) One subject chosen from a given list or any other subject approved by the Committee of Studies.
(e) A translation test *either* (i.) from the second official language (i.e., the language *not* selected by the student as a medium of examination) *or* (ii) from French or German.

NOTE.—Passes in Accounting III. and Auditing II. are pre-requisites for the M.Com. (Accounting) degree.

COMMERCE.

Professor: T. H. KELLY, M.Com., Ph.D. (Birmingham).
Lecturer: To be appointed.

COMMERCE.

COURSE I.

The Organisation of Commerce: trade, transport, banking and finance, insurance, management.

The Organisation of Ownership: sole proprietorship, partnership, joint-stock companies, co-operative societies, public utilities.

Aids to Commerce and Industry: chambers of commerce, trade commissioners and commercial attachés, government departments, exhibitions, etc. The aid afforded by the State in protecting, regulating or controlling and developing commerce and industry.

Company Secretarial Practice (general principles).

A survey of the resources, production and trade of the principal industries of South Africa.

Records, reports and statistics in Commerce and Industry: their objects, uses and significance. Types of records, etc., having reference to (a) a single business enterprise, (b) a specific trade or branch of industry, (c) Commerce and Industry generally.

Marketing (with particular reference to the Home or domestic trade):

(a) Raw Materials and Foodstuffs: analysis of the market and of market commodities. The organisation of trade; the work of the middleman, merchants, agents, etc. Organised exchanges. Grading, warehousing, etc. A study of market prices, financing and distribution.

(b) Manufactured Products: the factors mentioned in (a) (regarding raw materials and foodstuffs), with further consideration of the assembling or collecting and distributing of the products of extractive industry. Business policies. The maintenance and extension of the market. Sales organisation and policy, including advertising. Costs and prices. Risks incidental to marketing.

No books are prescribed, but the following books will be found to be of material assistance:

J. R. Hicks: *The Social Framework.*
Alfred Marshall: *Industry and Trade* (Books II. and III.).
L. C. Marshall: *Business Administration.*
B. Ellinger: *The City.*
F. E. and C.P. Clark: *Prinicples of Marketing.*
E. A. G .Robinson: *Monopoly.*
S. E. Thomas: *Commerce, Its Theory and Practice.*
Van Biljon: *State Interference in South Africa.*
J. H. Cloete: *Johannesburg Stock Exchange Practice.*
W. A. Robson: *Public Enterprise.*
A. M. Carr-Saunders, P. Sargent-Florence, and R. Peers: *The Consumers' Co-operative Movement in Great Britain.*
A. P. van der Post: *Economics of Agriculture.*
Stephenson: *Principles of Business Economics.*
The Union Year Book.
Reports of *S.A. Shipping Board, National Marketing Council, Board of Trade and Industries, Social and Economic Planning Council, Industrial and Agricultural Requirements Commission.*
South African Journal of Economics.

Course II.

Foreign or Overseas Trade.

Marketing:

(a) The essential factors to be considered in locating a market or determining the place to which export is to be made: Geographical position, involving transport costs, etc.; habits, manners, customs and language of the population. Nature of government and of its laws; the state of its currency and finance: its general trade features and nature of competition.

(b) The machinery involved in exporting: export commission house, export merchant, manufacturer's export agent, freight, forwarder, direct sale by large-scale organisations, organisations of export department, co-operation in export trade, selling by salesmen and by agents, agency contracts, advertising, catalogues, credit, correspondence.
(c) Financial considerations involved in marketing and in market development: the influence of banking, international banking, investments in countries overseas.
(d) Transportation: the development and organisation of shipping conferences, rates and rebates, etc.
(e) Insurance, especially marine.
(f) Trade treaties, conventions, etc.: "Most favoured nation," etc., clauses. Tariffs and commercial policies.

Consideration of the channels of marketing of primary products and manufactured articles.

The entire process of marketing at least two important staple commodities: (e.g., wool, cotton, wheat, tobacco, rubber, iron and steel, gold, wattle bark), involving a study of producing areas, primary markets, financing of crops, general financing, shipping, warehousing, grading and preparation for the market, exchanges, auctions, distribution to the consumer. The functions of the merchant, broker and commission agent.

Business methods and procedure in foreign trade. Port problems.

International trade statistics.

Future of South African export trade.

Market Research and Marketing Policies.

No books can be prescribed, but the following books will be found to be of material assistance.

Griffin: *Principles of Foreign Trade.*
F. E. Clark and C. Clark: *Principles of Marketing.*
Braithwaite and Dobbs: *The Distribution of Consumable Goods.*
Hoffman: *Future Trading in the United States.*
J. G. Smith: *Organised Produce Markets.*
Keate: *Guide to Marine Insurance.*
Hardy: *Risks and Risk Bearing.*
Haberler: *Theory of International Trade* (Part II.).
Elsworth: *International Economics.*
Hodgson: *Introduction to International Trade and Tariffs.*
Heuser: *Control of International Trade.*
Gordon: *Barriers to World Trade.*
Backman: *Government Price Fixing.*
Robbins: *Economic Planning and International Order.*
De Haas: *Foreign Trade Organisation.*
Hough: *Practical Exporting.*
The Union Year Book.
Annual Statement of Trade and Shipping for Union and S.-W. Africa.
Official reports as for Commerce I.

INDUSTRIAL ORGANISING AND MANAGEMENT.

Course I.

(i.) Commercial and Industrial Management.

The distinction between administration and management. The principles underlying authority and control: the manager and his functions. The distribution of responsibility and risk. Staff organisation generally.

Analysis of organisation in various forms of enterprise, e.g., an engineering works, a commercial house, a public institution.

Manufacturing organisation and management: factory location and layout. Types of management; development of so-called scientific management. The labour force; systems of remuneration, working conditions, time study, fatigue, monotony and rest. Comparison of the efficiency, etc., of men, women and young persons. Some features of State regulation in industry, especially affecting labour. Records of raw materials, stores, stocks, etc. Records of machinery and equipment. Certain features in manufacturing industry, e.g., the standardisation of products, mass production, the promotion of industrial harmony, welfare work, etc.

(ii.) Business Finance.

(a) General principles of financing. (b) Financing on the formation of an undertaking. (c) Finance (its organisation and management) of an established business.

Capital moneys (a) owned, (b) borrowed. The raising of capital moneys in varied forms, shares, debentures, loans, etc.; consideration of advantageous or other conditions, e.g., the general rate of interest, good or bad periods of trade, etc.

Estimating capital requirements, (a) to be expended on fixed assets, (b) liquid or working capital. The ratio between (a) and (b) and the danger of "overtrading." Various considerations, preliminary expenses, current expenses including standing charges and maintenance of fixed assets, the cost of credit and credit expansion, possible turnover.

The work of the Finance Manager: the supervision of costs and expenses, variation in the unit cost of production. The observance of bank current-account balances or overdrafts. The investment of surplus funds, reserves, etc. The rapidity of circulation of liquid assets. The supervision of credit. Study of market rates of interest: Methods of financing to meet seasonal or other heavy forms of buying. The financing of imports specially considered.

Financing various types of industries and commercial enterprises; extractive industries (agriculture, etc.), constructive and manufacturing industries (engineering works, textile factories, a building contractor's business), commercial undertakings, e.g., merchanting houses, shipping lines, etc.

No books are prescribed, but the following books will be found to be of material assistance:—

E. D. Jones: *The Administration of Industrial Enterprises.*
Bishop: *The Financing of Business Enterprises.*
Lee: *Industrial Administration.*
Lee: *Management.*
Sheldon: *The Philosophy of Management.*
Shields: *The Evolution of Industrial Organisation.*
Lansburgh: *Industrial Management.*
Dutton: *Factory Management.*
Bolling: *Commercial Management.*
Hiscox and Price: *Factory Administration in Practice.*
Folts: *Introduction to Industrial Management.*
Smith: *Introduction to Industrial Psychology.*
Anderson, Mandeville and Anderson: *Industrial Management.*
National Industrial Conference Board: *Systems of Wage Payment.*
Buchanan: *The Economics of Corporate Enterprise.*
Lee: *Industrial Welfare.*

Brooks: *The Theory and Practice of Finance.*
Lough: *Business Finance.*
Taylor: *Financial Policies of Business Enterprise.*

Course II.

Advanced work on selected portions of Course I. Industrial mergers and the limits of large capitalistic enterprise.
Reconstruction. Rationalisation.
Industrial leadership.
Budgets and budgetary control.
Business forecasting.
Industrial welfare.
Legislation affecting managerial matters.
Modern developments in the organisation of marketing and transportation.

Each candidate for examination must undertake a piece of field work, in the form of an essay to be submitted to the Registrar of the constituent college he has attended during the course (in the case of an external student, to be sent to the University Registrar), not later than the 30th September in the year in which he is to take the examination. He must report on the investigations he has made into the organisation and management of some extensive industrial, commercial or public undertaking, indicating the scope and objects of the undertaking, its principal managerial features, etc.

Among the matters which may be investigated (in the case of an industrial undertaking) are: Present conditions relating to location and lay-out, plant and machinery, manufacturing processes (reference being made to by-products and waste, to research and to standardisation), finance (forms of capital moneys and availability of capital moneys for extension and development, the position with regard to credit given and received, accounting and cost records and results), purchasing and stores organisation, marketing including packing and other preparation therefor, transport methods and facilities, records, reports and statistics generally, external aids to the undertaking, policy generally, the general and special features of the system of management. As a guide to candidates it may be stated that a report based on such an investigation calls for approximately 10 to 15 pages of typewritten matter. The field work is regarded for all purposes as an additional paper.

No books are prescribed, but the following will be found to be of material assistance:—

The books on Management and Finance mentioned at the foot of the syllabus for Course I.
The Union Year Books (from the first issue).
The Statutes of The Union of South Africa.
Government Reports, e.g., Reports of Industrial and Agricultural Requirement Comission, Reports of Board of Trade and Industries.
Garnsey: *Holding Companies and their accounts.*
(A knowledge of Accounting is of material advantage in this course.)
Bowie: *Rationalization.*
Memo. on Rationalization in the U.S.A. (League of Nations).
Lewisohn: *The New Leadership in Industry.*
Bowie: *Education for Busines Men.*
Bloomfield: *The Modern Executive.*
Snow: *Psychology in Business Relations.*

Wissler: *Business Administration.*
Bye and Hewett: *Applied Economics.*
White: *Forecasting, Planning and Budgeting in Business Management.*
Garden: *Flexible Budgeting and Control.*
Bruere and Lazarus: *Applied Budgeting.*
Gerstenberg: *Financial Organisation and Management of Business.*
Hickernell: *Financial and Business Forecasting.*
Wallace: *Business Forecasting and its Practical Application.*
Jordan: *Practical Business Forecasting.*
Richardson: *Practical Business Forecasting.*
Yoder: *Personnel Management and Industrial Relations.*
International Labour Office: *British Joint Production Machinery* (1944).

M.Com. (Commerce) Course.

The examination comprises:

Part I.

(a) Advanced Theory of Commerce—two papers.
(b) Advanced Theory of Economics—one paper.
(c) One subject chosen from a given list or any other subject approved by the Committee of Studies.

Detailed Syllabuses are given in the Calendar of the University of South Africa.

Part II.

A dissertation showing evidence of original research on the part of the candidate, the subject of which must be approved by the Senate at least six months before the dissertation is presented: Candidates must submit an outline indicating the scope of the subject.

DUTCH.

(AFRIKAANS EN NEDERLANDS).

Professor G. S. Nienaber, M.A., M.Ed. (S.A.), Litt. Dr. (Gent).
Senior Lektor: Vakant.
Lektor: P. du P. Grobler, M.A. (S.A.).

Die leerplanne is dieselfde as in Kursus I. in die Fakulteit van die Lettere.

DEPARTMENT OF ECONOMICS.

Professor: H. R. Burrows, M.C., E.D., M.Com. (Leeds).
Senior Lecturer: R. J. Randall, B.Com., A.S.A.A., C.A. (S.A.), Assoc. Inst. T.
Lecturer: N. Hurwitz, B.Com.
Research Fellow: R. H. Smith, M.Com.
"Dunlop" African Research Fellow: S. Ngcobo, M.A. (Yale), B.A., B.Econ.
Research Assistants: G. E. Stent, B.A.
V. Sirkari Naidoo, B.A., B.Com.
B. Nomvete, B.A. (Soc. Sc.), "Creteweld" Research Scholar.

The Department offers the following courses, for B.Com. and B.Econ. degrees:—

Economics. Part of the First Year Course in Economics and Economic History I.
Economics II. (Value, Distribution and Monetary Theory).
Economics III. (International Trade, Foreign Exchanges, History of Economic Thought, Public Finance, Social and Industrial Economics).

Other Courses.

1 M.Com and M.Econ. Courses are also available for full-time and part-time students. The Bibliography is given in the Calendar of the University of South Africa.

2 Practical Banking, Part I.

3 One-year Special Course for non-degree students providing they undertake to read the prescribed books and do written work.

4 Agricultural Economics.

Economics.

1. *Fundamental concepts*: Its relation to other social sciences. Methods of economic investigation. Wants, utility, economic and free goods, wealth (individual and social), welfare, production, consumption, saving, capital, income.

2. *Value and Prices*: Elementary treatment of the theory of value.

3. *Production*: The Factors of Production, land and natural forces. Labour. Factors influencing efficiency and productivity. Division and specialisation of labour. Mobility of labour. Capital—consumers' and producers' capital. Fixed and floating capital. Capital accumulation. Organisation—functions of the entrepreneur.

4. *Distribution*:
Rent: The Ricardian and other theories. Quasi-rent.
Wages: Nominal and real wages. Wages and labour cost. Principal theories of wages.
Interest: Nature of interest. A brief consideration of Abstinence, Exploitation, Austrian theories, etc.
Profits: Gross profit and net profit. The influence of profits in determining the direction of production. Allocation of profits in different forms of organisation.

4. Elementary treatment of Money, Banking, and Foreign Exchanges.

6. *Population*: Brief consideration of the economic aspects of population problems.

Books recommended:

Benham: *Economics.*
Dearle: *Economics.*
Clay: *Economics for the General Reader.*
Jones: *Economics of Private Enterprise.*
Henderson: *Supply and Demand.*
Dobb: *Wages.*
Hartley Withers: *Meaning of Money.*
Robinson: *The Structure of Competitive Industry.*
Smart: *Introduction to the Theory of Value.*
Meade: *Introduction to Economic Analysis and Policy.*
Wright: *Population.*
Hicks: *The Social Framework.*

For Economic History I. and II., see Faculty of Arts: Department of History.

Economics II.

A. Economic Theory.

Scope and method in economics. Relation to other sciences. Indifference curves and demand curves. Market equilibrium. Production, Value and Distribution under perfect competition, imperfect competition, and monopoly.

Books recommended:

Taussig: *Principles of Economics.*
Cassell: *Theory of Social Economy.*
Marshall: *Principles of Economics.*
Chamberlain: *Theory of Monopolistic Competition.*
Pigou: *Economics of Welfare.*
Robbins: *Nature and Significance of Economic Science.*
Robinson: *The Economics of Imperfect Competition.*
Garver and Hansen: *Principles of Economics.*
Benham: *Economics.*
Meyers: *Elements of Modern Economics.*
Meade: *Introduction to Economic Analysis and Policy.*
Robinson: *Structure of Competitive Industry.*
Knight: *Risk, Uncertainty and Profit.*
Dobb: *Wages.*
Hicks: *Theory of Wages.*
Hall: *Economic System in the Socialist State.*
Viljoen: *Economic Tendencies of Today.*
Hicks: *Value and Capital.*
Boulding: *Economic Analysis.*

B. Monetary Theory.

History and theory of money, credit and banking; central and commercial banking; the money market; foreign exchanges—free and controlled; money theories and policies.

Books recommended:

Robertson: *Banking Policy and the Price Level.*
Robertson: *Money.*
Cannan: *Money.*
Keynes: *The General Theory of Employment, Interest and Money.*
Keynes: *A Treatise on Money.* 2 volumes.
Bernstein: *Money and the Economic System.*
Hawtrey: *Capital and Employment.*

Truptil: *English Banking System.*
Plumptre: *Central Banking in the British Dominions.*
Gregory: *Foreign Exchange.*
Report of MacMillan Committee on Finance and Industry (Cmd. 3597).
Hawtrey: *Art of Central Banking* (Ch. IV.).
Madden and Nadler: *International Money Markets.*
H. P. Willis: *The Federal Reserve System.*
Truptil: *British Banks and the London Money Market.*
Layton: *Introduction to the Study of Prices.*
Hall: *Exchange Equalisation Account.*
de Kock: *Central Banking.*
Sayers: *Modern Banking.*
Pigou: *Essays in Applied Economics.*

ECONOMICS III.

Course A.

International Trade and Foreign Exchanges. Industrial Fluctuations.

Books recommended:

Whale: *International Trade.*
Harrod: *International Economics.*
Ellsworth: *International Economics.*
Taussig: *International Trade.*
Report of South African Customs Tariff Commission, 1934.
Robbins: *The Great Depression.*
Haberler: *Theory of International Trade.*
Ohlin: *International and Interregional Trade.*
Haberler: *Prosperity and Depression.*
Hayek: *Prices and Production.*
Keynes: *General Theory of Employment, Interest and Money.*
Pigou: *Industrial Fluctuations.*
Hansen: *Business Cycle Theories.*
Röpke: *Crises and Cycles.*
Hawtrey: *Capital and Employment.*
Harrod: *Trade Cycle.*
Hayek: *Profits, Interest and Investment.*
Eshery: *Busines Cycles.*

Course B.

History of Economic Thought:

Mercantilism: Physiocrats, English Classical Economists; Early Socialists; the Austrian School; Marshall, List and the Historical School. Modern Trends.

Books recommended:
Fraser: *Economic Thought and Language.*
Gray: *Development of Economic Doctrine.*
Gide and Rist: *History of Economic Doctrines.*
Cannan: *Review of Economic Theory.*
Pigou: *Economics of Welfare.*
Keynes: *End of Laissez-faire.*
Cannan: *The Economic Outlook.*
Polak: *Beknopte Geschiedenis der Staathuishoukunde.*
Roll: *A History of Economic Thought.*

Course C.

Public Finance:

The State and the Economic System: Public Revenue. Taxation, its incidence and effects. Public Expenditure. Public Debt. The Budget and Financial Administration.

Books recommended:

Pigou: *Public Finance.*
Dalton: *Public Finance.*
Cannan: *History of Local Rates.*
Silverman: *Taxation.*
Report of Colwyn Committee on National Debt and Taxation.
Robinson: *Public Finance.*
Viti de Marco: *Principles of Public Finance.*
de Kock: *Finances of the Union of South Africa.*
Shirras: *Public Finance.* 2 Vols.
Buehler: *Public Finance.*

Course D.

The present social and economic structure of the Union of South Africa.

Elements of Agricultural Economics: Special problems in South Africa. *Co-operation;* marketing schemes; state intervention; the labour supply. Credit facilities.

Mining: Its importance. Integration of concerns and control. The labour supply. Taxation.

Secondary Industries: Their place and development in South Africa. State policy towards secondary industries. The market. The labour supply.

Transport: Its importance. Organisation of the South African Railways and Harbours. Competition with road transport. Differential freight rates. Labour supply.

Course E.

Social Economics:

Population Theory and Trends; Social Insurance; Social Services in Britain and South Africa. Problems of Poverty; Housing.

Books recommended for Courses D. and E.:—

Beveridge: *Unemployment.*
Marshall: *Population Problem.*
Kuczynski: *World Population.*
Clay: *Problem of Industrial Relations.*
Report of the Economic and Wage Commission, 1925.
Report of the Industrial Legislation Commission, 1935.
Report of the Native Economic Commission, 1932.
Annual reports of the Departments of Agriculture, Mines and Labour.
Report of the Carnegie Commission on the Poor White Problem in South Africa.
Hobson: *The Social Problem.*
Pigou: *Economics of Welfare.*
Williams: *The State and the Standard of Living.*
Webb: *Unemployment.*
Silverman: *Economics of Social Problems.*
J. v.d. Post: *Economics of Agriculture in South Africa.*
Report of Reconstruction Committee of the Department of Agriculture and Forestry. December, 1943.
Frankel: *Capital Investment in Africa.*
Frankel: *Railway Policy of South Africa.*

Annual Report of General Manager of South African Railways and Harbours.
Hailey: *African Survey.*
Beveridge: *Social Insturance and Allied Services.*
Report of the Social Security Committee, U.G. No. 14/1944.
Industrial and Agricultural Requirements Commission, 3rd Interim Report.
S.A. *Journal of Economics.*
Publications of the Bureau of Educational and Social Research.
Publications of the Institute of Race Relations.
Verslag van Volkskongres (Kimberley).

SPECIAL COURSES IN ECONOMICS.

Candidates for the Degree of Bachelor of Commerce and for the Degree of Bachelor of Economics (Public Administration) may take in their third year a special subject in Economics.
Special Courses:—

1 Agricultural Economics:
General considerations, organisation; types of farms, influence of natural factors. The factors of agricultural production. Marketing, functions and processes involved; co-operation; relation of the government to the marketing processes. The State and Agriculture.

Books recommended:
Nourse: *Agricultural Economics.*
Taylor: *Principles of Agricultural Economics.*
Filley: *Co-operation in Agriculture.*
Ely and Wherivein: *Land Economics.*
Gras: *History of Agriculture.*
Leppan: *The Organisation of Agriculture with Applications to South Africa.*
Dawson: *Farm Management in South Africa.*
v.d. Post: *Economics of Agriculture.*
Report of Reconstruction Committee of the Department of Agriculture and Forestry. December, 1943.
Venn: *Foundations of Agricultural Economics.*
Cohen: *The Economics of Agriculture.*
Jacks and Whyte: *The Rape of the Earth.*
Agriculture in the Twentieth Century.
Does Distribution Cost too much?
Macklin: *Efficient marketing for Agriculture.*
Smith: *The marketing of Australian and New Zealand Primary Products.*
Strickland: *Co-operation for Africa.*
Leppan: *Agricultural Policy in South Africa.*
Von Biljoen: *State Interference in S.A.*
Report of the Commission on Co-operation and Agricultural Credit, and various other Government publications.
Industrial and Agricultural Requirements Commission. 3rd Interim Report.
Fay: *Co-operation at Home and Abroad.*

M.A., M.COM. AND M.ECON. (ECONOMICS) COURSE.

The examination comprises:

PART I.

(a) Advanced Economic Theory (one paper).
(b) Advanced Monetary Theory (one paper).

(c) A special period of Economic History (one paper).
(d) One subject of Applied Economics chosen from a given list, provided such subject has not been taken previously for any other Master's degree.

PART II.

A dissertation the subject of which must be approved by the Senate at least six months before the dissertation is presented.

PRACTICAL BANKING.

PART I.

Origin of banking. Position and functions of the Bank of Amsterdam. The Bank of England. English private and country banks. Scottish banking. The Bank Charter Act, 1844. Development of Central banking. Tendency to Amalgamation in British banking. The Great War and its effects. Banking in the Post War period.

Banking in the United States. State and National Banks. The Federal Reserve System.

Position of banks in France and Germany.

History of Banking in South Africa. The Lombard Bank. Development of Joint-Stock Banks. The European Banks. Variations in the four Provinces. Effects of the Great War. Establishment of the Reserve Bank. The Currency and Banking Act, 1920, and subsequent amendments.

Brief reference to other Dominions, especially to the Commonwealth Bank of Australia.

PART II.

The functions of a bank and its sources of revenue. Bank balance sheets and statutory returns. Returns to head office. Bank book-keeping and accounts.

Deposits, cheques; method of clearing. Bank Drafts and Transfers.

Advances and Securities, including Bonds, Pledges, Guarantees, etc. Negotiable instruments. Stamp duties.

Bills of exchange, Inland and Foreign; Clean and Documentary. Letters of Credit.

Foreign Exchange, including covering by Forward Exchange. Financing of Imports and Exports.

Books recommended:

For Part I.:

Conant: *History of Modern Banks of Issue* (relevant Chapters).

Feavearyear: *The Pound Sterling.*

Arndt: *Banking and Currency Development in South Africa.*

For portions of Part I. and for Part II.:

H. A. F. Barker: *Principles and Practice of Banking* (Juta).

ENGLISH.

Professor: G. H. DURRANT, M.A. (Cantab.).

Senior Lecturer: E. SNEDDON, M.A.

The syllabus is the same as that prescribed for Course I. in the Faculty of Arts.

GEOGRAPHY.

Professor: R. M. Jehu, M.Sc. (Wales), F.R.G.S., F.G.S.
Lecturers: K. M. Buchanan, B.A., Hons. (Birm.).
F. Moe, M.A.

ECONOMIC AND COMMERCIAL GEOGRAPHY.

(a) The inter-relations of location, altitude and relief; the nature and distribution of soils and minerals; proximity to bodies of water; and climate.

(b) The combined influence of (a) on the distribution and growth of vegetation, and of animal life; and on the occupations, health and efficiency of man.

(c) The optimum conditions of climate and soil for the principal agricultural products.

(d) The distribution and exploitation of the world's mineral resources.

(e) The world's resources of power; their distribution and possible utilisation.

(f) Labour supply. The effects of industrial development on the nature and growth of population.

(g) Colonisation of new countries: special reference to the colonisation and exploitation of the tropics by White peoples.

(h) The localisation and development of the principal manufacturing industries.

(i) The geography of transport and exchange.

(j) The economic development of the major natural regions.

N.B.—Stress will be laid on the economic geography of South Africa throughout the course.

Essential books:

Rudmose Brown: *Principles of Economic Geography* (Pitman).
A. Wilmore: *Groundwork of Modern Geography* (Bell).
Philips: *Modern School Atlas of Physical, Political and Commercial Geography* (G. Philips & Son).
Yearbook of the Union of South Africa (Govt. Printer).

Reference books:

R. D. Salisbury: *Physiography.*
P. Lake: *Physical Geography.*
M. I. Newbigin: *Man and His Conquest of Nature.*
Huntington and Cushing: *Principles of Human Geography.*
J. Russell Smith: *Industrial and Commercial Geography.*
MacFarlane: *Economic Geography.*
Stamp and Jamieson: *The World.*

MATHEMATICS.

Professor: P. Stein, M.A. Ph.D. (Cantab).
Senior Lecturer: To be appointed.

Elementary Theory of Finance and Statistics.

(a) *Finance.* Arithmatic and geometric progressions. Interest: nominal and effective rates of interest; problems on finding amount, present value, time and rate. Annuity certain. present value and amount. Redemption. Sinking Fund. Stocks and Shares. Purchase of securities. Yield. Construction of schedules.

(b) *Statistics.*.. Classification and tabulation; frequency tables. Averages: arithmetic mean, weighted mean, median and mode; their computation, individual properties, relative advantages and disadvantages. deviation. Karl Pearson's coefficient of correlation. Diagrams. Quartiles. Skewness. Dispersion. Coefficient of dispersion. Standard Quartiles. Skewness. Dispersion. Coefficient of correlation. Diagrams. Histograms. Ogives. Trend. Regression lines. Index numbers. Methods of sampling. Published statistics. Fallacies.

Text book:
(Elementary) King, W. I.: *Elements of Statistical Method.* (Macmillan).

LAW.

Professor: F. B. Burchell, M.A., LL.B. (Cantab), Barrister-at Law.
Associate Professor: Adv. Maurice Sweeney, B.A., LL.B. (S.A.).
Lecturers: W. G. M. Seymour, B.A., LL.B. (S.A.).
G. Wynne, B.A., LL.B. (S.A.), M.A. (Oxon.).

MERCANTILE LAW.

(Whenever a statute is precribed for study candidates are expected to acquaint themselves with the contents of any later statutes amending, repealing, replacing and/or codifying the prescribed statute which have been passed and come into force on or before the 30th June in the year of the examination.)

Course I.

Elements of the Mercantile Law of South Africa, including an elementary course on Insolvency; the law of Administration of Estates of deceased or absent persons; and a brief outline of the law relating to the formation and administration of limited liability companies.

In the examination, two papers will be set, the first having reference to Elementary Principles of the Mercantile Law of South Africa, viz.:

General Principles of Contract.
Lease.
Mortgage and Pledge.
Liens.
Suretyship.

Agency.
Partnership.
Insolvency—insofar as it affects the operation of the above contracts.

The above are contained in Wille and Millin's *Mercantile Law of South Africa*.

The second paper will have reference to the law relating to the formation and administration of limited liability companies and the law as to the Administration of Estates.

The scope of the work is comprised in Chapters I. to III. and Chapters V. and VI. of the *Companies Act* (No. 46 of 1926), as amended.

Students are advised to read Topham's *Company Law* and the chapter on Company Law in Wille and Millin's *Mercantile Law of South Africa* and for the Administration of Estates, the *Administration of Estates Act* (No. 24 of 1913), as amended, and W. Somerset Bell's *Administration of Estates*.

Course II.

The principles of the Mercantile Law of South Africa; the law relating to the liquidation of companies; the law in regard to negotiable instruments; the law of the contract of Purchase and Sale; and the law of Insolvency.

The final examination comprises three papers.

The first paper will relate to the General Principles of the Mercantile Law of South Africa, viz., General Principles of Contract, Lease, Master and Servant, Mortgage and Pledge, Liens, Suretyship, Agency, Partnership, Insurance, for which Wille and Millin's *Mercantile Law of South Africa* will be suitable for study.

The second paper will relate to liquidation of companies and the law of Insolvency and the following should be read in connection therewith: Chapters IV. and VII. of the *Companies Act* (No. 46 of 1926), as amended, and any commentary on the Act: the *Insolvency Act of* 1936 as amended and Mars or Nathan on Insolvency.

The third paper will deal with the law relating to Negotiable Instruments and the Contract of Sale, and the following books are recommended: Chalmers on Bills of Exchange, Emmett on Negotiable Instruments in S. Africa, Norman's Purchase and Sale, 2nd Edition (Belcher) and the relevant chapters in Wille and Millin's Mercantile Law of S. Africa.

INDUSTRIAL LAW.

(Whenever a statute is prescribed for study candidates are expected to acquaint themselves with the contents of any later statutes amending, repealing, replacing and/or codifying the prescribed statute which have been passed and come into force on or before the 30th June in the year of the examination.)

In the examination two papers will be set covering the following:

First Paper:

Elementary principles of the Mercantile Law of South Africa. Candidates will take Paper I. as set for Mercantile Law, Course II.

Second Paper:

Industrial Legislation of the Union. Candidates are required to make themselves acquainted with the principal statutes of the Union dealing with (a), the nature of factories and conditions of employment therein; (b) conditions of apprenticeship and the persons who may bind themselves as apprentices; (c), the regulation of wages and the determination of conditions of employment; (d), the prevention and settlement of industrial disputes, the regulation of trade unions and employers' organisations; and (e), the regulation of the payment of compensation to workmen who have been injured at work. They are, for these purposes, specially recommended to read the portions of the statutes set out below and the leading decisions of the Supreme Courts interpreting the same, viz.:—

The Factories, Machinery and Building Work Act, No. 22/1941 (except Chapter V.).
The Apprenticeship Act, 37/1944.
The Wage Act, 44/1937, as amended.
The Industrial Conciliation Act, 36/1937.
The Riotous Assemblies and Criminal Law Amendment Act, 27/1914, Sections 8 to 12.
The Workmen's Compensation Act, 30/1941 (except Chapters VIII., IX. and X.).

PSYCHOLOGY.

Head of Department: Ella Pratt Yule, M.A., Ph.D. (St. Andrews).
Professor: B. Notcutt, B.A. (Oxon.), D.Ph. (Stell.).

The general course prescribed for Course I. in Arts.

INDUSTRIAL PSYCHOLOGY.

Section I.: Industrial Psychology.
1. Nature of fatigue: the work-curve: fatigue and boredom in industry.
2. Study of movement and time factors in work.
3. Physical conditions of work.
4. Vocational guidance and selection.

Section II.: Social Psychology.
1. Fundamental social motives: influence of society on drive and emotion: learning and conditioning: spread and transfer: growth of personality: social nature of "conscience": attitudes and prejudices.
2. Social psycho-pathology: conflict: repression: defence and escape mechanisms: symptoms: anxiety: neurosis (especially industrial neurosis).
3. Types of social organisation.
4. Psychology of suggestion and propaganda.
5. Psychological problems and characteristics of our time and culture.

Books recommended:

Kimball-Young: *Social Psychology.*
M. Viteles: *Industrial Psychology.*
K. Horney: *The Neurotic Personality of Our Time.*
The following I.H.R.B. publications (obtainable from H. M. Stationery Office, London):—
No. 16: *Three Studies in Vocational Guidance.*
No. 43: *A Study of Telegraphist's Cramp.*
No. 53: *Use of Performance Tests in Vocational Guidance.*
No. 61: *The Nervous Temperament.*
No. 77: *Fatigue and Boredom in Repetitive Work.*
No. 68: *Tests for Accident Proneness.*
No. 82: *The Machine and the Worker.*

Faculty of Engineering.

Regulations.
Syllabuses.
Laboratories.

SYLLABUSES.

FACULTY OF ENGINEERING.

DEGREES IN THE FACULTY OF ENGINEERING.

E.1. There are four degrees in the Faculty of Engineering, namely:—

Bachelor of Science in Engineering .... B.Sc. Eng.
Master of Science in Engineering .... M.Sc. Eng.
Doctor of Philosophy in Engineering .... Ph.D. Eng.
Doctor of Science in Engineering .... D.Sc. Eng.

REGULATIONS FOR THE DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING (CIVIL, MECHANICAL, AND ELECTRICAL ENGINEERING).

E.2. Every candidate for the degree of B.Sc. in Engineering must attend as a registered matriculated student, except as provided for in paragraph G.7., at a constituent college of the University for at least four academic years.

E.3. Candidates for the degree shall be required to take the following courses:—

(A) First Year.

Common to all Engineering Candidates.

Mathematics I.
Applied Mathematics I.
Physics I.
Chemistry I.
Graphics I.

(B) Second Year.

Common to all Engineering Candidates.

Mathematics II.
Applied Mathematics II.
Physics II.
Mechanical Engineering I.
Electrical Engineering I.
Graphics II.
Engineering Drawing and Design I.

(C) Third Year.

i. For Civil Engineering Candidates.

Mathematics and Applied Mathematics III.
Mechanical Engineering II.
Engineering Geology I.
Civil Engineering I.
Civil Engineering Drawing and Design I.
Surveying I.
Metallurgy I.*

ii. For Mechanical Engineering Candidates.

Mathematics and Applied Mathematics III.
Mechanical Engineering II.
Graphics III.
Engineering Drawing and Design II.
Electrical Engineering II.
Metallurgy I.*

iii. For Electrical Engineering Candidates.

Mathematics and Applied Mathematics III.
Mechanical Engineering II.
Electrical Engineering II.
Electrical Communications I.
Engineering Drawing and Design II. or
Electrical Engineering Drawing and Design I.
Graphics III.*
Metallurgy I.*

(D) Fourth Year.

i. For Civil Engineering Candidates.

Mathematics IV.*
Civil Engineering II.
Civil Engineering Drawing and Design II.
Surveying II.

ii. For Mechanical Engineering Candidates.

Mechanical Engineering III.
Engineering Drawing and Design III.
Electrical Engineering III.
Surveying I.*
Engineering Economics I.*

iii. For Electrical Engineering Candidates.

Electrical Engineering III.
Mechanical Engineering III.
Engineering Economics.*
Electrical Communications II. or
Electrical Engineering Drawing and Design II.

NOTE: Candidates taking Civil, Mechanical or Electrical Engineering Drawing and Design in the Fourth Year will be required to prepare designs and drawings to specifications supplied by the examiners in addition to the written examination.

E.4. A University examination shall be held in each of the above subjects at the end of every year, except where otherwise stated.

The minimum for a pass in any subject other than Mathematics and Applied Mathematics shall be thirty-three-and-a-third per cent. on the University Examination, and forty per cent. on the University Examination and Record of class work combined. The College record shall be 40 per cent. of the total marks assigned to the subject.

In the case of Mathematics and Applied Mathematics the minima shall be thirty per cent. and thirty-five per cent. respectively; and the College Record shall be thirty-three-and-one-third per cent. of the total for each of these subjects.

In Physics I. and II. candidates must obtain a minimum of 25 per cent. in the written paper or papers, and 30 per cent. in the practical examination, in Chemistry I. 25 per cent. in the written paper and 25 per cent. in the practical, in Geology I. 30 per cent. in the written paper and 25 per cent. in the practical. There is also a sub-minimum of 30 per cent. in the paper on Strength of Materials in Mechanical Engineering II., in the paper on Structures in Civil Engineering I. and in the written paper (Paper 1.) in Engineering Drawing and Design I.

*N.B. No University Examination will be held in the subjects marked with an asterisk; but candidates will be expected to satisfy the Head of the Department concerned that they have duly performed the prescribed work.

E.5. A candidate must have passed in at least three of the subjects of the first year before being admitted to the second year's course.

A student who fails to complete the whole of the first year course in two years after the commencement of his studies at Natal University College, shall not be allowed to continue his studies in the Faculty of Engineering, except by special permission of the Senate.

E.6. A candidate who fails to complete three subjects of the first year at one examination shall be required to commence his curriculum again as from the beginning.

E.7. A candidate who has satisfied the requirements for admission to the work of any year may be admitted to examination in one subject only in excess of the normal number of subjects for that year.

The normal number of subjects is the number in which University examinations are held.

E.8. A candidate must have passed in at least three subjects of the second year before being admitted to the work of the third year.

E.9. Except with the special permission of the University Senate a candidate will not be admitted to the work of the fourth year if, in the opinion of the Senate, he has failed to attain a satisfactory standard of proficiency in the work of the preceding years. In general a candidate will be presumed to have attained a satisfactory standard of proficiency if he has completed all but one course of the preceding years.

E.10. A candidate will be required to pass the examinations in the subjects of the fourth year simultaneously, provided that a candidate for the degree in Civil Engineering who fails in Surveying II. and passes in the remaining subjects of the fourth year may, with the consent of the Senate, be re-examined at a supplementary examination, the entire cost of which he must defray, or the candidate may be permitted to be re-examined in a subsequent year.

E.11. (a) First year candidates who fail in not more than two subjects may be admitted to the Supplementary Examinations at the discretion of the Senate of the University of South Africa.

(b) Second and third year students who fave failed in either one or two subjects may be admitted to supplementary examinations, at the discretion of the College Senate, in the subjects in which they have failed.

(c) Provided that second year students who have failed in one or two first year subjects may on the recommendation of the College Senate be admitted to the supplementary examinations in these subjects irrespective of the number of second year subjects in which they may have failed; and that third year students who have failed in first and/or second year subjects may on the recommendation of the College Senate be admitted to not more than two supplementary examinations in such subjects irrespective of the number of third year subjects in which they may have failed.

(d) A candidate who has passed the University examinations in the requisite fourth year subjects but has still one subject of the preceding years to complete may be re-examined at a supplementary examination.

E.14. A candidate who has passed in one or more of the subjects of the first year engineering course and has received credit for such

subject or subjects in any other faculty may be exempted from examination in such subject or subjects in the Faculty of Engineering.

E.15. A candidate shall at some time during his curriculum (a) pass an examination in English or Afrikaans Composition, (b) obtain a certificate in First Aid from a recognised First Aid Association; unless he already possesses these qualifications.

E.16. Notwithstanding anything else in these regulations, a candidate shall not be allowed to enter upon the work of the second or any subsequent course in any subject unless, in the opinion of the Senate, he has attained a satisfactory standard of proficiency in his previous work in such subject.

E.17. A candidate shall be held to have qualified for the degree who has duly performed to the satisfaction of the University the prescribed courses of study and the vacation practical work assigned to him and passed the examinations prescribed by the University regulations.

REGULATIONS FOR THE DEGREE OF MASTER OF SCIENCE IN ENGINEERING

E.18. (1) A candidate for the degree of Master of Science in Engineering (Civil Engineering, Electrical Engineering, Mechanical Engineering, Aeronautical Engineering)

(a) must either attend a constituent college of the University for for at least one academic year after being admitted to the degree of Bachelor of Science in Engineering or to the status of that degree; or

(b) produce satisfactory evidence of at least two years' practice or study of his profession after having obtained the degree of B.Sc. (Eng.); and

(c) must present a thesis, the title of which must have been previously approved by the Senate, on some branch of the aforesaid departments of engineering;

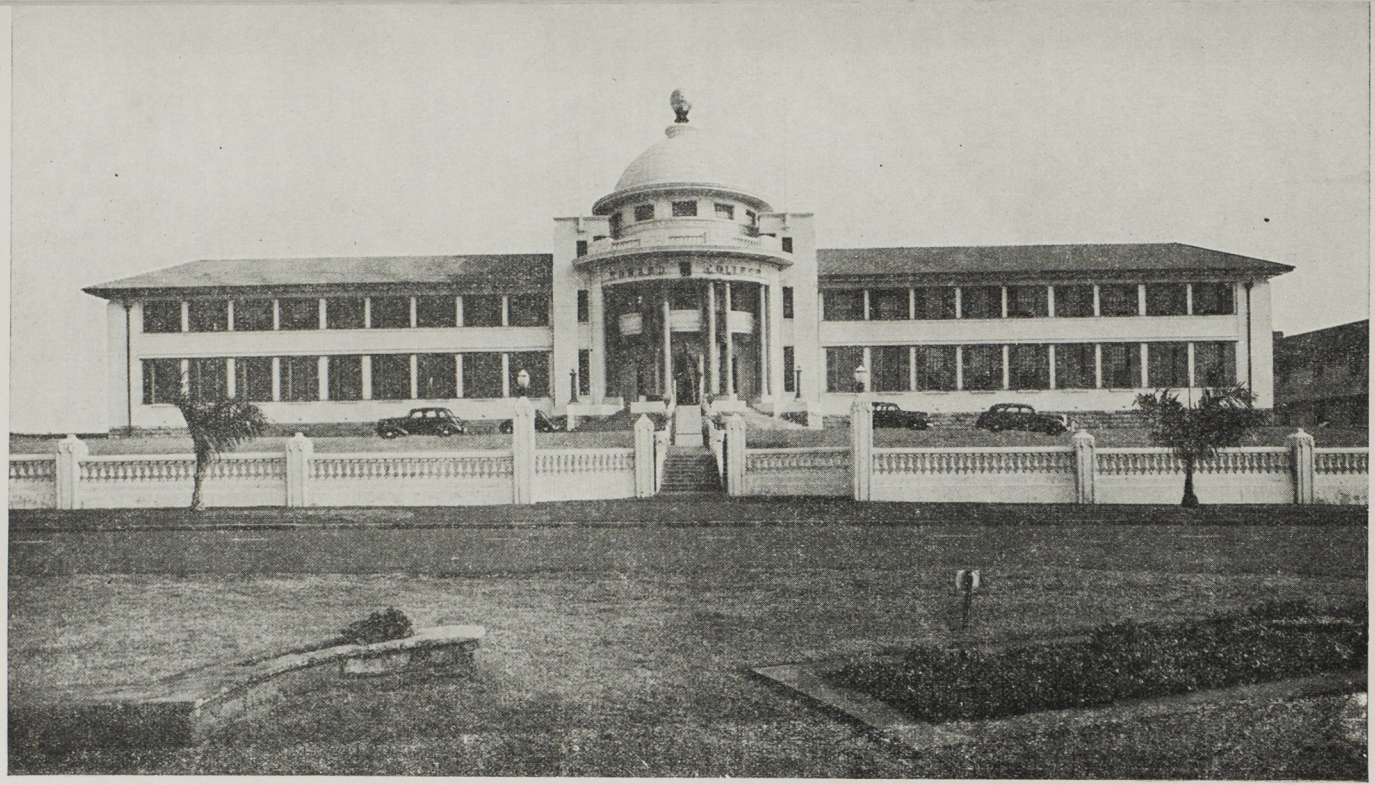
(d) may, after the thesis has been approved by the Senate, be required to pass such an examination as the Senate may determine.

(2) At least six months' notice that he intends to present a thesis shall be given by the candidate, who shall also indicate the proposed contents of the thesis in the form of a summary.

REGULATIONS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN ENGINEERING

E.19. (1) Any graduate who has taken a Bachelor's degree in Engineering in this University or who has been admitted to the status of that degree may be admitted as a candidate for the degree of Ph.D. in the Faculty.

(2) Any candidate who desires to proceed to the degree of Ph.D. (Engineering) shall apply to the Registrar for registration as a candidate for the degree.



NATAL UNIVERSITY COLLEGE (HOWARD COLLEGE), DURBAN.

(3) Each applicant for registration shall submit with his application (a) an approximate indication of the field in which he proposes to carry out his research, (b) the place or places at which he proposes to work, and (c) the name of the one, if any, who will direct his work. The nature of the research and the conditions under which the candidate proposes to carry it out shall be subject to the approval of the Senate. In general a two-years' full-time course or a part-time course of not less than three years will be required, each individual case being decided by the Senate; provided that no candidate shall be admitted to the examination until he is a graduate of three years' standing.

(4) Not less than six months before he proposes to present his thesis for examination, a candidate must submit the precise title and summary of the thesis.

(5) After the thesis has been examined, the candidate shall be required to submit to such written or other examination as the Senate maye decide.

(6) The thesis will not be accepted unless it complies with the following requirements:—

(a) The greater portion of the work described therein shall have been done subsequently to the candidate's registration in terms of Regulation (2).

(b) It must form an original contribution to the current knowledge of the subject investigated.

(7) A candidate must state generally in a preface and specifically throughout the thesis how much of the work is his own.

(8) In support of his candidature, the candidate may submit particulars of other work he has done or of publications in his name, provided that in any work done conjointly with others his own share is clearly defined.

(9) In the event of a thesis submitted by a candidate being inadequate but of sufficient merit to justify such recommendation, the examiners shall recommend to the Senate that the candidate be permitted to re-present his thesis in a revised form after a period of six months and within one calendar year from the decision of the Senate; and the fee on such re-entry shall be half the fee originally paid.

(10) If a thesis submitted by a candidate is adequate but the candidate fails to satisfy the examiners at the examination referred to in Regulation (5), the examiners may recommend the Senate to permit the candidate to re-present his thesis under the conditions specified in Regulation (9).

E.20. (1) Any Bachelor of Science in Engineering by examination or admission of not less than six years' standing, or any Master of Science in Engineering of not less than five years' standing, will be allowed to offer himself for the degree of Doctor of Science in the Faculty of Engineering.

(2) All candidates for the degree of Doctor of Science shall present a thesis or a published memoir or work, to be approved by the Senate on the recommendation of the Faculty of Engineering; provided that, if required by the Senate, the candidate shall also be bound to pass an examination conducted orally or practically or by written papers on the subject of his special study or of his thesis, memoir, or work, as may from time to time be determined. The thesis shall be a record of original research in relation to Engineering (Civil Engineering, Mechanical Engineering, Electrical Engineering), undertaken by the candidate. or

of some important engineering work designed by the candidate and actually carried out, and it shall be accompanied by a declaration signed by him that the work has been done and the thesis composed by himself.

(3) The work submitted as a thesis must not have been previously submitted as a thesis for a degree in another university.

(4) A thesis approved by the University and subsequently published must bear the following inscription on the title page: "Thesis approved for the degree of Doctor of Science (Eng.) in the University of South Africa."

BACHELOR OF SCIENCE IN SURVEYING.

A four year course leading to the degree of B.Sc. (Survey) is provided.

It is at present necessary for candidates to spend some time in the Trigonometrical Survey Office. Application should be made to the College Authorities for the latest information available in this connection.

E.19. The curriculum for the degree of Bachelor of Science (Survey) shall be as follows:—

First Year:

- Mathematics I.
- Applied Mathematics I.
- Physics I.
- Graphics I.
- Geology I.

Second Year:

- Mathematics II.
- Applied Mathematics II.
- Physics (special course in Optics).
- Spherical Trigonometry and Astronomy.
- Practice and Theory of Surveying I.

Students will be expected to attend lectures in Elementary Hydraulics.

Third Year:

- Mathematics III.
- Roads and Drainage.
- Hydraulics I.
- Surveying II.

Fourth Year:

- Surveying III.

Syllabuses for the third and fourth years are obtainable from the Professor of Civil Engineering.

THE CIVIL AND MECHANICAL ENGINEERING LABORATORIES.

The equipment of the laboratories is of the most up-to-date type and is conveniently summarised under a number of separate headings.

(a) *Materials*: For the study of the properties of materials used in construction, the plant installed complises the following machines:

A 50-ton Avery Universal testing machine of recent type operated by hydraulic means. On this tests can be made on metals such as iron, steel, brass and so no, as well as on building materials such as bricks, stone, timber and concrete. The range covers tensile, compressive, shear and bending tests.

A 200-ton Amsler compression machine for testing concrete and other materials in comparison.

An Olsen machine of 10,000lb. capacity for tests in tension or compression and capable of testing speciments up to eight feet in length. This machine can be used for testing wires, strip and other aeronautical materials.

An Amsler impact testing machine with interchangeable pendulums allowing for either Izod or Charphy notched bar tests being made. Fittings are also available for carrying out impact tests by direct tension.

An Avery fatigue testing machine for carrying out endurance tests under alternating stress on metallic specimens.

An attachment to the 50-ton Avery testing machine enables Brinell hardness tests to be carried out.

A Herbert Pendulum machine for obtaining time hardness, scale hardness and the effect of work hardening.

A Rockwell hardness tester providing for direct readings both with diamond and ball indenting tools.

A Shore scaleroscope for determinination of elastic hardness.

A Tensometer testing machine for making tests in tension compression, shear, hardness, impact, etc., on small specimens which cannot be tested in other machines.

An Avery bulge testing machine for the determination of ductility and workability of sheet metal such as brass, galvanised iron, etc.

A small machine for torsion tests of shafting.

An Adie cement testing machine presented by Mr. George Dougall.

In addition to the machines mentioned above there are extensometers, etc., and in the case of cement and concrete testing the necessary instruments for carrying out complete tests according to British Standard specifications.

There are also a number of other small pieces of apparatus for a variety of other tests.

(b) *Hydraulics.* For experimental work in hydraulics there is a small flume with necessary tanks for work on orifices and nozzles.

A large flume 56 feet in length which can be fitted with notches and weirs of various types.

A 6in. single stage centrifugal pump belt driven by an 18 h.p. motor. This supplies water from a storage tank to the flume through a pipe line in which a Venturi meter is fitted.

A 5 b.h.p. Francis type turbine fitted with brake gear and supplied by a branch pipe from the 6in. pump.

A 5in. two stage centrifugal pump direct coupled to a 50 b.h.p. motor and capable of working against a head of 250 feet.

A Pelton wheel developing 20 b.h.p. on 210 feet head.

A Turgo impulse turbine developing 13 b.h.p. on 130 feet head and fitted with a water economiser.

An eddy current brake which can be used to determine the power developed by either the Pelton wheel, or the Turgo turbine.

A single throw vertical reciprocating pump with variable speed gear and an epicyclic dynamometer. The pump is motor driven and works against heads up to 300 feet.

Two measuring tanks each of 4,500 gallons capacity.

Two measuring tanks each of 100 gallons capacity.

Apparatus for measurement of frictional resistance in pipes, etc.

(c) *Structures.* Various models of framed structures, etc., are available for stress determinations and there is also an apparatus for viewing stress distribution in celluloid models by means of polarised light.

(d) *Surveying.* The department possess a number of theodolites including the latest patterns of Tavistock, Cooke Troughton and Sims Vernier, Zeiss, Wild, etc., levels including precision levels; plane tables, topographical stereoscope, sextant, chronometer, calculating machines as well as the various chains, bands, planimeters, etc., which are necessary for this branch of the work.

(e) *Steam plant.* For the work in steam engineering there is provided a water tube boiler arranged for either coal or oil firing and working at 175lb. per square inch.

A 30 I.H.P. vertical compound steam engine with cut off governing and fitted with a Prony brake.

A 30 I.H.P. horizontal cross compound engine arranged to run jacketed or unjacketed, and either condensing or non condensing.

A 6 I.H.P. vertical single sylinder steam engine.

A 40 H.P. steam turbine fitted with Froude type brake.

A surface condenser with necessary air and circulating pumps and cooling pond, two steam driven pumps, apparatus for testing pressure gauges and indicator springs, for flue gas analysis and for the determination of calorific values of fuels; steam calorimeters and other small plant.

(f) *Internal combustion engines.* For study of phenomena connected with internal combusion engines there are available:

A 50-55 B.H.P. 'Mirrlees' diesel engine with a rope brake.

An 18-20 B.H.P. 'National' compression ignition engine with rope brake.

A 17-20 B.H.P. high speed 'Crossley' compression ignition engine (four stroke) direct coupled to a generator.

A 16-18 B.H.P. high speed 'Petter' Harmonic Induction engine (two stroke).

A C.F.R. knock testing engine for research on motor car and aviation fuels and alchohol fuels.

(g) *Other plant.* There are a number of engine indicators for team and internal combusion engines. These are varied in type and include the latest type of cathode ray indicator. An air compressor with suitable measuring devices, a refrigerating plant of 2-ton capacity; electric and petrol furnaces for work in metallography and various machines and apparatus for testing lubricating oils, etc. Oxy-acetylene and Electric Welding outfits are also installed.

(h) *Aeronautics.* When Howard College was being built provision was made for the development of aeronautics and an open (2ft. diameter) jet wind tunnel recently built provides for tests at air speeds up to 100 miles an hour. Fan testing plant is also installed.

(i) *Workshop.* A machine shop intended primarily for the upkeep of the plant is fitted with up-to-date machinery and provides facilities for students to become acquainted with modern tools.

(j) *Drawing Office.* There are two drawing offices stocked with machine parts, diagrams, charts, etc., a modern electric printing machine, sun printing frames and various developing outfits for blue prints, etc.

THE ELECTRICAL ENGINEERING LABORATORIES.

There are five laboratories equipped for electrical engineering, the largest of which is 95 feet long by 25 feet wide. In this is installed a number of modern machines supplied by leading British, Continental and American manufacturers, and ranging in size from 65 k.w. to 2 k.w., ten being rated at 30 k.w. and over, whilst the remainder average about 10 h.p. in size.

The following list indicates the main equipment.

One set consisting of a 50 k.w., 460 volt, d.c. compound-wound generator directly coupled to a 75 h.p. 380 volt 3 phase 50 cycle slip-ring induction motor. Two 10 k.w., shunt wound, coupled generators act as balancer when three-wire 230 volt supply is required. A motor-driven phase advancer permits power factor control.

Two 25 k.w., 230 volt, compound-wound d.c. generators direct-coupled to an 80 h.p. 380 volt, 3 phase synchronous motor with 1.47 k.w. direct coupled exciter. The d.c. machines are operated in series or in parallel.

One 43 k.w., 230 volt, compound-wound, d.c. generator direct-coupled to a 65 h.p. 380 volt, 3 phase, 50 cycle induction motor. A 3 phase 30 k.v.a., 380 volt, bank of condensers may be used for power-factor improvement.

Two sets each consisting of a 220 volt, 3 phase synchronous machine direct-coupled to a 10 k.w., 230 volt, d.c. compound wound generator. One synchronous machine has rotating field system and coupled exciter, the other has rotating armature and battery excitation.

One 25 h.p., 280 volt, synchronous-induction motor with overhung exciter driving a 15 k.w., 230 volt, d.c. generator.

One battery-operated 14 h.p. motor driving a 3 phase sine-wave alternator and a d.c. generator.

One set consisting of a 25 k.v.a., 380 volt, alternator with overhung 1.5 k.w. exciter coupled to a 29 h.p., 230 volt, d.c. generator.

One 70 ampere booster direct coupled to a 25 h.p., 230 volt, d.c. motor.

One 16½ h.p. induction motor direct coupled to a 10.4 k.w., 65 volt, d.c. generator.

One 3.45 h.p. induction motor direct coupled to a 25 volt, d.c. generator.

One 5 h.p., 3 phase repulsion motor with pulley.

Two sets each consisting of a 30 k.w., 350 cycle alternator driven by a 50 h.p., 23 volt, d.c. motor.

One 8 k.v.a., 500 cycle alternator driven by 10 h.p., 230 volt, d.c. motor.

One 0.5 k.w., 150 cycle rotary converter.

One 30 k.w. Poulsen-arc generator.

One 5½ k.w., 230 volt, compound-wound d.c. generator driven by 10 h.p., 3 phase, 220 volt, slip-ring induction motor. The motor of this set is provided with three different types of starter, namely star-delta, auto-transformer and rotor resistance starters.

Two 5 h.p., 230 volt, d.c. machines direct-coupled with pulley at each end, one shunt wound, the other series wound.

One 12.76 k.w., d.c. machine direct-coupled to a slip-ring induction motor on one side and a squirrel-cage induction motor on opposite side. The two induction motors are arranged for cascade operation and the squirrel-cage motor is provided with pole-changing stator winding giving 4 or 8 poles. The slip-ring motor is wound for 6 poles.

One 20 h.p./6.4 h.p. Schrage type commutator motor with speed variation 1380/460 r.p.m. driving a 10 k.v.a. 220 volt, 6 pole, revolving field type alternator with windings for one, two or three phase operations.

One unit consisting of two 6 k.v.a., 230 volt, 3 phase, revolving field alternators coupled to one another and to a 13 k.w., 230 volt, compound-wound generator. Each alternator has its own exciter and the stator of one alternator is so mounted that it may be rotated through 360 electrical degrees. A small motor may be coupled to give remote control of the stator position.

Two 10 k.w., 3 phase rotary converters, one having six rings and transformer with low voltage tappings, the other having three rings.

Three single phase 10 k.v.a., 220 volt to 550 volt, oil immersed transformers.

Sundry transformers including one 50 k.w., 50,000 volt, surge-proof transformer, built to British Patent No. 442,282 of 1936, also two induction type voltage regulators.

Electric welding motor-generator outfit of capacity 300 amperes d.c. with complete equipment for making welds for test.

Radio communication equipment including sundry audio frequency and radio frequency oscillators, valve voltmeters, thermo-electric ammeters, high resistance voltmeters, cathode ray oscillagraphs, etc.

A wide range of instruments is available for students' use, including Duddell and Siemens Oscillographs, Drysdale and Campbell Larson a.c. potentiometers, wattmeters, ammeters, voltmeters, synchroscope, power factor meter, recording instrument, etc.

A recent addition is a Cambridge Universal dynamometer with accuracy 0.05% as ammeter, voltmeter or wattmeter.

A vacuum equipment having roughing pump and two stages of oil diffusion pumps with McLeod gauge.

Loading rheostats, reactances and condensers.

Two demonstration automatic telephone exchanges and one automatic P.B.X. exchange in use in the College.

Two teleprinters.

Cube photometer fitted with photo-electric cells.

SYLLABUSES.

ENGINEERING.

Professor of Mechanical Engineering: Jas. H. Neal, A.R.C.Sc., A.M.Inst.C.E., M.I.Mech.E., A.F.R.Aë-S., Wh.Ex., Chartered Civil and Mechanical Engineer

Professor of Electrical Engineering: H. Clark, D.I.C., B.Sc., M.I.E.E., A.C.G.I., Chartered Electrical Engineer.

Professor of Civil Engineering: W. M. Thomas, B.Sc. (Wales and Leeds).

Senior Lecturers: E. P. Reim, B.Sc., Eng. (S.A.), A.M.Inst.C.E., A.M.I. Mech.E., Mem. A.S.M.E., Chartered Civil and Mechanical Engineer.

W. E. Phillips, M.Sc., Eng. (S.A.), A.M.I.E.E., S.M.I.R.E., Chartered Electrical Engineer.

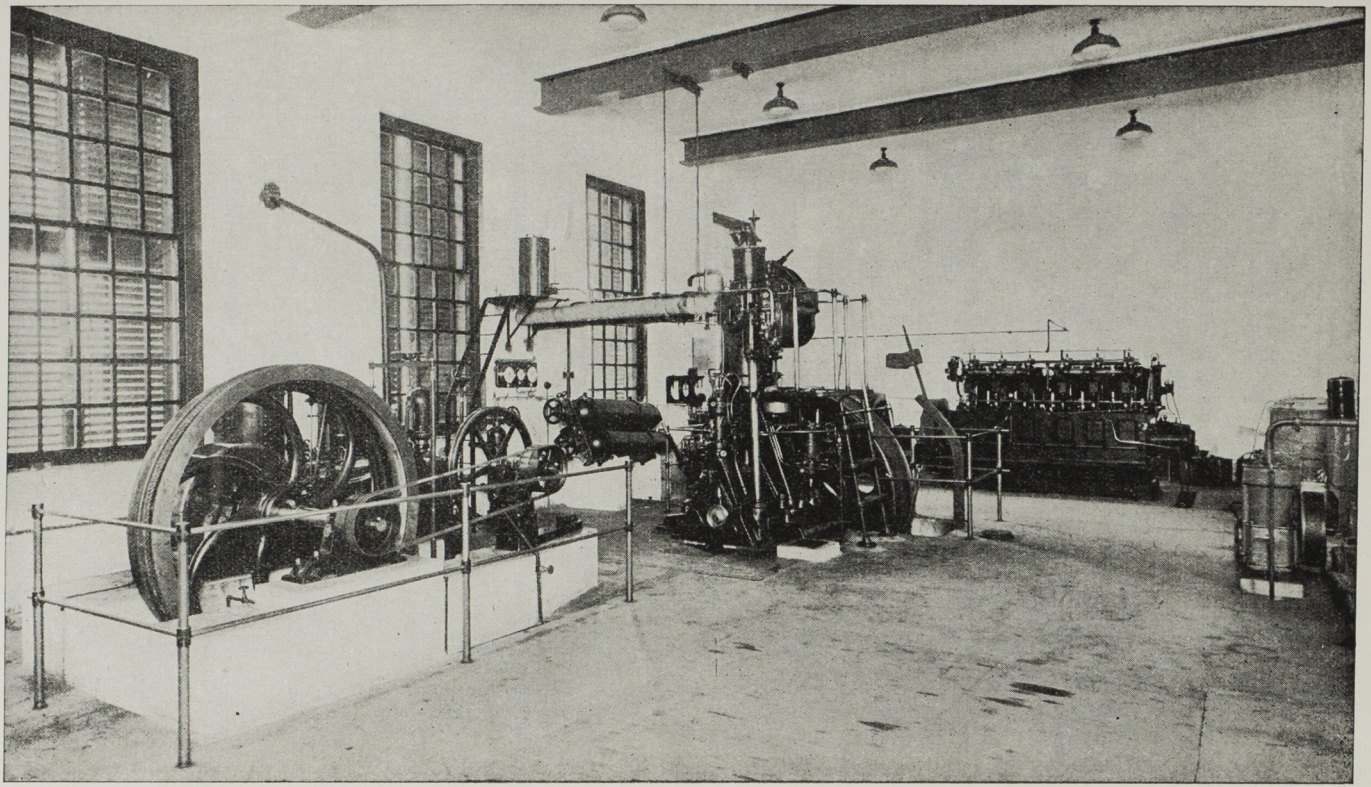
C. A. Rigby, B.Sc. (C.E.), Manitoba), A.M.I. Strut. E., Chartered Structural Engineer.

Lecturers: R. Grimmond, B.Sc., Eng. (C.T.).

(Three to be appointed.)

Mechanical Assistant in Charge of Mechanical Shops: H. D. Thorpe.

Electrical Assistant in Charge of Electrical Shops: A. Brinkworth.



INTERNAL COMBUSTION ENGINE LABORATORY, N.U.C. (HOWARD COLLEGE), DURBAN.

MECHANICAL ENGINEERING.

An introductory course in Engineering is given to first year students. Course I. is taken by second year students.

Course I.

Work, friction, lubrication, efficiency, various forms of gearing, transmission of power, conveyors, classfication and analysis of mechanisms and their practical applications, boilers, simple theory of steam, gas and oil engines, indicators, brakes, condensers, elementary hydraulics, laboratory work.

Text-books:

Goodman: *Mechanics Applied to Engineering*, Vol I.
Low: *Heat Engines.*
Bevan: *Theory of Machines.*

Course II.

Strength of materials, hydraulics, dynamics of steam and internal combusion engines, balancing, elementary thermo-dynamics, boilers, steam, gas and oil engines. Analysis of indicator diagrams, laboratory work.

Text-books:

Inchley: *Heat Engines.*
Ripper: *The Steam Engine.*
Morley: *Strength of Materials.*
Salmon: *Strength of Materials.*
Lewitt: *Hydraulics.*

Course III.

Strength of thick cylinders, rotating discs, crane hooks, chains, flat plates, valves, critical speeds of shafting, vibration of shafting, theory of steam turbines, internal combusion engines, testing, fuller treatment of hydraulics, compressed air, refrigeration, elementary aerodynamics, laboratory work.

Text-books:

Goudie: *Steam Turbines.*
Gibson: *Hydraulics.*
Petrie: *Elements of Internal Combustion Engineering.*
Pye: *The Internal Combusion Engine.*

GRAPHICS.

Note: Students taking Graphics and Engineering Drawing must provide themselves with a drawing board and a tee square (Imperial size, a set of good drawing instruments, a pair of 10in. (at least) celluloid set squares, a set of engineer's scales and bottles of balck, brown and blue waterproof drawing ink. The cost of these articles is approximately £8.

Course I.

Construction of scales, geometrical problems involved in machine drawing and design, conic sections, spiral and logarithmic curves, cycloidal

curves, involutes and evolutes, principles of projection, projection of points and lines and of solids in simple positions, verticle, inclined and oblique planes, sections, contours, isometric projection, interpenetration of solids, developments, graphic integration and differentiation, graphics of elementary framed structures.

Text-books:

Abbott: *Practical Geometry and Engineering Graphics.*

Parkinson: *A First Year Engineering Drawing.*

Course II.

Graphic differentiation and integration, vectors, moments, moments of inertia, bending moments and shearing force diagrams, simple framed structures. Graphical solution of equations, determination of equations to curves. Zeuner, Reuleaux and Bilgram valve diagrams. Velocity and acceleration images. Turbine velocity diagrams. Simple cases of retaining walls, dams and masonry arches.

Text-books:

Abbott: *Practical Geometry and Engineering Graphics.*

Andrews: *Theory of Structures.*

Course III.

Graphical problems arising from lecture work, including crank effort diagrams, indicator and entropy diagrams, valve diagrams, etc., bending moment and shearing force diagrams for rolling loads, influence lines, deflection of beams, retaining walls, dams, masonry arches, etc.

N.B.: All work done during the year must be sent in by the date appointed from year to year, and in Course I., this must include sketches from "Parkinson."

ENGINEERING DRAWING AND DESIGN.

Course I.

Engineering materials, including timber and concrete, etc., manufacture of iron and steel, workshop methods and processes, elementary strength of materials with applications to design, freehand sketching, working drawings.

Text-book:

Unwin: *Elements of Machine Design, Vols I. and II.*

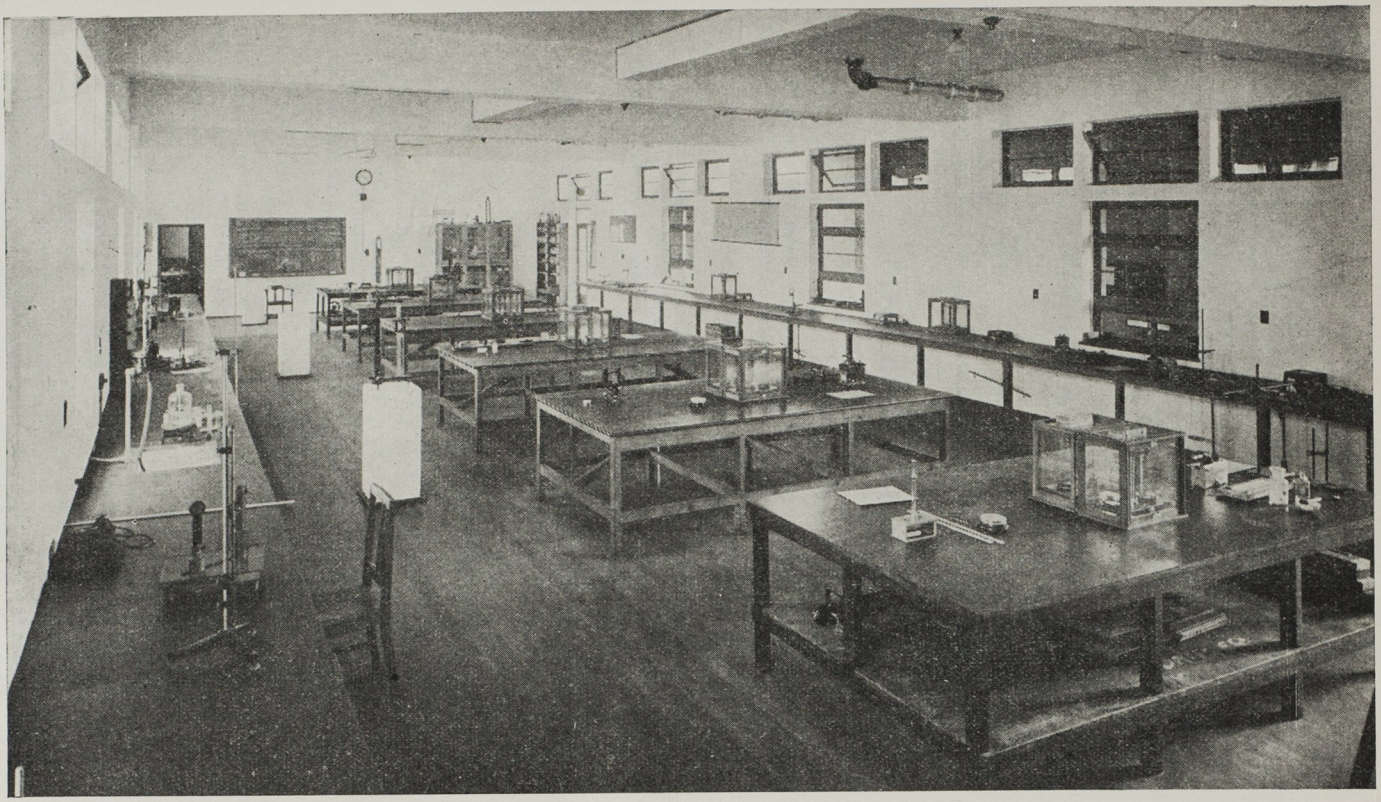
The *minimum* work to be submitted by each student in Course I. Engineering Drawing must include four finished pencil drawings ready for tracing, four tracings (two on cloth and two on paper), prints of four tracings by different processes, one finished ink drawing for photographic reproduction, one finished ink coloured drawing and freehand sketches including working sketches of the above drawings.

Course II.

Problems involved in the design of machine, engine, boiler and pump details.

Text-book:

Berard and Waters: *Elements of Machine Design.*



PHYSICS LABORATORY, N.U.C., (HOWARD COLLEGE), DURBAN.

Course III.

A selection from the following designs: complete machines, steam or internal combustion engines, boilers, hydraulic turbines, pumps, etc.

WORKSHOP PRACTICE.

Students must spend each long vacation in or on works as arranged and must submit certificates of progress from the firm, and also their own reports on their work, by March 31st following.

CIVIL ENGINEERING.

Course I.

Elementary theory of structures. Sanitation, ventilation. Road making and maintenance. Laboratory work.

Course II.

More advanced theory of structures, steel and concrete structures, bridges in timber, stone and steel. Railway work. Fuller treatment of hydraulics. Docks. Laboratory work.

CIVIL ENGINEERING DRAWING AND DESIGN.

Course I.

Brickwork, bonding of brickwork, English and Flemish bonds, arrangement of bonding at intersection of walls.

Allowable heights of brick walls, strength of brick walls and piers, allowable pressures on various types of brick walls.

Brick footings, arches, practical rules for brick arches.

Masonry, allowable pressures on masonry, arrangement of stones with regard to size and shape. Various dressings of face masonry, stone masonry and mass-concrete gravity-retaining walls.

Design of cantilever and counterfort retaining walls.

Design of reinforced concrete foundations, isolated footings, combined footings of rectangular and trapezoidal shape cantilever footings, rafts of slab and girder and flat-slab types, continuous footings.

Grillage foundations.

Design of timber joints.

Design of timber roof trusses.

Properties of steel sections, tension members, compression members, splices, built up compression members, beam connections, plate girders, stiffeners and spacing of stiffeners.

Design of steel roof trusses, wind pressures.

Design of steel-framed sheds.

Design of steelwork for buildings, columns, practical details.

Design of R.C. slabs, beams, square and rectangular slabs, columns. Design of beam and girder floors, design of flat slab floors.

Comparison of cost of various types of structural details.

Storm water drainage, practical details with regard to catchpits, manholes, intersections of sewers, economical shapes of sewers, types of sewers, kerbing and channelling.

Design and layout of small sewage schemes; determination of sewer grades, velocities, diameters; practical details of piping, pipe-laying, excavation methods used, junctions of sewers, back-drop junctions, house connections.

COURSE II.

Design of reinforced concrete tanks (i.) with joint at base of wall; (ii.) with wall rigidly fixed at the base (Reisner's theory).

Typical loading specifications for design of highway bridges, with special reference to the British Ministry of Transport Loading.

Specifications for steel loadings and stresses; workmanship, materials and details of construction for steel bridges with special reference to British and American practice.

Standard loadings for railway bridges, with special reference to Cooper's loadings and the British Standard loadings.

Design of bridge floor slabs subjected to concentrated loadings.

Simple reinforced concrete bridges:

(1) Slab type.
(2) Deck Tee-beam type.
(3) Through-girder type.
(4) Simple portal frames with fixed or free ends with constant moments of inertia in each leg and the deck.

Design of abutments for the above bridges, gravity section, reinforced concrete abutments, skeleton abutments and abutments of the vertical beam type.

Design of culverts of rectangular, circular and other shapes.

Design of simple steel bridges:

(1) Concrete slabs on R.S.Js.
(2) Jack arches on R.S.Js. and plate girders.
(3) Trough bridges.
(4) Plate girders bridges.
(5) Truss bridges.

Types of bridge trusses, relation of type to various spans.

Camber in bridge trusses; (i.) by Williot diagram, (ii.) by practical methods.

Construction and use of moment tables for a series of concentrated loads. Application of tables to practical examples. Various criteria for maximum stress conditions in a bridge.

Built up compression members.

Splices in compression and tension members.

Portal and sway bracing.

Wind bracing in simple trusses.

Wind bracing in arch trusses and ribs.

Design of various types of bridge bearings.

Bridge foundations and allowable bearing pressures.

Influence lines for shear, movement and thrust in arched ribs.

Influence lines for stress in members of two and three-hinged, spandrel-braced arches; application of these influence lines to design.

Fixed arches with special reference to the design of arches in reinforced concrete.

Application or arch theory to the design of rigid frame structures.

Effect of settlement spread and rotation in arch bridges.

Design of arch abutments.

Swing bridges, retractable bridges.

Suspension bridges.
Continuous truss bridges.
Cantilever bridges.
Eccentric rivetted joints.
Specifications for wind pressure on building frames; exact methods of analysis, approximate methods. Cantilever method, portal method, continuous portal methods, allowable working stresses; examples in design, design of wind bracing connections.
Slab bases for steel columns.
Design of grain bins, silos, coal bunkers and other industrial structures.
Designs of dams of gravity and arch types, spillway designs, siphon spillways.
Design of dock walls, graving docks and breakwaters.
Storm-water drainage, practical details of junctions, catch-pits, canals, etc.
Specifications typical of various classes of work, conditions of contract, general and detailed specifications, schedules of quantities, drawings, estimates of cost. Typical contracts to show arrangement adopted.

SURVEYING.

Surveying I.

The description, use and adjustment of the following instruments:—
Theodolites (Vernier and micrometer).
Level (Dumpy and self-adjusting).
Tacheometer.
Plane-table.
Compass.
Sextant.
Optical square.
Barometer.
The use of tapes, steel bands and the chain.
Methods of Chain Surveying.
Theodolite traversing. Tacheometry.
Contouring with the plane-table and the tacheometer.
Use of calculating machine and the calculation of rectangular co-ordinates of points.
The calculation of angles of direction, and horizontal distances from the co-ordinates of points.
The measurement of areas and volumes.
Calculation of areas from co-ordinates.
Determination of the position of a point by observation from fixed points.
The setting out of simple curves.
Photo-surveying—the principles of the photo-theodolite.

Surveying II.

The construction and adjustment of modern survey instruments.
Precise tacheometry.
Methods of fixing the position of a point on the earth's surface by observations from or to fixed points.
Reduction of eccentric observations and measurements.
The subdivision of land to satisfy given requirements.

Triangulation, primary, secondary and tertiary.
Terrestrial refraction and problems of intervisibility of stations.
Trigonometrical levelling.
The adjustment of survey observations by the method of least squares.
The precision of observations.
Methods of graphical adjustment.
Map projection—cylindrical, conical and perspective.
Conform projections—The South African Systems.
Methods of mapping from air photographs, including the use of the simple stereoscope.
Definition of terms relating to the celestial sphere, and time.
Corrections to be applied to astronomical observations.
The astronomical triangle and calculation of time, longitude, lattitude and azimuth.
Methods of determining time, longitude, latitude and azimuth by means of the theodolite and chronometer.
Position lines and the Prismatic Astrolabe.

ELECTRICAL ENGINEERING.

Course I.

Electrical laws, units and standards. Ohm's law, Kirchoff's laws, simple networks. Magnetic properties of iron and steel and their measurement, magnetic circuits. Electrostatic capacitance and condensers. Elementary electrodynamics, self and mutual induction, induced E.M.F.
Electrical measuring instruments and their calibration.
Dynamo-electric machines, dynamos and motors, armature windings, armature reaction, commutation, characteristic curves of dynamos and motors, series and parallel operation, starting, reversing and speed control of motors, testing of dynamos and motors.
Storage cells.
Principles of alternating currents.
Electrotechnics laboratory. Experimental work related to the above.
Text-books:
Cotton: *Electrical Technology.*
Smith: *Problems in Electrical Engineering.*
Smith: *Electrical Laboratory Work (Instruments).*

Course II.

Alternating Currents.
Fundamental equation for a circuit traversed by an alternating current. Effects of resistance, inductance and capacitance in a circuit. Measurement of current, pressure and power. Power factor. Polyphase systems and transformer connections. Introduction to alternating current machines, windings, alternators, induction motor.
Electric Lighting and Power Distribution.
Fundamental units and principles. Photometry. Various light sources. Direct current and alternating current systems of distribution. Thury system. Comparative costs of transmitting power by continuous current and by single and polyphase alternating currents. Balancers. Boosters. Wiring of buildings. Fault localisation.

Instruments, Standards and Testing.

Electrical measuring instruments and standards.

Errors and calibration of instruments.

Instrument transformers. A.C. and D.C. bridges. Photo-cells, cathode ray tubes.

Testing of iron and steel insulating materials.

Laboratory work corresponding to the above.

Text-books:

Smith: *Problems in Electrical Engineering.*

Cotton: *Electrical Technology.*

Smith: *Electrical Laboratory Work (Machine).*

Course III.

Machines.

Theory of armature windings. Shape of E.M.F. wave. M.M.F. of armature windings. Harmonics. Output coefficient. The synchronous machine. The induction machine. The induction motor. The induction generator. The synchronous induction motor. A.C. commutator motors. Rotary converters. Phase advancers. Frequency changers. Rectifiers.

Power Stations.

Energy values and conversions. Heat cycles. Flow sheet of a steam power plant. Auxiliaries. Internal combusion stations. Hydro-electric stations. Recent developments and modern tendencies in the design of power station plant. Influence of load factor, diversity factor and power factor on the cost of plant and distribution system. Power system. Power factor improvement. Distribution costs. Tariffs. Kelvin's rule.

Distribution.

Bus-bars. Switchgear, switches, fuses and circuit-breakers. Introduction to symmetrical components. Short circuit currents, transients and surges. Earthing. Petersen coils. Cables. Transmission lines. Projection systems and devices. High voltage testing and phenomena.

Traction.

Principles of electric traction. Tramway and railway systems. Characteristics of A.C. and D.C. traction motors. Motor control. Regeneration and braking. Substations and distribution.

Text-books:

Kemp: *Alternating Current Electrical Engineering.*

Whittaker's: *Electrical Engineer's Pocket Book.*

Smith: *Problems in Electrical Engineering.*

Cotton: *Electrical Technology.*

Electrical Communications I.

Systems of telegraphy, relays, single and double current working. Simplex, duplex, quadruplex and multiplex telegraphy. Construction work.

Telephony, Microphones, receivers, manual and automatic exchanges. Line transmission. Introduction to filters. Introduction to radio communication. Thermionic valves, methods of amplification, oscillators, principles of wireless communication.

Text-book:

Mallet: *Telegraph and Telephony.*

Electrical Communications II.

Wave filters, high-pass, low-pass and band-pass.

Standing and travelling waves. Transmission lines.

Aerials, aerial arrays, polar diagrams. Theory of the ionosphere. Propagation. Direction finding.

The principles of rectification, detection and amplification. Oscillators. Modulation.

Cathode ray oscillographs. Introduction to television.

Electroacoustics. Analogies to transmission lines, acoustic impedance. Characterictic of the ear. Microphones. Loud speakers. The acoustics of enclosed spaces. Reflection at interfaces. Sound insulation.

Text-book:

Everitt: *Communication Engineering.*

Electrical Engineering Design I.

Mechanical and electrical properties of insulators and conductors. Elements of machine design, bearings, shafts, rotor and stator frames, couplings. Commutators and brush-gear. Magnetic circuits, pole construction and field forms, Carter's coefficient. Armature windings. Slot design. Heating, ventilation and insulation of machines. Fuses, isolating links, switches, resistors, starters and controllers. Electromagnets. Cables, ends and joint boxes. Conductors and collectors for electrical traction, rail bonds, insulators.

Electrical Engineering Design II.

Various designs to be worked out.

ENGINEERING ECONOMICS.

First principles of the economics of production and distribution, location, equipment and finance of an engineering business, trades unions and their influence, companies and their capital, industrial organisation, works organisation, administration and management, elimination of waste, cost of power, comparison of steam, gas, oil and electric drives, works costs, estimating, wage systems.

METALLURGY.

Properties of metals, metallurgical processes, furnaces, refractory materials, fuels, general metallurgy of copper, tin, lead, zinc, aluminium and their alloys. Elements of physical mettallury, binary alloys, iron-carbon system. Effects of mechanical and heat treatment.

Text-books:

Rhead: *Metallurgy.*

Rollason: *Metallurgy for Engineers.*

SOURCES OF TECHNICAL INFORMATION.

This special course, one lecture a week for one term, is given for all senior engineering students.

1. Sorting and integrating technical literature. Library procedure. Classification systems and indexing. Bibliographical method. Types of monograph series, dictionaries, handbooks. Government and patent publications.

2. Research and industrial organisations.

Government and trade research groups. Learned societies. Associations and institutions of engineering, chemistry, physics, etc.

International Congresses, World Power Conference, etc.

3. Brief Survey of conditions and availability of material in South Africa.

4. Expression in and dissemination of technical reports.

Notebooks: Oral, written, progress and final reports. Style, arrangement. Diagrams, pictorial representation. Typewriting. Duplication systems. Photographic reproduction.

CHEMISTRY AND CHEMICAL TECHNOLOGY.

Professor: F. L. Warren, A.R.C.S., D.I.C., Ph.D. (London), F.R.I.C.
Lecturers: F. H. H. Valentin, M.Sc. (Rand).
L. D. C. Bok, M.Sc. (Chem.) (Stell.), M.Sc. (Geol.) (Stell.), Dr.rer.nat. (Liepzig).

Course I. B.Sc. Eng.

Syllabus as for B.Sc. Course I. (see Faculty of Science), but emphasis will be given to applied aspect.

CHEMISTRY PRACTICAL.

Elementary theory of error and limits of accuracy.
Calibration of a measuring flask and burette.

1. Estimation of the loss of weight of solids on heating.
2. The equivalent of metals by oxygen and hydrogen methods.
3. The preparation of pure salts from metal, oxide, carbonate.
4. Simple colorimetric determination of pH.
5. Simple volumetric analysis, acidemetry. The estimation of iron, oxalic acid and hydrogen peroxide by permanganate.
6. The qualitative analysis of mixtures.

Text-books:
Mellor: *Modern Inorganic Chemistry* (Longmans).
Philbrick and Holmyard: *Inorganic Chemistry*.
Barclay, A.: Chemistry. Part I. Historical Review (Science Museum Publication).

Reference Books:
Partington: *Inorganic Chemistry*.
Deming: *General Chemistry*.
Eggert, J.: *Physical Chemistry*.
Riegel, E. R.: *Industrial Chemistry*.

CHEMICAL TECHNOLOGY.

Course IV.

It is not the purpose of this course to give details of chemical manufacture of any particular industry, but to teach the fundamental principles underlying industrial chemical processes. The aim is to give a training for responsible positions in industry requiring both a knowledge of the principles as well as economic factors.

Part of the training throughout the year will be given in the Departments of Electrical and Mechanical Engineering, and during the second half-session students will undertake practical work in the chemical technology laboratory.

The Diploma in Chemical Technology will be issued to internal students who hold the B.Sc. degree in Chemistry (with two courses in Physics and a course in Mathematics which must include the elements of the calculus) and who attend the lectures, carry out the laboratory work, and pass the examinations set in each subject of the course.

The duration of the course shall be not less than one academic year. The examination in each subject shall be conducted by one or more examiners nominated by the Constituent College concerned, and approved by the University. Before entering for the examinations a candidate must produce a certificate from the professor or lecturer concerned, stating that he has attended regularly and has duly performed the work of the course. A candidate who fails in not more than two subjects at the examination may be allowed to complete these at the examinations of the following year, but no diploma will be issued until all the subjects have been completed.

A candidate for the diploma shall be required to take the following courses: (a) industrial economics including workshop management and bookkeeping; (b) materials of construction; (c) power generation, transmission and utilisation, (i) Mechanical and (ii) Electrical; (d) conveyance and storage of materials; (e) engineering drawing and design; (f) unit operations and processes; (g)* compilation of indexing of technical literature and preparation of reports.

The Diploma will not be issued until the candidate has spent a period of two months in an approved Chemical works.

CHEMISTRY SECTION.

General: Principles involved in the transference of a chemical process from the laboratory through pilot plant to full-scale production. Effect of scale and of materials of construction. Importance of quantitative aspects. Units and conversion factors. Industrial stoichiometry.

Chemical Engineering Thermodynamics: Heats of vaporisation. Expansion and compression of gases. Entropy and the Second Law of Thermodynamics. Graphical representation of thermodynamic functions. Cyclic processes. Refrigeration and its application. Electrolysis and its industrial application. The electrochemical theory of corrosion.

Unit Operations: Flow and transportation of fluids. Heat transmission. Evaporation and condensation; distillation. Mechanism of diffusion processes. Humidity and air conditioning. Drying. Adsorption of gases.

*The examination in this course will take the form of an essay or of a report written during the latterpart of the course and involving the use of the methods, etc., dealt with in the earlier part of the course.

Extraction of liquids and solids. Crystallisation. Filtration, sedimentation and centrifugal separation. Agitation and mixing. Crushing and grinding. Size separation. High temperature treatment—roasting and calcining.

Unit Processes: The industrial aspect of some typical chemical reactions: Catalysis, saponification, sulphonation, chlorination, esterification, polymerisation, etc.

Chemical Plant Design: Balances of materials and energy. Materials of construction and their resistance to chemical agents. Industrial instruments for measurement and control of process variables. Treatment and disposal of waste products and effluents. Water treatment. The engineering and economic principles underlying the design and lay-out of chemical plant. Standards specifications.

Chemical Industries: The general principles dealt with under the above will be illustrated by lectures on, and visits to, various chemical and allied industries.

Practical Work: Analysis as applied to industrial process control. Practical work for at least half the year will be carried out in the Chemical Laboratory, in which tuition will be given in (a) various unit processes and unit operations with the aid of small scale equipment, and (b) the operation of one or more pilot plants.

MECHANICAL ENGINEERING SECTION.

Professor: J H. Neal, A.R.C.Sc., A.M.Inst.C.E., M.I.Mech.E., A.F.R.Aë.S., Wh.Ex.

Industrial Economics, including Workshop Management: First principles of the economics of production and distribution; companies and their capital, location and financing of a "factory," lighting and ventilation, power supply, trade unions and their influence, works organisation, administration and management, wage systems, standardisation, works costs, estimating.

Materials of Construction: Elementary strength of materials including tension, compression, shear and bending, mechanical properties of metals, alloys, timber, bricks, cements and lutes.

Power Generation Transmission and Utilisation: Various types of boiler; construction and testing of boilers, elementary theory and testing of steam, gas and oil engines, types and uses of engines, measurement of steam consumption, indicated and brake horse power, condensers, air and circulating pumps.

ELECTRICAL ENGINEERING SECTION.

Professor: H. Clark, D.I.C., B.Sc., M.I.E.E., A.C.G.I.

Power Generation, Transmission and Utilisation: Electrical laws, units and standards. Conversion constants. Generation, distribution and utilisation of direct current; types of d.c. motors and their applications; control and maintenance of d.c. motors; relation of efficiency to load. Generation, transmission, transformation and utilisation of alternating current; types of a.c. motors and their application; control and maintenance of a.c. motors; variation of efficiency and power factor with load; power stations; the energy flow sheets. Conversion of a.c. to d.c.

Direct currents: practical limitations, maximum size of generators, maximum voltage of generation; limitation to distance of transmission; efficiency of generators and motors; approximate cost per unit of energy generated by d.c. plants; approximate capital costs. Alternating currents; advantages from aspects of generation, voltage transformation and distribu-

tion; voltages in common use; efficiency of generation, transmission and transformation; approximate cost per unit of energy generated by a.c. plants; approximate capital costs of power stations; power factor; tariffs; power factor and coal clauses; the Electricity Supply Commission; factory wiring; legal responsibilities and wiring regulations (Mines and works and municipal). Industrial processes and their energy requirements; welding; spot and butt welders. Illumination of factories, laboratories and drawing offices.

Conveyance and Storage of Materials: Elevators, screw, push plate and push trough conveyors, belt conveyors, slat conveyors, reciprocating troughs, gravity buckets and conveyors, pneumatic and hydraulic methods, automatic feeding, handling of hot materials, speed, wear and power requirements. Storage in stock heaps, bins, silos; liquid storage, pumps, automatic weighing machinery.

Engineering Drawing and Design: Scales, accuracy, principles of projection, plans and elevations of simple details, working drawings and proportions of various fastenings, flanged joints, pipe joints, rivited joints, valves, pump details.

TECHNICAL LITERATURE AND REPORTS.

Dr. H. Coblans, Ph.D.

Sorting and Integrating Technical Literature. Library Procedure: Classfication systems and indexing; Bibliographical method; types of technical publications; periodicals; abstract journals; review and monograph series, dictionaries, handbooks; Government and patent publications.

Research and Industrial Organisations: Government and trade research groups; learned societies; associations and institutions of engineering; chemistry, physics, etc.; International Congresses, World Power Conference, etc.

Brief Survey of conditions and availability of material in South Africa.

Expression in, and Dissemination of, Technical Reports: Note-books; oral, written, progress and final reports; style, arrangement; diagrams, pictorial representation; typewriting; duplication systems; photographic reproduction.

Text-books:

Butler: *The Fundamentals of Chemical Thermodynamics, Part I.* (Macmillan).

Badger and McCabe: *Elements of Chemical Engineering* (McGrew-Hill Book Co.).

Shreve: *The Chemical Process Industries* (McGrew-Hill Book Co.).

Hougen and Watson: *Chemical Process Principles, Part I.* (John Wiley & Sons.).

Snell and Biffen: *Commercial Methods of Analysis* (McGrew-Hill Book Co.).

ENGINEERING GEOLOGY.

1. Mineralogy.

The composition and chief physical characteristic of:

(i.) the common rock-forming minerals;

(ii.) the principal ores of gold, silver, copper, lead, zinc, iron, arsenic, antimony, mercury, manganese and sulphur;

(iii.) Calcite, Dolomite, Gypsum, Anhydrite, Fluorite, Apatite and Barite;
(iv.) Tourmaline, Garnet, Kaolin, Talc, Chlorite, Serpentine, Natrolite

2. The processes of weathering. Soils and clays. Denudation by the action of rivers, ice, marine forces and wind. Lakes and sedimentation. Engineering works for the control of erosion.

Sedimentary rocks. The chief characteristics and mode of origin of the arenaceous, argillaceous, carbonaceous and limestone rocks. Jointing. The use of sedimentary rocks for building and road-making. South African examples.

The correlation of strata. Use of fossils. The establishment of the chronological succession of sediments.

3. Earth movements. Folding and faulting. Faulting and its relation to engineering works, such as dams, cuttings, tunnels, mine-shafts, and heavy structures.

4. Rock structures.

Vulcanicity and the igneous rocks. Ore-deposits. Igneous rocks used for building and road-making.

Metamorphism and metamorphic rocks.

Pervious and impervious rocks. Ground-water, artesian basins, springs.

5. Historical Geology.

Classification of strata into systems. Comparison of European and South African succession.

General features of the Paleozoic, Mesozoic and Neozoic faunas and floras of the World.

The lithological nature, fossil contents and Economic Geology of the South African systems.

6. Practical Work.

Field work. Recognition of hand specimens of rocks and minerals. The interpretation of geological maps.

MATHEMATICS (PURE AND APPLIED).

Professors:
Pure Mathematics: J. McKinnell, M.A., B.Sc. (Glasgow).
Applied Mathematics: P. Stein, B.A. (Cape), M.A., Ph.D. (Cantab.).
Senior Lecturer: R. L. Rosenberg, M.A. (Capetown), Dr. Phil. (Berlin), D.I.C. (London).
Lecturers: F. J. Schuddeboom, Phil. Cand. (Leiden), M.Sc. (Stell).
G. L. Isaacs, M.Sc. (C.T.).
N. du Plessis, B.Sc. (Hons.), (Rand).

PURE MATHEMATICS

Course I.

Algebra: Arithmetic and geometric series Σn, Σn^2, etc., quadratic functions; graphical and algebraic treatment of

$$ax^2+bx+c$$

$$px^2+qx+r$$

(numerical cases); binomial theorem for positive integral index. Use of binomial theorem for negative and fractional indices; simple partial fractions. Elements of finite differences.

Solid Geometry: Parallelism and perpendicularity of planes and straight lines; surface area and volume of prism, pyramid, right circular cone, cylinder and sphere.

Trigonometry: Addition theorems; solution of simple equations; solution of triangles; circular measure; functions of small angles; inverse circular functions; summation of simple trigonometrical series.

Co-ordinate Geometry: straight line; two straight lines; transformation of axes; the circle.

Calculus: function concept and its graphical representation; gradient of a curve; derivative of a function; simple integrals; diferentiation of polynomials and trigonometric functions; differentiation of products, quotients and functions of a function; simple maxima and minima; rates of change.

Text-books:

Fine: *College Algebra.*
Carslaw: *Plane Trigonometry.*
Briggs and Bryan: *Right Line and Circle.*
Godfrey and Siddons: *Solid Geometry.*
Granville: *Differential and Integral Calculus.*

Course II.

Calculus: limits; rules for differentiation; applications; elementary integration; summation theorem; applications; curvature; expansion of functions; convergency of series.

Co-ordinate Geometry: principal properties of parbola, ellipse, and hyperbola in Cartesian and polar co-ordinates; central conic.

Text-books recommended:

Loney: *Co-ordinate Geometry.* Vol I.
Granville: *Differential and Integral Calculus.*

APPLIED MATHEMATICS.

Course I.

Kinematics: simple rectilinear motion; constant acceleration; motion in a plane; composition and resolution of velocities and accelerations; parabolic and circular motion. Simple harmonic motion and simple pendulum.

Dynamics: Newton's laws of motion; mass momentum; force; friction; work; power; energy; direct impact; units and dimensions.

Statics: forces on a particle; parallel forces; bending moments; centres of gravity; couples; simple cases of equilibrium of a rigid body.

Hydrostatics: Archimedes' principle; pressure at a point; laws of fluid pressure; gas pressure.

Text-books recommended:

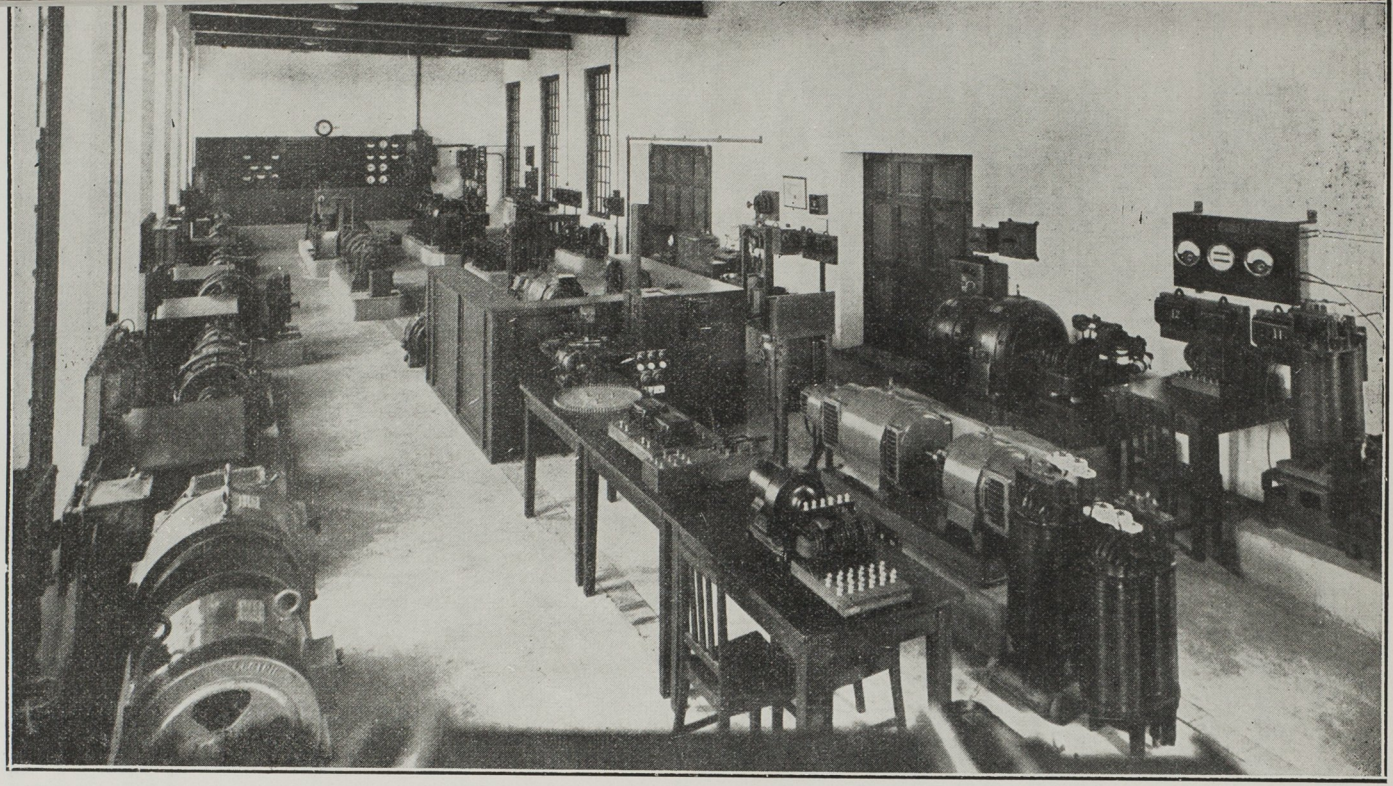
Loney: *Elements of Statics and Dynamics.*
Loney: *Elements of Hydrostatics.*

Course II.

Dynamics: simple harmonic motion; motion of a particle in a plane in Cartesian and polar co-ordinates.

Statics: equilibrium of coplanar forces; virtual work; equilibrium of chains; centres of gravity.

Rigid Dynamics: moments and products of inertia; compound pendulum; equations of motion of a rigid body in one plane; impulsive forces.



ELECTRICAL ENGINEERING HEAVY CURRENT LABORATORY, N.U.C. (HOWARD COLLEGE), DURBAN.

Elasticity: homogeneous strain; bending of thin beams; torsion.

Text-book recommended:
Phillips: *Mechanics.*

MATHEMATICS AND APPLIED MATHEMATICS.

Course III.

Algebra: approximate solution of numerical equations; elementary theory of determinants; geometric and analytic treatment of complex numbers; De Moivre's theorem; exponential functions for complex argument; Fourier series.

Co-ordinate Geometery: plane and straight line in three dimensions.

Differential Equations: geometrical interpretation; solution of simple types of equations: linear equations of the first order; linear equations of the second order; use of symbolic operators; elementary partial differential equations.

Text-books recommended:
Fine: *College Algebra.*
Granville: *Differential and Integral Calculus.*
Murray: *Differential Equations.*
Philips: *Mechanics.*
Timoshenko: *Vibration Problems in Engineering.*

Course IV.

For Civil Engineering candidates only: spherical trigonometry, elementary astronomy, theory of errors, method of least squares.

PHYSICS.

Professor: P. Mesham, M.Sc. (Liverpool).
Associate Professor: D. B. Hodges, O.B.E., B.A. (Cape), M.Sc., Ph.D. (Capetown); M. (S.A.), I.E.E.
Lecturer-Demonstrator: Vacant.
Lecturer-Demonstrator: P. S. Bullen, B.Sc. (S.A.).

Course I.

The syllabus is the same as that given in the Faculty of Science.

Course II.

1. Properties of Matter:
   Gravitation, capillarity, viscosity, diffusion.
2. Heat:
   Thermometry, gas thermometers, platinum thermometers, pyrometers.
   Gas laws: elementary kinetic theory, deviations from Boyle's law, equations of state, critical constants, corresponding states, liquefying machines.
   First Law of Thermodynamics: mechanical equivalent of heat; specific heats of gases, ratio of specific heats, adiabatic and isothermal expansions and compressions, adiatic and isothermal elasticities, heat of solution, of neutralisation and of combustion, and simple thermo-chemical phenomena.

Second Law of Thermodynamics: Carnot's cycle, pv and temperature-entropy diagrams and their uses, efficiency of a reversible engine, absolute scale of temperature, latent heat equations.

Radiations. Theory of exchanges. Stefan's law and application.

3. Sound:

Nature of sound waves in air, velocity of sound, measurement of frequency, strings, pipes, diatonic scale and temperament.

4. Electricity and Magnetism:

Ohm's law and its application to the measurement and comparison of resistances, potentiometers.

Magnetic field due to straight and circular currents, galvanometers, solenoid, electromagnets.

Laws of force between magnetic poles, laws of mutual action between short magnets; magnetic forces and magnetic potentials in the field of a short magnet; Terrestial magnetism.

5. Corpuscular and Wave Radiations and Quantum Phenomena:

Velocity of light, wave-length, interference, polarisation. Some knowledge of cathode rays, positive rays, X-rays, photo-electric effect, radioactivity and nuclear processes as well as the electronic charge and the change of mass with velocity. Atomic energy levels, excitation and ionisation.

Text-books:

Wagstaff: *Properties of Matter* (University Tutorial Press).
Hart: *Introduction to Advanced Heat* (Bell).
Catchpool: *Text-book of Sound* (University Tutorial Press).
Starling: *Electricity and Magnetism for Advanced Students* (Longmans).

Professional Courses and Examinations.

Natal Advocates Examination.

Architecture and Quantity Surveying.

S.A. Pharmacy Examination.

Attorneys' Admission Examination.

Professional Accountancy Courses.

Examination in the Theory of Land Surveying.

NATAL ADVOCATES' EXAMINATIONS.

PROFESSIONAL COURSES

1. The Examinations for Natal Advocates are conducted by the University under the Rules of Court framed by the Natal Provincial Division of the Supreme Court, as amended by Government Notice No. 2186, *Government Gazette*, 3rd December, 1920.

2. Candidates for these examinations must *either* (a) have been admitted as attorneys of the Natal Provincial Division or (b) have been admitted as candidate attorneys serving articles in Natal and have passed all examinations necessary to entitle them to be admitted as attorneys of the Natal Provincial Division.

A certificate to this effect from the Secretary of the Incorporated Law Society, Natal, must be attached to the candidate's entry form on his entering for the preliminary examination.

3. Regulations, syllabuses, standards for a pass, and registration and examination fees are as for the degree of Bachelor of Laws.

4. Candidates intending to take the Natal Advocates' Examination under these rules should make themselves acquainted with the conditions under which they are entitled to practice either as advocates or as attorneys. These rules are contained in Government Notice No. 2186, *Government Gazette*, 3rd December, 1920, and inquiries on this point should be addressed to the Secretary of the Natal Incorporated Law Society, Change Lane, Pietermaritzburg. (See Order XXXII., Rules 6-15, Natal Supreme Court Rules.)

ARCHITECTURE AND QUANTITY SURVEYING.

The course for the Certificate in Architecture shall extend over not less than five years, and the course for the Certificate in Quantity Surveying shall extend over not less than four years, during the whole or any portion of which candidates may attend as part-time students of the Natal University College.

Every candidate for the Certificate in Architecture or Quantity Surveying must produce evidence that:

(a) He is eligible for registration as a matriculated student, or

(b) he holds a certificate of exemption granted by the Central Council of the Institute of South African Architects or the Board of the Chapter of Quantity Surveyors of South Africa with the approval of the Senate of the College.

Candidates must have passed in Mathematics of Matriculation standard and are strongly advised in addition to take a Science subject of matriculation standard.

Every candidate shall work under the general guidance of a qualified supervisor approved by the Central Council of the Institute of South Africa.

A candidate for the Certificate in Architecture who in any year has failed in any course or courses, but has obtained credit in the minimum number of qualifying courses in that year, may be permitted to present himself at the end of the succeeding vacation for a supplementary examination in the course or courses in which he has failed.

Every candidate for the Certificate in Architecture or the Certificate in Quantity Surveying shall attend the courses specified and complete these courses by passing the prescribed examinations.

No candidate shall be allowed to present himself for examination in any subject for the Certificate in Architecture or Quantity Surveying unless the Senate has received a certificate issued by the professor or lecturer under whom he has studied that subject, stating that his attendance at the course has been satisfactory and that he has duly performed the work of the class; provided that, if a student has been absent from more than one-third of the lectures or class-meetings in a subject, no certificate in respect of such subject shall be issued to the student, except with the express sanction of the Senate.

REGULATIONS AND CURRICULUM:

Certificate in Architecture.

The following qualifying courses shall be included in the first year of study for the Certificate in Architecture:—

Graphics.
Building Construction.
Architectural Drawing.
History of Architecture.

Every candidate shall also attend, satisfactorily, the course in Freehand Drawing and Rendering. The course shall be at the discretion of the Senate.

No candidate for the Certificate in Architecture shall obtain credit in respect of any one of the qualifying courses of the first year of study unless he has completed two such courses in one and the same academic year; and no candidate shall be admitted to the work of the second year unless he has completed three such courses.

The following qualifying courses shall be included in the second year of study for the Certificate in Architecture:—

Theory of Structures I.
History of Architecture.
Building Construction.
Architectural Design.

No candidate shall obtain credit in the second year until he has completed all the courses of the first year.

No candidate for the Certificate in Architecture shall obtain credit in respect of any one of the qualifying courses of the second year of study, unless he has completed two such courses in one and the same academic year; and no candidate shall be admitted to the work of the third year unless he has completed at least three such courses in the second year and all the courses of the first year.

The following qualifying courses shall be included in the third year of study for the Certificate in Architecture:—

History of Architecture.
Architectural Design.
Sanitation and Hygiene.
Theory of Structures II.
Building Construction and Materials (two qualifying courses).

No candidate for the Certificate in Architecture shall obtain credit in respect of any one of the qualifying courses of the third year of study, unless he has completed two such courses in one and the same academic year; and no candidate shall be admitted to the work of the fourth

year unless he has completed all the qualifying courses of the second year of study and has also completed at least three of the qualifying courses of the third year of study.

The subject of Architectural design must be included in the fourth year of study for the Certificate in Architecture.

No candidate shall be admitted to the examination in Design IV. in the fourth year until he has completed the work of the fourth year.

No candidate shall be admitted to the work of the fifth year unless he has completed all the qualifying courses of the third year of study and no candidate will be permitted to sit for the examination in Design IV.

The following qualifying courses shall be included in the fifth year of study:—

Architectural Design.
Working Drawings.
Theory of Structures III.
Professional Practice.
Specifications.
Estimates and Quantities.
Town Planning and Landscape Design (optional).

Every candidate for the Certificate in Architecture shall be required to complete at least three of the qualifying courses of the fifth year of study before being credited with having completed any qualifying course in the fifth year of study.

CERTIFICATE IN ARCHITECTURE—SYLLABUSES

First Year Courses.

Architectural Drawing: Lectures and Studio Work.

Introduction to drawing as the architect's medium. The use of drawing instruments and the technique and conventions of architectural drawings.

(1) Measured drawings.
(2) Architectural presentation.
(3) Freehand drawing, sketching and rendering.

Introduction to domestic architecture. The difference between formal and vernacular buildings. Studies of different historical domestic types, including:

Primitive hut types: Mediterranean and English vernacular; Italian villas; Georgian house; Colonial American house; Cape Dutch house; Modern idiom.

Architectural lettering. The science and use of colour. Elementary Architectural Design.

History of Architecture.

Pre-Hellenic architecture in the Aegean. A detailed survey of Knossos, Mycenae and Tyrins.

A broad survey of the Greek City as the expression of the social, political and religious background of the time, followed by a detailed study of the elements, the Agora and Stoa, Temple and Theatre, House, Gymnasium and Stadium.

A broad study of the Roman City in terms of social, political and religious background. A detailed study of the elements, the Forum, Basilica Temple, Thermae, Theatre and House.

Note.—In relation to the three paragraphs above, the methods of construction and detail employed must also be thoroughly investigated.

Text-books:
Banister Fletcher: *A History of Architecture.*
F. M. Simpson: *A History of Architectural Development,* Vols. I. and II.

Building Construction.

(1) Building sites, selection; trial holes; bearing power of soil; levelling; preparation and preliminary operations; setting out of building works and trenching.
(2) Brickwork; manufacture of bricks, tiles, earthenware; stoneware, terracotta, their characteristics and uses; technical terms in brickwork; bonds and bonding; foundations and footings; damp proof materials; arches and lintels; doors and window openings, cills and thresholds; corbelling; copings.
(3) Masonry; Technical terms; labours; joints; types of walling; compound walls; arches; gables; cornices; copings; openings (cills, etc.).
(4) Carpentry and Joinery; Growth, preparation and uses of timber; joints; single floor construction; doors and windows; roof trusses (simple types to include the King Post Truss); roof coverings (corrugated sheets, slates and tiles; structural plumbing in flats and gutters).

Text-books:
Building Construction I. and II. W. B. McKay.
(a) Construction: Building Construction—Elementary Course. G. A. Mitchell.
Architectural Building Construction, Vol. I. Jaggard and Drury.
Rivington's Notes on Building Construction, Parts 1 and 2.
(Any of the above may be used as a basis for the course.)
(b) Materials: Building Construction—Advanced Course. G. A. Mitchell.
Builders' Materials. B. H. and R. G. Knight.
Rivington's Notes on Building Construction—Materials.

Geometrical Drawing.

(1) *Plane Geometry.* Construction of plain and diagonal scales; various geometrical problems; conic sections, their tangents, foci, directrices and evolutes; spirals; areas; helices.
(2) *Solid Geometry.* Principles of projection; projections of points and lines; projections of solids in simple positions; changing planes of projection; oblique planes, projection of points, lines, plane surfaces and solids lying on oblique planes; section of solids; horizontal projection; pictorial isometric and perspective projection; interpretation of solids; developments; sciagraphy.

Text-book:
Practical Geometry and Graphics: D. A. Low.

Second Year Courses.

History of Architecture.

A comprehensive study of Byzantine, Early Christian, Italian Romanesque, French Romanesque and Gothic architecture in terms of the social, political and religious background of each period. The methods of construction and detail must also be investigated.

Text-books:
Banister Fletcher: *A History of Architecture.*
F. M. Simpson: *A History of Architectural Development,* Vols. I. and II.

Architectural Design.

Small problems in planning and design, e.g., the small house, garden, pavilions and baths, the small school, etc.

Planning: The planning and equipment of buildings.
Domestic: Houses, Flats, Farm Buildings, Hotels and Clubs.
Hospitals: Sanatoria, Clinics, Educational: Nursery, Primary and Secondary School, Boarding Schools, Technical Colleges, Universities, Laboratories, Libraries, Museums, Art Galleries.
Religious: Churches, Synagogues, Mosques, Crematoria.

Building Construction.

Brickwork: Construction of walls on sloping ground; piers in brick and stone, factors which determine resistance to loads. Cavity wall construction for single and double storey houses, including a study of the different forms of construction of foundations, lintols in walls finished externally in face-brick and in plaster, the support of wood and concrete floors at upper levels, the details of construction of the cavity wall in relation to pitched roofs with both open and enclosed eaves and with the flat roof. Multiple fireplaces, method of gathering flues to form a central chimney stack: heat reflection and draught in design of fireplaces: detail of hearth construction on ground and upper floors; factors influencing size and efficiency of fireplace openings; linings, dampers and hearth finishes.

Masonry: Building stones, their structure, characteristics and uses; setting out of stone niche; stone arche; stone arches; compound walls.
Concrete: Introduction to reinforced concrete construction; description of general principles in normal construction, mushroom construction, special construction for roofs over large uninterrupted spans; concrete stairs showing details of typical finishes to treads and risers, handrails, etc.

Steelwork: Manufacture of cast iron, wrought iron and steel; their characteristics and uses in buildings; advantages of steel framed structure over those in which walls perform the supporting function. Connections of stancheons with beams and at base; typical sections through build up stanchion; steel framed roof trusses with details of joints; steel stairs; steel windows; typical sections used; standard, medium and heavy universal, and industrial sections, methods and details coupling standard units to form larger windows; doors and thresholds.
Carpentry: Flitch beams; double and framed floors; Queen post, Mansard and Belfast roof trusses with details of joints; partitions of all types with details of joints; sound proofing of floors and partitions.
Joinery: Double hung sash window; pivot hung sashes; stairs—definition of terms—types of landing—cut and close strings; straight, dog-leg, open newel and geometrical types.

Building Bye-Laws.

A general knowledge is required of local building bye-laws.

Text-books:
Building Contsruction III. W. B. McKay.
Mitchell: *Building Construction*, Vol. I.
Jaggard & Drury: *Architectural Building Construction*, Vol. II., Part I.
Rivington's Notes on Building Construction, Parts I. & II.
Building Construction—Advanced Course. G. A. Mitchell.
Builders' Materials... B. H. and R. G. Knight.
Rivington's Notes on Building Construction. Materials.

Theory of Structures I.

Definition of forces: force polygons; moments of forces; bending of beams; link polygons; reactions, shear force and bending moment; conditions of equilibrium; framed structures; forces in perfect framed structures by force polygons; method of sections and resolution of forces; centroids and centres of gravity. Stress and strain: load extension diagram for structural steel: Hooke's Law: Young's modulus: factors of safety; weights and alowable stresses for various materials; simple rivitted joints; dead and live loads; elementary theory of bending (for rectangular homogeneous sections only); tabulation of design loads for roof trusses.

Text-books:
Low: *Practical Geometry and Graphics.*
Waldram: *Principles of Structural Mechanics.*

THIRD YEAR COURSE.

History of Architecture.

A comprehensive study of the origin, influences and development of the Italian Renaissance, with particular reference to the social, political and religious background of the period. A detailed study of the Palace architecture of Florence, Venice and Rome, the Church, Vilas and Gardens.

The influences and development of the French Renaissance in terms of the social, political and religious background of the period. A broad survey of the Early French Renaissance, the architecture of the Louis Town and Garden Planning.

The influences and development of the English Renaissance in terms of the social, political and religious background of the period. The development of the English house, garden planning and the English contribution to town planning.

The decline in architecture and the evolution of the contemporary movement. A broad survey of Contemporary Architecture in Europe, England, America and South Africa.

Text-books:
Banister Fletcher: *A History of Architecture.*
F. M. Simpson: *History of Architectural Development,* Vol. III.

Architectural Design.

Advanced Problems in Planning and Design.
Commercial: Offices, shops, stores, warehouses, banks.
Industrial: Factories.
Entertainment: Cinemas, theatres, concert halls.
Transport: Railway and bus stations, garages, filling stations, airports, aerodromes, seaplane stations.

Municipal: Community centres, town halls and municipal offices, fire stations, abbatoirs, market halls, public lavatories.

Government: Post offices, police stations, magistrates' courts, high courts, appeal courts, Houses of Parliament.

Sports: Stadia, swimming baths, country clubs, golf clubs, sports pavilions, recreation centres.

Books recommended:
Rees: *The Planning Requirements of Modern Buildings.*
E. and A. E.: *Planning.*

Building Construction.

Temporary Carpentry: Planking and strutting in all soils up to 12 feet deep; Raking, Flying and Dead shores; Centering for reinforced concrete columns, slabs and beams; Centering for arches, long and short spans; Scaffolding, gantries, derrick and hoist towers.

Carpentry: Skylights and lantern lights; Dormer windows with flat and hipped roofs; Ventilating turrets; Open timber roofs and timber spires.

Foundations: Nature of ground and safe loading. Causes of failure; Foundations supported on piles, grillage and rafts; Sheet piling. Surface water and sub-soil drainage.

Masonry: Retaining walls; Fixing stone facings to steel-framed buildings, suspending in soffits and jams of large doorways, fixing marble lining to walls internally; The manufacture, finishing and fixing of precast concrete facings to buildings.

Joinery: Panelling, traditional and laminated board; Internal fittings, counters, kitchen dressers, wardrobes; Shop fronts, construction, illumination and materials.

Ironmongery: Survey of ironmongery generally and the preparation of ironmongery schedules.

Plumbing: Construction and assembly of all types; urinals; lavatory basins, baths, sinks, W.C. pans and cisterns, flushing valves, taps and traps; Jointing of all classes of piping. The single and double pipe systems of drainage. Hot and cold water systems in buildings and houses, the layout of fire services in city buildings.

Founder and Smith: Steel fire escapes, balustrades, lantern lights; Welding in relation to steel construction, types of weld.

Lime, Gypsum and Plasters: Materials and method of manufacture, characteristics and uses. Plaster finishes for external and internal use, manufacture and mixing and aplication.

Tiler and Pavoir: Glazed and encaustic tiles and their uses. Finishes at angles, at junctions with floor and plaster above, and methods of jointing. Floors of encaustic tiles, rubber, cork, granolithic, mosaic, etc.

Painting and Glazing: Materials, manufacture, characteristics, uses and specification.

Text-books:

Mitchell: *Building Construction*, Vol. II.

Jaggard and Drury: Vol. II., Part II.

Theory of Structures, II.

Theory of bending; moments of inertia; section modulus; horizontal shear; calculation of wooden beams, rolled steel joints and plate girders; deflections; elementary theory of struts; foundation; eccentric loads. Advantages of combining steel and concrete in reinforced concrete; theory and design of slabs, rectangular beams and T beams; bond stress; shear reinforcement; columns, co-ordinated design of reinforced concrete floor with slab; secondary and main beam columns.

Text-book:

Waldam: *Principles of Structural Mechanics.*

Sanitation and Hygiene.

Principles governing the design of drainage systems for buildings; description of sewerage systems; composition of sewerage; methods of disposal of sewage; essentials of a satisfactory ventilation system; methods of ventilation; air conditioning; principles governing the heating of buildings; descriptiin of various methods of heating.

Text-books:

Blake: *Drainage and Sanitation.*

Thomson: *Modern Sanitary Engineering*, Part I.

FOURTH YEAR COURSE.

Architectural Design.

Lectures and studiowork. Advanced problems in planning and design. Depending on the number of students—fifth year subjects may be introduced into the fourth year, but the examination in these subjects will be taken in the fifth year.

Architectural Design and Working Drawings.

These subjects fall under three heads in the final year:

(1) A thesis subject, to be approved by the lecturer, is undertaken by each student, and this occupies the whole academic year. The subject chosen must be such as to give the student experience in research methods, as well as providing him with the opportunity to give architectural expression to the principles he has assimilated in the previous four years of study. Subjects may be of a generalised nature, such as "A Survey of the Technical and Material Resources for Building in South Africa," or of specific application, for example: The planning and equipment of a large building complex—hospital, school, library or housing scheme.

(2) A working drawing subject is set, usually for a building on a town site, and in this the student must prepare a set of working drawings including half inch and full size details, and showing drainage, electrical work, and built-in equipment. This has to be handed in at the end of the first term.

(3) Sketch designs are set every fortnight. These occupy from 12 hours to one week according to the programme, and are criticised and marked by the lecturer in design. The subjects are set so as to enable the student to gain a wide experience in his final year of advanced problems in the spheres of domestic and monumental architecture. Included are subjects of a general nature to enable critical analyses of historical and contemporary work, and to investigate the broad underlying principles of structure and space in architecture today. The emphasis varies in the different subjects, thus it may be on the economical aspect of a project or it may be set with reference to given material restrictions. Special emphasis is given to the arrangement of large buildings of the hotel type with their attendant problems of circulation, service and equipment, and the disposition of public rooms, and one or two subjects are concerned with the relationship of large groups of buildings with their settings—both on town and country sites. The problems of formal planning, "free" plannings, articulation, wall and window treatment, "character" and materials are considered during the course, and examples of English, American and Continuental architecture are scrutinised and discussed in the classes.

The following books are recommended for final year study:

F. R. S. Yorke: *The English House. The Modern House. The Modern Flat.*

Alired Roth: *The New Architecture.*

Burnet Tait and Lorne: *The Informations Books* (4 vols.).

Christopher Tunnard: *Gardens in the Modern Landscape.*

Le Corbusier: *Oeuvre Complete* (3 volumes). *The City of Tomorrow* and *Towards a New Architecture* (English ed.). *L'Architecture Vivante* (portfolios—7 volumes).

Moholy-Nagy: *The New Vision* (English ed.).
Grophius: *The Bauhaus* (English ed.).
J. M. Richards: *An Introduction to Modern Architecture.*
The Architectural Review, The Architectural Forum, The Architectural Record, The South African Architectural Record, Specification (annual), *Planning* (annual).

Specifications.

Specifications and their relation to building contracts. The arrangement and presentation of specifications. Detailed study of a specification for materials to be supplied and work to be done for a double storey house, approximate value £4,000. Specifications for roof coverings for pitched and flat roofs, internal fittings, and for various sub-contracts in large buildings. Specifications for alterations and additions to existing work.

Estimates and Quantities.

Methods of estimating costs of building work. The principles of squaring dimensions and elementary principles of abstract, e.g., billing and checking.

Text-books:
Macey: *Specification in Detail.*
Architectural Press: Specification.
Eversheld: *Quantity Surveying for Builders.*
Standard System of Measuring in South Africa.

Professional Practice.

The rights, privileges responsibilities and duties of the Architect and Quantity Surveyor. Agency. The Architect's and Quantity Surveyor's (Private) Act of 1927 and Regulations. Office practice—preparation of drawings, correspondence, records, filing systems, etc. The law of Copyright. Approximate estimates. Tenders. Contract. The Standard forms of building contract. Surieties. Inspection of works in progress. Issue of variation orders and certificates. Arbitrations. Surveys. Valuations. Reports. Municipal building drainage and health by-laws.

Books recommended:
H. Hamilton Turner: *Architectural Practice and Procedure.*
Wille and Millin: *Mercantile Law of South Africa.*
H. Ingham Ashworth: *Architectural Practice and Administration.*
Coppinger on the *Law of Copyright.*
L. G. P. Pyemont: *Arbitration in South Africa.*
H. B. Creswell: *The Honeywood File, The Honeywood Settlement, Jago v. Swillerton.*

Town Planning (Optional).

Lectures and Studio Work.

The history of town planning; town planning legislation in South Africa and overseas; regional planning; contemporary town planning; types of plan; replanning an existing town; the civic survey; planning a new town; zoning; boundaries and approaches; roads and streets, widths and gradients, junctions; open spaces, squares and recreational areas; railways and airports; subdivision of land, sizes of stands, distance apart of streets in different areas; civic art.
Landscape Design.

Lectures and Studio Work.

The history of garden planning; contemporary gardens; principles of garden layout; a study of indigeneous and exotic trees, shrubs and hedge plants.

Books recommended:

Adams: *Outline of City Planning.*
Adams: *Recent Advances in Town Planning.*
Adshead: *Town Planning and Town Development.*
Haverfield: *Ancient Town Planning.*
Hughes and Lambourne: *Towns, Ancient and Modern.*
Sharp: *Town Planning.*
Stubbs: *Living in Cities.*
Le Corbusier: *La Ville Radiense.*
The City of Tomorrow.
Thompson: *Site Planning in Practice.*
Mumford: *The Culture of Cities.*
Thompson: *Site Planning in Practice.*
Triggs: *Garden Craft in Europe.*
Dutton: *The English Garden.*
Tunnard: *Gardens in the Modern Landscape.*
Shepherd and Jellicoe: *Italian Gardens of the Renaissance.*

Theory of Structures III.

Advanced reinforced concrete: Theory of earth pressure; resistance lines for retaining walls and dams; theory of three hinged arches; calculation of bending stresses in arch ribs. Design work in connection with the above.

Books recommended:

Waldram: *Principles of Structural Mechanics.*
Faber: *Reinforced Concrete Simply Explained.*
Faber: *Constructional Steelwork Simply Explained.*

REGULATIONS AND CURRICULUM—CERTIFICATE IN QUANTITY SURVEYING.

The following qualifying courses shall be included in the first year of study:—

Building Construction.
Elementary Quantities and Mensuration..
Geometrical Drawing.

Every candidate shall also attend satisfactorily courses in History of Architecture and Architectural Drawing.

No candidate shall obtain credit in any one of the qualifying courses referred to in the above paragraph unless he has completed two such courses in one and the same academic year; and no candidate shall be admitted to the work of the second year unless he has completed all such courses.

The following qualifying courses shall be included in the second year of study:—

Building Construction.
Quantities.
Sanitation and Hygiene.
Theory of Structures I.

No candidate shall obtain credit in any of the qualifying courses referred to in the last above paragraph unless he has completed two such courses in one and the same academic year; and no candidate shall be admitted to the work of the third year unless he has completed three such courses.

The following courses shall be included in the third year of study:—

Building Construction.
Materials.
Quantities.
Surveying and Levelling.
Theory of Structures II.

No candidate shall obtain credit for any one of the qualifying courses referred to in the last above paragraph unless he has completed three such courses in one and the same academic year; and no candidate shall be admitted to the work of the fourth year unless he has completed four such courses.

The following courses shall be included in the fourth year of study:—

Analysis of Prices.
Building Construction Drawings.
Professional Practice.
Theory of Structures III.
Specifications.
Quantities.

Every candidate shall be required to complete at least four of the qualifying courses of the fourth year of study before being credited with having completed any qualifying course in the fourth year of study.

A candidate for the Certificate in Quantity Surveying who in any year has failed in any course or courses, but has obtained credit in the minimum number of qualifying courses in that year may be permitted, by special permission of the Senate, to present himself at the end of the next succeeding long vacation for a supplementary examination in the course or courses in which he has failed.

CERTIFICATE IN QUANTITY SURVEYING.

SYLLABUSES.

First Year Courses.

Geometrical Drawing.—See syllabus, Certificate Architecture.

Building Construction.—See syllabus, Certificate in Architecture.

Elementary Quantities.—The principles of squaring dimensions and elementary principles of abstracting, billing and checking.

Mensuration.—The mensuration of lines. The calculation of areas. The contents of solid bodies. The quantities in banks and cuttings, brickwork, ironwork, etc.

History of Architecture.—Introductory course in the History of Architecture, with special reference to the climatic, social, political and religious conditions; materials and their influence on design methods of construction, and the planning and general characteristics of the architectural treatment. Although there is no examination in this course, students are required to read up the subject thoroughly and make notes and sketches of typical examples in each period. The course covers Egyptian, Assyrian, and Babylonian, Persian, Greek, Roman, Early Christian, Byzantine, Romanesque, Gothic, Renaissance and Modern Architecture.

Text-books:

Banister Fletcher: *History of Architecture*, or

Simpson: *History of Architectural Development*. 3 Vols.

Architectural Drawing.—the elements of architectural form.

Second Year Courses.

Building Construction.—See syllabus, Certificate in Architecture.

Theory of Structures I.—See syllabus in Certificate in Architecture.

Sanitation and Hygiene.—See syllabus, Certificate in Architecture.

Quantities.—Taking off simple structures; general principles and examples, abstracting and billing. Simple examples are applied to earthwork, brickwork, walling, reinforced concrete, roofing, carpentry, joinery, plastering, glazing and painting.

Third Year Courses.

Building Construction and Materials.—See syllabus, Certificate in Architecture.

Surveying and Levelling.—Lectures and practical work. Practical surveying in the field. General principles. Use and adjustment of surveying instruments. Surveying with the chain alone. Construction of base lines. Surveying across obstacles. Theodolite surveying. Trigonometrical surveying. Plotting, copying, enlarging and reducing maps. Use of maps. Trial and check levelling. The preparation of longitudinal and cross sections. Contouring and preparations of sections generally. This course will be dealt with from the point of view of the Quantity Surveyor, and not of the Land Surveyor.

Theory of Structures II.—See Syllabus, Certificate in Architecture.

Quantities.—Advanced work including reinforced concrete, precast concrete, masonry, drainage, steelwork, plumbing and measurements applied to larger structures. Measuring up from executed work. Absorption and billing.

Fourth Year Courses.

Theory of Structures.—See syllabus, Certificate in Architecture.

Specifications.—The methods and principles of specification writing in detail.

Building Construction Drawings.—Plans, elevations and sections of a simple type of building drawn to a scale of not less than eight feet to an inch. Details of such building drawn to a scale of not less than half-inch to a foot, showing the construction of the walls, roofs, and any special portions.

Quantities.—Advanced work including bridges, tunnels, roads, etc. Variations and accounts.

Professional Practice.—See syllabus, Certificate in Architecture.

Analysis of Prices.—Analysis and general determination of prices, estimating.

PRELIMINARY SCIENTIFIC EXAMINATION OF THE S.A. PHARMACY BOARD.

The Natal University College is recognised by the S.A. Pharmacy Board as an institution at which the prescribed courses of training and study for its Preliminary Scientific Examination for Chemists and Druggists may be taken.

Details of syllabus, etc., are to be obtained from the S.A. Pharmacy Board, P.O. Box 205, Pretoria.

ATTORNEY'S ADMISSION EXAMINATION.

Classes are held in preparation for this examination in Maritzburg and in Durban, and are intended primarily for the benefit of candidate attorneys.

L8. The examination is conducted in two parts, and no candidate may enter for Part II. until at least two academic years after having passed Part I., except with consent of the Senate.

The examination in the subjects prescribed for Part I. and for Part II. will take place annually in December.

L.19. Candidates for Part II. are required to take a course in Book-keeping.

L.10. Candidates for the examination must register their names with the Registrar, Natal University College, as internal students, and are subject to the rules and regulations of the University affecting internal students.

L.11. No person is entitled to be registered as a candidiate for the examinations unless he furnishes a certificate of good conduct deemed satisfactory by the Committee.

L.12. Candidates must attend the prescribed number of lectures. The lecturer may withhold permission to enter for the said examinations unless the candidates have attended a satisfactory number of lectures.

Detailed information regarding the current syllabus of the examination may be obtained from the Professor or from the Secretary of the Joint Committee for Professional Examinations, Pretoria.

REGULATIONS FOR THE EXAMINATION IN THE THEORY OF LAND SURVEYING.

The regulations for this examination will be found in the Official Law and Survey Handbook of the Joint Committee for Professional Examinations. Further information may be obtained on application to the Registrar.

PROFESSIONAL ACCOUNTANCY CLASSES.

EXAMINATIONS OF THE NATAL SOCIETY OF ACCOUNTANTS.

PART-TIME LECTURERS—PROFESSIONAL COURSES.

Accountancy.

DURBAN.

H. J. L. Brown, B.Com. (S.A.), C.A. (S.A.), Accounting and General Commercial Knowledge.
W. J. Fairbairn, C.A. (S.A.), Trustees' and Executors' Accounts.
N. S Tod, A.S.A.A., C.A. (S.A.), Accounting.
R. Walker, B.Com. (S.A.), C.A. (S.A.), Commercial Arithmetic.

PIETERMARITZBURG.

C. E. Axelson, M.Com. (S.A.), Accounting and Auditing.
N. D. Downard, C.A. (S.A.), Accounting and General Commercial Knowledge.
F. H. Udal, Commercial Arithmetic.

The following Joint Advisory Committee of the Natal Society of Accountants and Natal University College exists for the purpose of dealing with all matters affecting the training of articled clerks for their professional examinations:—

Members elected by:

Natal Society of Accountants:
H. W. C. Hickson, Esq., President, Natal Society of Accountants.
G. E. Noyce, Esq., Member of General Examining Board.
N. S. Tod, Esq.
N. Ross Lake, Esq.

Natal University College:
Dr. E. G. Malherbe, Principal.
Prof. K. F. Byrd.
Prof. H. R. Burrows.
Prof. T. Kelly.

Close relations exist between Natal University College and the Natal Society of Accountants, which now requires all articled clerks residing in Durban and Pietermaritzburg to attend regular courses at the College in preparation for the examinations of the South African Accountants' General Examining Board. Articled clerks attending these courses are University students with full student privileges, and they are urged to share with other students in the student activities of the College.

Full courses of training are provided for the examinations of the South African Accountants' General Examining Board:

Intermediate:

Section A—(1) Elementary Bookkeeping.
(2) General Commercial Knowledge.
(3) Commercial Arithmetic.

Section B—(1) Bookkeeping.
(2) Mercantile Law and Company Law (excluding Winding Up).
(3) Elementary Auditing.
(4) Statistics as applied to Commerce.

Final:
Section A—(1) Insolvency and Executorship Law.
(2) Company Law.
(3) Mercantile Law.
Section B—(1) Advanced Accounting, Paper 1.
(2) Advanced Accounting, Paper 2.
(3) Trustees' and Executors' Accounts.
(4) Auditing and General Practice.
(5) Union Income Tax Law and Accounts.
(6) Cost Accounts.

Examinations are now again held in May and November each year.

Special arrangements are being made to meet the needs of returning soldiers, by means of special lectures, refresher courses, etc. A refresher course for qualified accountants in a specialised subject, such as Income Tax, will be arranged if there is an adequate demand. For particulars apply to the Professor of Accounting at the College.

For particulars as to requirements for the Preliminary Examination and all other general information as to articles and examinations the student is referred to the Secretary, Natal Society of Accountants, Colonial Mutual Buildings, P.O. Box 1473, Durban. Enrolment for the courses takes place at the Commerce Building, University Avenue, off Warwick Avenue, towards the end of February. Classes commence at the beginning of March.

Special Final Examination of the Society of Incorporated Accountants and Auditors.

Students are referred for full particulars to the Hon. Secretary, P.O. Box 859, Durban. Articled clerks of this Society are now required first to pass all the examinations of the South African Accountants' General Examining Board, after which they may qualify as Incorporated Accountants by passing a Special Final Examination in the following subjects:

Advanced Accounting, including Partnership and Executorship Accounts and Income Tax.
Auditing and the General Duties of Professional Accountants, including Income Tax.
Economics.
Cost Accounts.
Statistical Methods.
General Knowledge in regard to Commerce and Finance.

The College does not provide special courses of training for this examination, but the courses for the Final Examinations of the South African Accountants' General Examining Board cover the same ground in the first four subjects.

Professional Accountant Students and the B.Com Degree.

Regular attendance at Natal University College for certain professional examination courses will satisfy the requirements for corresponding B.Com. degree courses, as follows:

Professional Examination:	*B.Com. Degree Equivalents:*
1. Inter A—Bookkeeping.	1. Accounting I.
2. Inter B—Bookkeeping.	2. Accounting II.
3. Final B—Accounting.	3. Accounting III.
4. Inter B—Auditing.	3. Auditing I.
5. Final B—Auditing and General Practice.	5. Auditing II.
6. Union Income Tax Law.	6. Income Tax Practice.
7. Cost Accounts.	7. Costing and Cost Accounts.
8. Trustees' and Executors' Accounts.	8. Accounts of Executors, Liquidators and Trustees.
9. Inter B—Mercantile Law and Company Law.	9. Mercantile Law I.
10. Final A—Mercantile Law and Company Law.	10. Mercantile Law II.

Thus professional accountant students may well take advantage of their professional courses to sit also for the corresponding subjects at the B.Com. degree examinations, either concurrently or at a later date, as internal part-time students. This will enable them to complete their B.Com. degree within a reasonably short period after qualifying as professional accountants. Qualified professional accountants should also note that they may be given certain credits towards the B.Com. degree, on the strength of their professional qualification.

Natal Society of Accountants.

The Natal Society of Accountants allows to holders of the B.Com. degree of the University of South Africa a reduction of two years in the term of service under articles required of non-graduates, and exemption from section A of the Intermediate examination.

M.Com. (Accounting) Degree.

For professional accountants who have obtained their B.Com. degree there remains the M.Com. (Accounting) Degree, which gives them the opportunity of further qualification in subjects already taken.

Specialisation in Cost Accounting.

A further avenue for development for the ambitious qualified professional accountant is in the direction of specialised Cost Accounting. The examinations of the Institute of Cost and Works Accountants, of Great Britain, provide an opportunity for such specialisation. Cost accounting by specialists is certain to be very much in demand in this country, particularly in post-war circumstances.

Students interested in any of the above matters are advised to consult the Professor of Accounting and Auditing.

List of Abbreviations.
College Register.
Certificates of Merit.
Publications by Staff
and Students.

LIST OF ABBREVIATIONS.

The following is a list of abbreviations employed for all subjects offered by the Natal University College:

Ac.	=	Accounting.
A.M.	=	Applied Mathematics.
Art H.	=	Art History.
Au.	=	Auditing.
B.	=	Botany.
By.	=	Biology.
C.	=	Chemistry.
C.C.	=	Principles of Classical Culture.
C.E.D.D.	=	Civil Engineering Drawing and Design.
C.L.	=	Constitutional Law.
Cl.	=	Classics.
Co.	=	Commerce.
Com.M.	=	Commercial Mathematics.
D.	=	Dutch.
De.	=	Design.
E.	=	English.
Ec.	=	Economics.
Ed.	=	Education.
E.D.D.	=	Engineering Drawing and Design.
E.E.	=	Electrical Engineering.
E.Ec.	=	Engineering Economics.
E.G.	=	Economic Geography.
E.H.	=	Economic History.
El.C.	=	Electrical Communications.
El.D.D.	=	Electrical Drawing and Design.
F.	=	French.
F.A.	=	Fine Art.
G.	=	German.
Gg.	=	Geography.
G.I.P.	=	General Introduction to Philosophy.
Gk.	=	Greek.
Gl.	=	Geology.
Gr.	=	Graphics.
H.	=	History.
H.A.	=	History of Art.
H.R.D.L.	=	History of Roman Dutch Law.
I.Lw.	=	Industrial Law.
I.O.M.	=	Industrial Organisation and Management.
J.	=	Jurisprudence.
L.	=	Latin.
Lw.	=	Mercantile Law.
M.	=	Mathematics.
M.E.	=	Mechanical Engineering.
Met.	=	Metallurgy.
Mod.	=	Modelling.
N.A.	=	Native Administration.
N.L.	=	Native Law.
P.	=	Physics.
P.A.	=	Public Administration.
P.B.	=	Practical Banking.
P.E.	=	Procedure and Evidence.

Pg.	=	Painting.
Ph.	=	Philosophy.
P.I.L.	=	Public International Law.
P.S.	=	Politics.
Ps.	=	Psychology.
R.D.L.	=	Roman Dutch Law.
R.L.	=	Roman Law.
S.A.	=	Social Anthropology.
So.	=	Sociology.
S.A.C.L.	=	South African Criminal Law.
St.D.	=	Statistics and Demography.
Su.	=	Surveying.
T.F.	=	Theory of Finance.
T.S.	=	Theory of Statistics.
Z.	=	Zoology.
Zu.	=	Zulu.

COLLEGE REGISTER

Commencing from 1939. For list up to 1938 see previous issues.

Whilst every endeavour is made to keep this Register accurate and up-to-date, some names may have been inadvertently omitted.

The Registrar will be pleased if students will draw his attention to any inaccuracies or omissions.

COLLEGE REGISTER

GRADUATES

UNIVERSITY OF SOUTH AFRICA.

FACULTY OF ARTS.

DEGREE OF M.A.

‡Bachelor's degree not obtained at Natal University College.

NAME.	Department	Class	M.A.	B.A.
Arbous, Adrian Garth	Ps.	Dist.	1940	1937
Barnes, Algernon Strange Valentine	D.	Pass	1939	‡
Cattaneo, Jean Louis	F.	Dist.	1943	1941
Cloete, Shirley Montrose	Cl.	Dist.	1943	1940
Cosnett, Valmai	E.	Pass	1941	1934
Grobler, Philippus du Plessis	D.	Dist.	1946	1941
Hartmann, Gerald Wilhelm	Gg.	Dist.	1945	1940
Heard, Kenneth Alfred	H.	Dist.	1944	1940
Hemsted, Olive Rustat	F.	Pass	1940	1938
Hood-Williams, John	Ps.	Pass	1944	1941
Law, Stella Constance	E.	Dist.	1942	1940
Manning, Netta Kathleen	E.	Dist.	1941	1928
Marwick, Maxwell Gay	Ps.	Dist.	1945	1938
McDowall, Dorrice Mary	E.	Dist.	1941	1935
Nienaber, Christoffel Johannes	D.	Pass	1941	1939
Opperman, Diederik Johannes	D.	Dist.	1939	1937
Pechey, Bryan Middleton	Ps.	Dist.	1944	1940
Reynolds, Ruth Daphne	H.	Dist.	1939	1936
Schauffer, Alick	E.	Pass	1941	1935
Steuart, Guy Walter	Ps.	Dist.	1944	1939
Strachan, John Roy	H.	Pass	1941	1939
Taitelbaum, Henrietta	Ps.	Pass	1943	1932
Theunissen, Kenneth Basil	E.	Pass	1942	1940
Turnbull-Davidson, Patricia Vera	E.	Dist.	1941	1938
Wise, Violet	E.	Dist.	1939	1938
Young, Lindsay Menzies	H.	Dist.	1941	1938
Ziervogel, Thomas Ritchie	D.	Pass	1940	1938

DEGREE OF B.A.

Candidates who have subsequently received the degree of M.A., or LL.B., are not included in this list.

NAME.	Dist.	B.A.
Adam, Millicent Helen		1939
Akitt, Howard	E., H.	1942
Albertyn, Gezina Gysbertha		1939
Alcock, Frances Mary Lewis		1940
Anderson, Helen Edith	E., L.	1943
Anderson, Mary Grace	E. Gg.	1941
Anderson, Sybil Stanhope		1944
Ardron, Gwenneth	E.	1941
Baber, Margaret		1941
Bangalee, Mya Ram		1942
Barnes, Margaret Anne Gordon	E.	1943
Botohi, Ramkelawon		1943
Beater, Leila Charmian		1943
Becker, Geraldine Winifred	Gg.	1940
Bee, Barbara Mary Ashford		1944
Bergin, Anna		1939
Berne, Susan Mary Rennie	E., F.	1943
Besant, Blanche Diana	E.	1940
Bhoola, Ahmed Ismail	Ps.	1942
Bisnath, Mudenjeeth		1942
Blake, William Norman	E.	1939
Bond, Marjorie Elizabeth	E., Ps.	1940
Bottomley, Melodie Robin	E.	1942
Bower, Hazel Hewat		1941
Boyes, Jean Eleanor		1941
Boyes, Margaret Katherine		1939
Bredell, Renee Geraldine	E., H.	1939
Bredenkamp, Edward George		1944
Bredenkamp, Mathys Petrus		1940
Brockelbank, Kathleen		1942
Brunton-Warner, Una Audrey		1944
Bussman, Johanna		1943
Butlin, Margaret Strickland		1942
Button, Elizabeth Margaret Joyce		1940
Calvert, Ernest Gordon		1941
Campbell, Margaret Ramsay		1941
Campbell, Mavis Nancy	E., F.A.	1939
Canning, Nancy Whitton	E.	1939
Cardiff, Martha		1945
Catherine, Wyndom Garton Hinton		1940
Catto, Ian Keith Fraser		1941
Cauvarel, Nancy Therese		1945
Chain, Ramruthen Rompershad		1945
Chambers, Alfred		1942
Chambers, Ronald Montague	H.	1945
Cheddy, Gopal		1944

NAME.	Dist.	B.A.
Chetty, Chanmugam Strinivas		1945
Choudree, Ashwin	Ps.	1940
Christie, Philip Laurens		1939
Clarke, Mildred Evelyn	E.	1939
Cockshoot, Jennie		1941
Collier, Patricia Maureen		1943
Cooper, Roland Philip		1940
Couzens, Dorothy Lorraine		1940
Cowden, John Williams		1939
Cowell, Joyce		1945
Cowley, Robert Wellesley	L., R.L.	1941
Cromhout, Priscilla Johanna		1942
Crouse, Frances Honor		1943
Crowley, Richard Albert		1944
Cundill, Erica Dorothy		1941
Currin, Reginald Owen		1941
Dalton, Joan		1943
Davies, Lily		1942
Dawson, Olga Belle		1945
de Jean, Dorothy Ethel		1940
de Villiers, Hendrik Jacobus		1939
des Fontaine, Jean		1945
Donnelly, Annie		1941
Dörger, Anna Wilhelmina		1941
Dowling, George Roach		1944
Drake, Anthony Francis	P.S.	1945
Dunn, Archibald Gardner		1939
Dupreë, Linda Mary		1943
Dyer, Phyllis Elsie	L.	1941
Edwards, Ellen Jean		1940
Evans, Betty	E.	1944
Ferreira, Nicoline Praisthel	D.H.	1942
Fish, Raymond William	Gg.	1939
Flanagan, Brigid	E.H.	1944
Forsyth, Douglas David Bruce		1940
Forsyth, Raymond Aubrey	E.	1945
Fourie, Casper Hendrik Badenhorst		1945
Fourie, Joseph	R.L.	1943
Franklin, Gwladys Merle		1945
Fraser, Ronald Henry	E., H.	1943
Freedman, Philip	E., H.	1940
Fuller, Carmen Amorel		1939
Galloway, Margaret Hume	E. L.	1942
Geldard, Eunice Flora	L.	1939
Gericke, Irene Elaine		1944
Gericke, Irene Estelle		1944
Goldstein, Mildred Joy	E. L.	1941
Gopaul, Natainsamy		1943
Gordon, Maud Campbell		1940
Gray, Catherine Robertson Russell		1942
Green, Charles Stuart Thompson		1945

NAME.	Dist.	B.A.
Greenham, Rosalind Ellen	E.	1939
Grundhöfer, Maria		1941
Gumede, William Johannes		1943
Gutridge, Elizabeth Mary		1940
Haenen, Wilhelmus Hubertus		1939
Hahn, Cedric Ernst W.		1939
Haines, Dudley Arthur		1945
Haines, John Eric		1939
Haley, Rona		1943
Halland, Aagot Judith	E.	1943
Halland, Bernice Ingrid Doreen	L.	1941
Halland, Rolf Harold		1940
Halm, Inez Nina		1945
Halm, Sylvia Joan		1945
Harcourt, Cyril Desmond		1941
Harries, Phyllis Valerie		1940
Harrison, Tom Casterton		1939
Hartzenburg, Nona Elizabeth Lily	D.	1942
Harvey, Charles John Derrick	H.	1942
Hattingh, Jacobus Gerhardus		1939
Healey, Dorothy Patricia	Gg.	1940
Hendry, Barbara Joan Hamilton		1943
Henwood, Desmond	R.L.	1939
Hertz, Mary Hilda		1941
Hesketh, Mary Betty		1943
Hinton, Miriam Ruth	E.	1940
Hosking, Cynthia Mary		1941
Hosking, Daphne Phyllis		1942
Hosking, Gerald Aubrey		1939
Huang, Thomas Tin Fah		1943
Hudson, Barbara Joan		1943
Hudson, Gwenyth Mary		1941
Hunkin, Verona	E. Ps.	1941
Jack, Hampson Francis		1940
Jackson, James Kenneth		1941
Jackson, Willoughby		1939
Jacques, Noelle Valerie	Ps.	1945
James, Audrey Evans		1940
Jameson, Jeanette	E.	1941
Johnson, Shelagh Eileen	Gg.	1939
Jones, Eileen Veronica		1941
Jones, Pearl Megan		1941
Joseph, Louis Ernest		1943
Joseph, Michael	E.	1942
Jubber, Cyril Seymour		1939
Jumna, Dawchund		1942
Jungbahadur, Basdew		1941
Kalmyn, Johanna Wilhelmina		1942
Kedian, Patrick Joseph		1942
Keerath, Mannie Harriepersadh		1940
Keildson, Rosemary		1945
Keir, Mary		1942

NAME.	Dist.	B.A.
Kempster, Patricia Vyvyan		1944
Kentridge, Joseph		1943
Kewney, Eustice Quentin		1944
Khan, Amir		1938
King, Dennis Wakeford		1940
King, Sarah Katharine	E.	1945
Klingenberg, Albert Heinrich August	G.	1940
Klingenberg, Ewald Otto	G.	1939
Knox, Graham McIntyre		1940
Koch, Ehrenfreid Karl		1943
Konigkramer, Lola Iris		1945
Kupowitz, Ruby		1945
Lalla, Brijmohan Doorga		1944
Lambert, Edith Louise		1939
Lambrechts, Lorene Magdalene Mary		1941
Lamond, Marjorie Eunice	L.	1941
Lang-Gordon, Phyllis Patricia		1939
Larkin, Una Gertrude		1941
Larsen, Kari Hilda		1945
Lazarus, Gertrude		1942
Ledward, Monica Nevill	Ps.	1943
Lee, Sydney Gilmore McKenzie		1945
Leon, Ramon Nigel		1945
Leroni, Prudence Virginia	F.A.	1939
Leverton, Basil James	H., P.S.	1943
Liddell, Helen Jean Steedsman	L.	1942
Lincoln, Grace Enid	E.	1940
Linde, Margareta Carin		1942
Lindsay, Lorna Grace	Gg.	1939
Livingstone, Jane McIntyre		1940
Logsdon, Jean Borghild	H., F.	1942
Logue, George David	L.	1940
Lohne, Ruth		1939
MacDonald, Rosemary Kathleen		1945
Maclou, Joseph Ralph		1944
Maharaj, Beharee Athmanana		1939
Mair, Primrose Hazel		1943
Malinga, Bernard James		1940
Marais, Maureen Ada		1941
Maritz, Sherlock Casement	E.	1942
Marshall-Smith, Mary Hope	E.	1940
Martin, Henry Powell		1940
Martin, Michael Clive	L.E.	1945
Martin, Walter Rintoul	E.	1940
McCarthy, Patricia Myrtle		1943
McCauley, Frances		1939
McElligott, Gertrude Mary		1945
McEvoy, Catherine		1940
McGraw, Elizabeth Thom Findlay		1940
McIntyre, Kathleen Isobel		1940
McIntyre, Margaret Anderson		1944
McKenzie, Basil George		1940
McLachlan, Ivor John		1939

NAME.	Dist.	B.A.
McMichael, Thomas Bryden	E., H.	1941
McMillan, Sybil Mary		1942
McNab, Robert Andrew		1939
Meer, Ismail	Ps.	1943
Meyer, Lucas Eugene		1945
Militz, Harold Peter Gunther	Ps.	1942
Miller, Arthur William		1943
Mitchell, James Clyde	So., Ps.	1941
Mitchell, Sheila Olive		1940
Montgomery, Alexander Nixon	H	1939
Moodley, Kistan Shunmugam		1943
Moodley, Manikum		1940
Moodley, Ruthenval		1941
Moodley, Savabathy Ganesa		1945
Moodley, Sundravel Muniswami		1943
Morgan, Valda Mary		1943
Morton, John Gordon	E. Gg.	1944
Mosese, Samuel Sello		1943
Mullally, Margaret		1945
Naidoo, Appanah Jogi		1945
Naidoo, Bungaree Appanah		1945
Naidoo, Govindasamy S.		1939
Naidoo, Jack		1939
Naidoo, Narainswamy Balakista		1943
Nair, Paul Clement Chandoo		1944
Narsamuloo, Shunmugam		1945
Neethling, Michiel Christian A.		1940
Nhlapo, Simon		1944
Nichol, Marion		1939
Nichols, Margaret		1941
Nimmo, Ian Douglas		1939
Niven, John McGregor		1941
Nosworthy, Daphne Natalie		1940
Nourse, Randolph Hugh	L., R.L.	1941
Nzimande, Ambrose		1945
O'Callaghan, Maureen Dierdre		1945
Olivier, Edna Charlin	L.	1939
Ormond, Norah Winifride		1940
Oxley, Alan John		1941
Oxley, Huldah Margaret	Mu., E.	1940
Padayachi, Arunaghary		1945
Panday, Sunbhuder		1943
Paterson, Mary Cuyler Bruce		1944
Paola, Jameal Joseph		1939
Parsons, Muriel Joan	E., F.	1939
Perumal, Morgan		1939
Pettersen, Rolf Balfour C.		1939
Phipson, Ethne Elaine		1943
Pillay, Kunnabiran Mutha Krishna		1940
Pillay, Maganadan Govindasamy		1942
Pillay, Narinesamy Ruthnavaloo		1942

NAME.	Dist.	B.A.
Pillay, Nesamathavamoney		1943
Pitcher, Diana Heron	E.	1941
Pitot, Joseph Longchamp Lois	L.	1942
Pollard, Winifred Elizabeth	E.	1940
Porritt, Brian Stanley		1944
Possel't, Millicent Faith		1945
Potgieter, Theodorus Daniel		1941
Puttick, Daphne Margaret	E.	1942
Raath, Rudolph Johannes	P.S.	1944
Rabe, Jacob Duckitt		1943
Ramsamy, Govindsamy		1942
Reusch, Hermann Friedrich Martin		1945
Reusch, Martin Adolf Werner	Gg. D.	1944
Roach, Agnes		1941
Roach, George Greville		1939
Roberts, Pomona Leennette		1941
Robinson, Rachel May		1941
Robinson, Winifred Mary		1942
Roets, Cornelius Johannes	R.L.	1943
Rouillard, Eileen Anne	E.	1941
Routledge, Robin		1945
Rutherford-Smith, Ray Oliver Brown	Ps.	1944
Sandison, Margaret Gordon Ray		1943
Schnügh, Ralph Frederick J.		1939
Scholtz, Philip Lodevicus	P.S., H.	1939
Schroenn, Evelyne Ruth		1943
Schumann, Frederich Hermann		1940
Schwegmann, Feo Elizabeth		1941
Scogings, Timothy Peter Ralph		1945
Scott, Mona Margaret		1940
Sellers, John Martin	H.	1944
Shearer, Douglas Lennox Lyall	E	1944
Sherratt, Peter Hugh Percival	Gg.	1942
Silva, Alma Leslie Mildred Joy		1943
Singh, Bahadur Baldeo		1941
Singh, Jaydew Nasib		1942
Singh, Radhie		1945
Singh, Thaveraj		1943
Skelton, Michael Henry		1945
Slater, Raymond Gordon		1940
Smeaton, Mildred Shirley		1944
Smith, Phillippa Rosemary Leyland		1943
Smythe, Charles Oswald		1945
Snyman, Gert Johannes		1940
Somers, Bahadur		1941
Somers, Harichander Sukraj		1943
Sommerville, Elizabeth Montgomery		1945
Sootul, Bugwandeen		1944
Southey, Marguerite Alison		1940
Southey, Norrah Monica	E.	1944
Soutter, Frederick Copeland		1940
Sparks, Joan Dulcie		1941
Stead, Margaret Raynor	Ps.	1945

NAME.	Dist.	B.A.
Steenkamp, Willem Petrus	D.	1941
Stephenson, Alfred Ronald		1939
Stewart, Andrew James	D., L.	1939
Stobie, George Henry Thomas		1939
Strachan, Jean Mary		1939
Stretch, Valerie		1944
Strong, Wilfrid Louis		1940
Sundrum, Jesudas Harold	E.	1944
Suttner, Barney		1939
Swarts, Frans Johannes		1943
Tait, Esther Mary Helena		1941
Tait, Paul Monsell		1940
Tavenor, Sylvia Joy		1945
Taylor, Constance Jean Maughan		1940
Taylor, Joan	E.	1944
Taylor, Mavis Laing		1944
Taylor, Pauline Minto	E., L.	1943
Taylor, Minette Winifred		1942
Terblanche, Joyce Johanna		1945
Thibaud, Madeline Amy		1945
Thompson, Ellen Elizabeth		1940
Thompson, Kenneth St. Anthony		1941
Thring, Valerie Vivienne		1945
Thumbadoo, Arumugam George		1943
Tremearne, Nancy Coral		1945
Vadivalu, Thangamuthu		1942
Vahed, Abdul Koder Ismail		1945
Valentine, Vere St. George		1939
Van Rensburg, Junae		1944
Van Rooyen, Christiaan Stephanus	D.	1944
Velleman, Doreen Elizabeth	E.	1940
Veysey, Barbara		1945
Vitzthum, Katharina	G.E.Ps.	1944
von Seidel, Leonora Beatrice		1943
Vorster, Rose Edith	F.E.	1945
Vosloo, Arnoldus Francois	D.	1940
Vowles, Margaret	E.	1944
Wakefield, Mary Louise		1945
Walker, Daphne		1944
Wallace, Margaret Elizabeth		1941
Walsh, Eunice Patricia		1940
Ware, John Charles		1941
Warwick, George William		1939
Waudby, Joyce		1944
Wayne, Lesley	E.	1943
Webb, Valerie		1942
Weber, Adelaide		1941
Werndle, Dorothea Amy		1940
Wigg, Caroline Theodora Tyldesley	P.S.	1941
Wilson, Eileen Margaret		1939
Winship, Bernice Dorothy	Ec.	1943
Wood, Joan Winifred		1942
Young, Donald William		1940

DEGREE OF B.A. (FINE ARTS).

NAME.	Dist.	B.A. (Fine Arts)
Brown, Rhona	H.A.	1944
Coetzee, Frances Beatrice Cochrane		1941
Cussons, Sheila	Pg. H.A.	1942
Denniston, Patricia Amy	Pg. H.A.	1944
Kregeloh, Olive Sheila		1943
Miller, Kathleen Elizabeth		1944
Nel, Philip Rudolf	H.A.	1939
Norman, Julia Merle		1944
Peberdy, Catherine Dunsmore	Pg.	1944
Reich, Innes Cameron Walker		**1945**
Rissik, Monica	Pg. HA.	**1945**
Stanford, Cynthia	H.A.	1939
Wilson, Dorothy Joan		1940
Wyllie, Jean Constance	HA.	**1945**

DEGREE OF B.A. (SOCIAL SCIENCE).

NAME	Dist.	B.A. Social Science
Baumann, Daphne Joy		1944
Brueckner, Frieda Wilhelmine	Ps.	1944
Hopewell, Arthur		**1945**
McGregor, Trelas		1942
Miller, Mabel Winifred		1944
Molk, Alice		1943
Moshal, Joan Erna		1944
Newman, Daphne	Ps.	**1945**
O'Regan, Mary Louisa		**1945**
Slinger, Hazel		1944
Thomas, Kathleen		1942
Westwood, Dorothy Eileen		1942
Wilkinson, Joan Evelyn		1944
Wilson, Alice Jennie		**1945**

DEGREE OF Ph.D. (SCIENCE).

NAME.	Dist.	Ph.D.
Crawford, Victor Arthur		1945
Prout, Ernest George	M.Sc. 1943	1945

DEGREE OF M.Sc.

(c) Croll Scholar.
(r) Rhodes Scholar.
(v) Queen Victoria Scholar
(q) Queen Victoria Memorial Scholar.
(w) Webb Research Scholar.
(‡) Bachelor's degree not obtained at N.U.C.

NAME.	Dept.	Class	M.Sc.	B.Sc. or B.A.
Boden, Eric	P.	Dist.	1939	1936
Brueckner, Anna Elizabeth	B.	Dist.	1943	1940
Christopher, Veronica	B.	Dist.	1942	1940
Coetzee, Philippus Jacobus S.	B.	Pass	1939	‡
Hill, Laurance Malcolm	C.	Dist.	1941	1938
Horn, Denis Herbert Suttle	C.	Dist.	1944	1941
Jacobs, Patrick William McCarthy	C.	Dist.	1943	1941
Lachman, Sydney Joshua	C.	Dist.	1943	1940
Livingstone, Donald	A.M.	Dist.	1945	1943
Mackenzie, Harold Albert Erroll	C.	Dist.	1941	1939
MacMurray, Jean Betty C.	Z.	Pass	1939	1937
Mann, Denis Robert	C.	Dist.	1940	1937
Merrick, Thelma Mary	Gg.	Pass	1943	1940
Nicholson, Yvonne Diana	Gg.	Pass	1941	1937
North, Sybil Rosalie	B.	Pass	1941	1939
Peck, John Edward Lancelot	M.	Dist.	1940	1938
Richardson, Margaret Faith	C.	Dist.	1941	1939
Rycroft, Hedley Brian	B.	Dist.	1941	1939
Schelpe, Edmund Andre Charles Louis Elois	B.	Dist.	1945	1943
Talbot, Patrick Henry Brabazon (v)	B.	Dist.	1939	1938
Thompson, Andrew Osmund	Gl.	Pass	1940	1939
Williams, James Michell	C.	Dist.	1945	1943

DEGREE OF B.Sc.

Students who subsequently received the degree of M.Sc. are not included in this list.

NAME.	Dist.	B.Sc.
Acutt, Elizabeth Hindson		1940
Adams, Berenice Zoe Margaret		1945
Adie, Raymond John		1944
Adnams, Joan		1939
Ahrens, Louis Hermann	Gl.	1939
Aitchison, Raymond Gershom		1940
Allsopp, Alice Elizabeth Esther	B	1943
Allsopp, Rosemary Joan		1943
Armstrong, Hugh		1941
Bates, Agnes Jean		1939
Bates, Bryan Quested		1939
Behn, Adalbert Ferdinand	C.	1940
Biebuyck, Vital Julien		1939
Birkenstock, Adolf Wilhelm		1942
Bond, Guy Whately		1943
Bowman, Joan Esme		1945
Bowman, Maureen Azelma	M.	1942
Bradley, Jean Patricia	B.	1942
Brereton, Pamela Margaret	Gg., Gl.	1943
Brockelbank, Lilian		1939
Bullen, Peter Southcott	M.	1945
Burchell, Barbara Irene		1941
Bursell, Einar	B.Z.	1945
Button, Hazel Ruth	B.	1942
Candy, Henry Arthur		1939
Carte, Alexander Ernest	P.	1944
Castle, William Maxwell		1939
Cherry, Donald William		1944
Christianson, Ivan Lewis		1940
Clarence, Noel Desmond	P.	1941
Clarkson, Dorothy Joan	Gg.	1943
Cooke, Herbert Michael	P.	1939
Crass, Robert Sanderson		1945
Cubitt, Jessie Spring		1941
Dark, William Alan		1944
Diesel, George MacDonald		1939
Downward, George William	C., P.	1939
Drews, Reinhard Johannes Ludwig Christian		1943
Druce, Allan Thomas		1940
Duncan-Vale, Marguerite Parks		1943
Dyer, Henry Brooke	P.	1945
Edwards, Elizabeth Mary		1944
Emerton, Ralph Bertram		1939
English, Ruth Ray		1942

NAME.	Dist.	B.Sc.
Forsyth Hugh Forbes		1941
Frow, Grace Margaret	B.	1940
Girdlestone, Marjorie Elizabeth		1939
Goodall, Gordon		1943
Graham, Denise Shannon		1945
Graham, George Cedric V.	C.	1939
Greene, Dorothy Hermine		1942
Greenstein, Abraham Woolf		1942
Gregory, Cornelia Sophia		1945
Haines, Dennis William		1942
Haysom, Norreen Margaret Elspeth		1942
Henderson, Anthony Moyese		1941
Hillary, Olive Mary	B.Gg.	1945
Johnson, Lionel Joseph		1940
Jones, Eric Alfred		1942
Jordaan, Pieter Willem		1939
King, Doris Ethel		1939
Knox, Bernard Sinclair		1942
Larkan, Gladys Anne		1939
Lavoipierre, Michel Marie Joseph	B., Z.	1942
Leisegang, Ernest Cecil	C.	1941
Leisegang, Joy Margaret		1942
Levy, Sydney		1945
Lindahl, Ray Eric		1945
Loney, Reginald Nelson		1940
Lourens, Susanna Olga Carolina		1940
Macpherson, Naomi Doreen Phyllis		1941
McCulloch, Evelyn Millicent		1939
McGibbon, James Lance M.		1939
McLeod, Gwendoline Mabel		1940
Mann, Valerie	C.	1943
Mitchell, Gwendoline Yvonne		1940
Nicolle, Neville Philip le Maistre	Gl.	1942
Nourse, Denis Guy		1939
Novellie, Lawrence	C.	1944
Oliff, William Desmond	C.Z.	1945
Paine, Richard Frederick		1939
Pape, David Lewis		1943
Payn, Phylis Elaine Balleine		1940
Pearson, William Ellwood		1940
Pennefather, Michael		1942
Poupinel de Valence, Edgar Louis Philippe		1943
Rapson, Norma Daphne		1940
Richardson, Vera Dorothy	C., Z.	1941
Ries, Cornelius Willem		1945

NAME.	Dist.	B.Sc.
Roberts, Alfred Oscar Hoexter		1943
Rogers, Lionel Murray		1945
Scheepers, Nicholas Gerhardus		1942
Schroeder, Walther Otto W.		1939
Scogings, John Luke		1944
Searle, Dudley Esmonde		1940
Smith, Dorothy Leslie		1944
Stephenson, John Mitchell		1943
Steyn, Danie		1943
Stone, Shirley L'Estrange	Ps.	1945
Temple, Dennis Alexander	P., C.	1943
Thienel, Agnes	B.Z.	1944
Thompson, Douglas Theophilus		1941
Thompson, James Goldsmith	C.	1941
Van Rooyen, Johan Willem Jacobus	B.	1942
Webb, Michael		1944
Williams, Bernice	B	1943

DEGREE OF B.Sc. (Eng.).

(e) Electrical.
(c) Civil.
(m) Mechanical.

NAME.		B.Sc. Eng.
Abercombe, Stewart	(c)	1945
Adams, Arthur Stanhope	(e)	1938
Adams, Kenneth Arthur Hedley	(e)	1940
Arnold, Maurice	(c)	1940
Bannister, Leslie Grange	(c)	1944
Bennett, Edward Lionel	(c)	1944
Bennett, Victor Gordon	(e)	1942
Blackhurst, Donal Morton	(c)	1942
Boyle, Alexander Derek	(m)	1939
Brook, Denis Walter	(c)	1944
Burne, Dennis Lionel	(c)	1941
Clark, Antony Keith Foster	(e)	1940
Coleman, Maurice	(c)	1942
Cullum, Stephen Henry Peter	(m)	1943
Damant, Yvonne Ruth	(c)	1945
Danbrook, Kenneth Arthur	(c)	1945
Deeb, Felix	(e)	1944
Douglas, Desmond Alexander	(c)	1940
Dyer, John Ward	(e)	1941

NAME.	B.Sc. Eng.
Edwards, Ernest Allan .... (c)	1940
Ellis, John Reid .... (c)	1941
English, Lionel Sydney .... (c)	1945
Findlay, David Nigel .... (c)	1939
Fletcher, Douglas Marshall .... (c)	1942
Forte, Douglas Robert .... (e)	1940
Franz, Philip Murray .... (m)	1944
Gillan, Michael Alexander .... (c)	1942
Glass, John William Arthur .... (m)	1942
Goddard, Harry Forster .... (m)	1943
Granger, Neville Aloysius .... (c)	1945
Grose, John Joseph .... (c)	1944
Gutridge, Austin .... (e)	1940
Harrington, Winston Frederick .... (m)	1939
Harrison, Kenneth Robert .... (m)	1943
Hauptfleisch, George Stephanus .... (e)	1943
Hedgcock, Basil Hugh .... (e)	1941
Hellawell, Ronald Arthur .... (e)	1943
Hendry, Reginald John .. .. (c)	1944
Henkel, David John .... (c)	1941
Hertz, Israel .... (c)	1940
Hill, Hector Denis .... (c)	1942
Hoffenberg, Hylton Farney .... (e)	1944
Hohls, Ewald August .... (m)	1942
Hulley, Roy Gordon .... (e)	1940
Jackson, Allan .. .. (c)	1943
Jagger, Douglas Thomas .... (c)	1943
Jagoe, Charles Malcolm .... (e)	1942
James, Leslie Harry .... (e)	1943
Judd, Cecil Rowland .... (e)	1943
Kahn, Morris .... (c)	1945
Kenyon, Thomas Brough .... (c)	1944
Kitson, Ian David .... (m)	1941
Klintworth, Peter Johann Wilhelm .... (c)	1941
Klintworth, Wilhelm Johannes .. .. (c)	1944
Kritzinger, Hendrik Minne .... (m)	1943
	1943
Leadbeater, Ronald Henry .... (c)	
Leeman, Eric Richard .. .. (m)	1941
Lindsay, Gordon James .... (c)	1942
Logeman, William Alexander .... (m)	1943
Loudon, Alexander Allan .... (c)	1942
Lund, Basil Gilbert Alfred .... (c)	1942
Lurie, Harold .... (m)	1940
Mahon, Bernard Kenny ....(c)	1944
McLaren, Ian .... (m)	1942
MacLean, Richard Frederik .... (c)	1939
Matthews, Samuel Wauchope Armour Charles	1943
Methley, John Willoughby .... (e)	1939

NAME.		B.Sc. Eng.
Morphew, Allan Granby	(e)	1940
Mullins, Dennis Clement	(c)	1942
Nero, Kenneth Maurice	(e)	1945
Nicholls, Sidney George	(c)	1942
Niddrie, Albert Arthur	(c)	1940
Norman, Eric Victor	(c)	1944
Norman, Dudley Graham	(c)	1942
O'Connor, Terence Peter	(e)	1945
Osborn, Brian Kenneth	(c)	1941
Otto, Johan Frederick	(c)	1945
Painter, David Allan	(e)	1942
Paterson, Hugh Ogilvie	(c)	1939
Perks, Brian Errol	(c)	1945
Phelines, Roger Francois	(c)	1939
Pineo, Roger Michael Bramley	(c)	1945
Pirie, Anthony Nairn	(c)	1944
Player, Lewis Otto B.	(e)	1939
Radford, Norman Arthur William	(e)	1943
Rault, Alfred Louis	(c)	1943
Raw, Allan Edgar	(e)	1942
Read, Lorenzo Antonio	(c)	1940
Reed, Maitland	(m)	1945
Ritchie, Ian Francis	(m)	1944
Rivalland, Marie Joseph Gerard Louis France	(m)	1943
Robinson, Basil Theodore	(c)	1945
Roos, Pieter	(m)	1941
Rose, Duncan Mortimer	(c)	1939
Rose, Edgar Percival Patrick	(e)	1942
Rose, Phillip	(c)	1945
Salmond, John Langton	(e)	1941
Saunderson, Douglas Wilson	(c)	1941
Schefermann, Albert Vernon	(e)	1940
Schmidt, Friedrich Reinhold	(e)	1941
Schmidt, Norman Fritjoff	(c)	1943
Shandel, Leslie Arthur	(c)	1944
Simpson, Denis	(c)	1945
Simpson, Geoffrey Samuel	(m)	1944
Simpson, Robin Neil	(c)	1943
Slater, Donald Richard	(e)	1945
Smith, Roy	(c)	1941
Smith, Roy Victor Jesse	(c)	1940
Solberg, Karl Fredrik	(c)	1940
Spence, Colin Maynard	(c)	1942
Stansell, Colin Jack	(c)	1942
Stanton, Ronald Joseph George	(e)	1945
Stegen, Reino Martin	(e)	1943
Stein, Sylvester Roman	(e)	1941
Street, Hallam	(c)	1940

NAME.	B.Sc. Eng.
Tabone, Victor Sinclair Joseph .... (c)	1945
Temple, William Wortham .... (c)	1943
Thorne, Athol Edwin .... (c)	1942
Tod, Ian William Clarke .... (c)	1943
Treloar, Bennett William .... (c)	1941
Turner, Douglas Hunt .... (m)	1940
van den Heever, Daniel Johannes .... (m)	1939
Wadley, Trevor Lloyd .... (c)	1940
Wannell, Wilfred Gwilyn Lewis .... (c)	1942
White, Robert Graham .... (e)	1944
Wilkinson, Geoffrey Victor .... (c)	1939
Williams, Owen John Rodber .... (e)	1941
Willson, Kenneth Ivor .... (m)	1943
Wilson, John Ivor Hodsoll .... (e)	1944
Wilson, William Wallace .... (c)	1941
Yelland, Desmond Rex .... (c)	1941

FACULTY OF EDUCATION.

DEGREE OF M.ED.

‡Bachelor's degree not obtained at N.U.C.

NAME.	Class	M.Ed.	B.A. or B.Sc.
Barnes, Algernon Strange Valentine		1943	‡
Webster, Alan Surtees	Dist.	1939	‡

FACULTY OF LAW.

DEGREE OF LL.B.

(r) Rhodes Scholar.

NAME.	LL.B.	Degree of Bachelor or Status
Behrmann, Frederick Paul	1942	1937
Brink, Meeuwis Arend	1944	1941
Buchan, Andrew Milne	1939	1937
de Bruine, Pieter Johannes Albertus	1945	‡
Crook, William Montgomery	1945	1939

NAME.	LL.B	Degree of Bachelor or Status.
Gerber, Lewis Barend	1941	1939
Godwin, Edwin James	1939	1936
Harcourt, Arthur Bryan (r)	1939	1937
Linton, David Heurtley	1944	‡
McGibbon, Alick Thomas	1939	1936
Niehaus, Jan Harm	1943	1940
Paola, Louis Joseph	1944	1942
Richter, Colin Evelyn	1940	1932
Smith, Harold Emanuel	1942	1937
Stapelberg, Frans Petrus	1943	1936
Theunissen, Raymond Henry	1942	1940
Van den Berg, Jakobus Petrus	1942	‡

FACULTY OF COMMERCE AND ADMINISTRATION.

DEGREE OF DOCTOR OF PHILOSOPHY.

	M.Com.	Ph.D.
Halliday, Ian Gordon	1939	1943

DEGREE OF M.ECON.

			M.Ec.	B.Ec.
Jamneck, Mattheus Johannes	Ec.	Dist.	1942	1939
Johanson, David Edwin	Ec.	Pass	1944	

DEGREE OF M.COM.

Planting Johannes	Co	Pass	1944	1942

DEGREES OF B.COM. AND B.ECON.

(e) B.Econ.

NAME.	Dist.	Degree
Anderson, Clifford Roy		1941
Birchall, Ronald James		1940
Brown, Philip Clement		1944
Buchanan, Langston Llewellyn		1945
Cameron, Mary Forrester		1944
Clark, Graham Foster		1941
Cohen, Morris	Ec., Co.	1941

NAME.	Dist.	Degree.
Damp, Douglas Hollis	Co.	1942
Dark, Alastair Hedley	Co.	1943
Deighton, Peter Edward	Co.	1944
Dreyer, Alwyn Jakobus		1944
Dyas, Dorothy Walton	Co.	1942
Dyson, Lilian Mary Jesson		1941
Foley, Joan Eileen	Co.	1943
Gallet, Frederic James (e)	P.B.	1940
Gorven, Oswald Daniel	Ac.	1943
Haynes, Basil Joseph	Co.	1940
Hayward, Marjorie Gertrude		1943
Hurwitz, Nathan		1943
Jackson, George Charles Horace W.		1939
Jackson, Stanley		1939
Katzman, Shima		1942
Lander, Petal Mary	Co.	1939
Lindsay, Thomas (e)		1943
MacMurray, Thomas Cargill		1939
Marot, France	Co.	1941
Masterton, Sylvia Elaine	Co., Ec.	1943
Miller, Eric Roland	Ec.	1940
Milne, Cyril		1942
Ngcobo, Selby Bangani (e)		1937
Ntusi, Durward Mlungisi (e)		1940
Perrins, Blanche Gladys	Co.	1942
Pickering, Eric Dunstan		1945
Pletnick, Aubrey Ansell		1941
Puzey, Stanley Howard		1939
Ridler, Dudley Stafford	Ec., Co.	1939
Rouse, Reginald Derek		1939
Rorich, Wilhelm Mayne		1939
Skinner, Napier Leland Craven	Ac.	1945
Sprinz, Fritz W. S.	Lw.	1941
Thomas, Colin Howard		1945
Thomas, Gordon Foster		1939
Thompson, Richard George		1941
Torf, Abel Mose		1944
Turner, Kathleen Faith		1939
Vermaak, Jacobus Johannes Petrus		1941
Walker, Ronald		1942
Wilson, David		1942

DIPLOMAS.

FACULTY OF EDUCATION.

GRADUATE DIPLOMA.

NAME.	Date.	Class.
Adnams, Joan	1940	II.
Alcock, Frances Mary L.	1941	II.
Allsopp, Rosemary Joan	1944	I.
Anderson, Elizabeth Mary	1939	II.
Anderson, Helen Edith	1944	I.
Anderson, Mary Grace	1942	I.
Barnes, Margaret Anne Gordon	1944	II.
Bates, Agnes Jean	1940	II.
Bates, Bryan Quested	1940	II.
Baudert, Friedrich Rudolf	1941	I.
Beater, Leila Charmian	1944	II.
Behrmann, Jessie Elizabeth	1942	II.
Berruti, Aldo Felix	1939	II.
Blake, William Norman	1940	II.
Bowman, Maureen Azelma	1943	II.
Boyes, Margaret Katherine	1940	II.
Bredenkamp, Mathys Petrus	1941	II.
Brockelbank, Lilian	1940	II.
Butlin, Margaret Strickland	1943	II.
Campbell, Margaret Ramsey	1942	II.
Campbell, Mavis Nancy	1940	I.
Canning, Nancy Whitton	1940	II.
Castle, William Maxwell	1945	II.
Clarence, Noel Desmond	1945	I.
Clarkson, Dorothy Joan	1944	II.
Clemens, Margaretha Adelgunde	1945	II.
Cloete, Shirley Montrose	1942	I.
Cockshoot, Jennie	1942	II.
Couzens, Dorothy Lorraine	1941	II.
Cubitt, Jessie Spring	1942	II.
de Villiers, Hendrik Jacobus	1940	II.
Douglas, William Kennedy	1939	II.
Downward, George William	1940	I.
Dowse, Irene Joan	1939	II.
du Casse, Miriam Alice Ida	1939	II.
Dupree, Linda Mary	1944	I.
Dyer, Nora Frances	1939	II.
Dyer, Phyllis Elsie	1942	II.
Edwards, Ellen Jean	1941	II.
Erasmus, Emile Marnitz	1940	II.
Fair, Thomas John D.	1939	II.

NAME.	Date.	Class.
Fannin, Mary Alethea	1940	II.
Fish, Raymond William	1940	II.
Fitchett, Erin Eustace	1939	II.
Fuller, Carmen Amorel	1940	II.
Francis, Elizabeth June	1939	II.
Frow, Grace Margaret	1941	II.
Geldard, Eunice Flora Rowlett	1940	II.
Girdlestone, Marjorie Elizabeth	1940	II.
Grafton, Georgina Elizabeth	1939	II.
Greenham, Rosalind Ellen	1940	II.
Grobler, Philippus du Plessis	1943	II.
Haenen, Wilhelmus Hubertus	1940	II.
Haines, John Eric	1940	II.
Halland, Bernice Ingrid Doreen	1942	I.
Harrison, Tom Casterton	1940	II.
Hartmann, Gerald Wilhelm	1941	II.
Hartzenberg, Nona Elizabeth Lily	1943	I.
Hathorn, Shirley Lorraine	1939	II.
Hattingh, Jacobus Gerhardus	1940	II.
Hawkins, Frederick Charles	1941	II.
Hawkins, Philip Francis	1939	II.
Healey, Dorothy Patricia	1941	I.
Heard, Kenneth Alfred	1942	II.
Henkel, Ormond	1939	II.
Hosking, Cynthia Mary	1942	II.
Hosking, Gerald Aubrey	1940	II.
Howden, Joan	1939	II.
Hudson, Gwenyth Mary	1942	II.
Hunkin, Verona	1943	I.
Huntley, Kathleen Dixon	1939	II.
Hurcombe, Ruth Ernestine	1939	I.
Irons, Ronald Leslie	1939	I.
Ironside, Leslie Erskine	1939	II.
Jacobs, Patrick William McCarthy	1944	II.
James, Audrey Evans	1941	II.
Johnson, Shelagh Eileen	1940	II.
Jones, Eric Alfred	1943	II.
Jordaan, Pieter Willem	1940	II.
Kedian, Patrick Joseph	1943	II.
Keir, Mary	1943	I.
Kemp, Dorothy	1939	II.
King, Doris Ethel	1940	II.
Klingenberg, Albert Heinrich August	1941	I.
Klingenberg, Ewald Otto	1941	II.
Knox, Grahame McIntyre	1945	II.
Lambert, Edith Louise	1940	II.
Lamond, Marjorie Eunice	1942	II.

NAME.	Date.	Class.
Langenhorst, Elfrida Maria Gertrud	1940	II.
Lang-Gordon, Phyllis Patricia	1940	II.
Larkan, Gladys Anne	1940	II.
Ledward, Monica Nevill	1944	II.
Leisegang, Sven Eric	1939	I.
Leisegang, Joy Margaret	1943	II.
Leroni, Prudence Virginia	1940	II.
Levensohn, Solomon	1939	I.
Liddell, Helen Jean Steedsman	1944	II.
Lincoln, Grace Enid	1941	II.
Lindsay, Lorna Grace	1940	II.
Livingstone, Jane McIntyre	1941	II.
Logsdon, Jean Borghild	1944	II.
Lourens, Susanna Olga C.	1941	II.
Luttrell-West, Pera Irene	1943	II.
Lynch, Mary	1943	II.
MacNab, Robert Andrew	1940	II.
Mair, Primrose Hazel	1944	II.
Mann, Valerie	1944	I.
Maritz, Sherlock Casement	1944	II.
Marshall-Smith, Mary Hope	1941	II.
Martin, Walter Rintoul	1945	I.
Marwick, Maxwell Gay	1939	II.
McBride, Lilian	1939	I.
McCulloch, Evelyn Millicent	1940	II.
McGraw, Elizabeth Thom Findlay	1941	II.
McIntyre, Kathleen Isobel	1941	II.
McKenzie, Basil George	1941	II.
McLeod, Gwendoline Mabel	1941	II.
McMichael, Thomas Bryden	1942	II.
McMillan, Sybil Mary	1943	II.
Mitchell, Sheila Olive	1941	II.
Money, Una Carol	1945	II.
Montgomery, Alexander Nixon	1940	II.
Moran, Sheila Mary	1939	II.
Morphew, Noel Jeffrey Stander	1943	II.
Morton, John Gordon	1945	II.
Muirhead, Margaret Craig	1943	II.
Nero, Ralph Leslie	1939	II.
Nero, Solveig	1939	II.
Nichol, Marion	1940	II.
Nicholson, James Mervyn	1939	II.
Nienaber, Christoffel Johannes	1941	II.
Niven, John McGregor	1942	I.
Norris, Hazel Vera	1942	II.
Nourse, Denis Guy	1940	II.
Odell, Beryl Grace	1939	II.
O'Grady, Frances Kathleen	1940	II.
Olivier, Edna Charlin	1940	II.
Ormond, Norah Winifrede	1941	II.

NAME.	Date.	Class.
Paine, Richard Frederick	1940	II.
Paola, Jameal Joseph	1940	II.
Parsons, Muriel Joan	1940	I.
Paterson, Mary Cuyler Bruce	1945	II.
Payn, Phylis Elaine Balleine	1941	II.
Pettersen, Rolf Balfour Conrad	1940	II.
Pitcher, Diana Heron	1942	II.
Pretorius, Jan Albert	1941	II.
Rapson, Norma Daphne	1942	II.
Ravaisou, Margaret Hope	1939	II.
Robinson, Rachel May	1942	II.
Rose, Hilda Lutando	1939	II.
*Ross, Joan Margaret	1945	II.
Scheepers, Nicolaas Gerhardus	1943	II.
Schroeder, Walther Otto Wilhelm	1940	I.
Schumann, Frederich Hermann	1941	II.
Scott, Mona Margaret	1941	II.
Simpson, Muriel Hazell	1939	II.
Slater, Raymond Gordon	1941	II.
Smith, Dorothy Leslie	1945	II.
Smith, Earle Curtis	1945	I.
Smith, Philippa Rosemary Leyland	1944	I.
Steenkamp, Willem Petrus	1942	II.
Steuart, Guy Walter	1940	I.
Stewart, Andrew James	1940	II.
Steyn, Danie	1944	II.
Stone, Ethel Norma	1939	II.
Tait, Paul Monsell	1945	II.
Tatham, Elizabeth Murray	1939	II.
Taylor, Constance Jean Maughan	1941	II.
Thompson, Ellen Elisabeth	1941	II.
Thompson, Kenneth St. Anthony	1942	II.
Turnbull-Davidson, Patricia V.	1939	I.
van Rensburg, Junae	1945	II.
van Rooyen, Johan Willem Jacobus	1943	I.
Velleman, Doreen Elizabeth	1941	I.
Vosloo, Arnoldus Francois	1941	II.
Walker, Daphne	1945	II.
Ware, John Charles	1942	I.
Wayne, Lesley	1944	I.
Webb, Mabel, Margaret	1939	II.
Webb, Valerie	1943	I.
Werndle, Dorothea Amy	1941	II.
Wigg, Caroline Theodore Tyldesley	1942	II.
Williams, Berenice	1944	II.
Williams, Dorothy Frances	1939	II.
Wilson, Stanley Edward	1939	II.
Wise, Violet	1940	I.

NAME.	Date.	Class.
Withycombe, Daphne	1939	II.
Wright, Phyllis Grace	1939	II.
Young, Lindsay Menzies	1940	I.

*Provisional.

NON-GRADUATE DIPLOMA.

NAME.	Date.	Class.
Ahern, Henrietta	1943	II.
Allsopp, Alice Elizabeth Esther	1942	II.
Barnard, Rita Freda	1943	II.
*Brandt, Johannes Marthinus	1943	II.
Bydawell, Ruth	1939	II
Chamberlain, Harold Oswith	1939	II.
Chambers, Alfred	1941	I.
Chambers, Ronald Montague	1944	II.
Coady, Mary	1945	II.
Drews, Ludwig Christian Reinhard Johannes	1942	II.
Druce, Allan Thomas	1939	II.
English, Margaret	1944	II.
Gebers, Eleonore Bertha	1939	II.
Gericke, Irene Estelle Esme	1944	II.
Havemann, Shirley Victoria	1942	II.
Hesketh, Mary Betty	1942	II.
Hinton, Miriam Ruth	1939	II.
Holman, John Walton	1943	II.
Hosking, Daphne Phyllis	1941	II.
Human, Casper Hendrik	1944	II.
Jacobs, Henry Edward	1944	II.
Klingenberg, Agathe Wilhelmine	1943	II.
Kok, Frederick Johannes	1944	II.
Lachman, Hilda	1942	I.
Leroni, Honora Alice	1944	II.
McCarthy, Patricia	1942	II.
Miller, Arthur William	1939	II.
Perkins, Frank	1943	II.
Posselt, Millicent Faith	1942	II.
Rottcher, Marie Dorothy E.	1941	II.

NAME.	Date.	Class.
Routledge, Robin	1945	II.
Straeuli, Werner Eugen August	1944	II.
Streng, Barbara Eva	1944	II.
Tait, Esther Mary Helena	1940	II
Vitzhum, Katharina	1943	I.
Weinberg, Hazel	1940	II.

*Provisional.

CERTIFICATES OF MERIT, 1945.

ACCOUNTING.—Course III.: Skinner, N. L. C.

BOTANY.—Course I.: Beattie, E. J.
Course III.: Hillary, O. M.

CHEMISTRY.—Course I.: Wood, D.A.
Course I.: Herman, B.
Course III.: Oliff, W. D.

DUTCH.—Course I.: Groenewald, B. M.
Course I.: Landman, S. M. D.
Course III.: Terblanche, J. J.

ECONOMICS.—Course I.: Squibb, R. A.

EDUCATION.—Course IV.: Martin, W. R.

ENGLISH.—Course III.: Martin, M. C.

ENGINEERING (Electrical).—Course I.: Ogle, J. F.

FINE ARTS.—Painting IV.: Rissik, M.

FRENCH.—Course I.: Carne, A. M.
Course III.: Vorster, R. E.

GEOGRAPHY.—Course I.: Handley, J. R. F.
Course I.: Landman, S. M. D.
Course III.: Dawson, O. B.

GEOLOGY.—Course I.: Handley, J. R. F.

HISTORY.—Course I.: Thorp, M. L.

LATIN.—Course III.: Martin, M. C.

LAW.—Course I: Woodhead, E. J.
Roman Law II.: Drake, A. F.
Roman Law II.: Skelton, M. H.

MATHEMATICS.—Course I.: Wood, D. A.
Course I.: Burnett, R. E.
Course III.: Bullen, P. S.

PHYSICS.—Course III.: Dyer, H. B.

PSYCHOLOGY.—Course I.: Johanson, S. K.
Course II.: Stead, M. R.

POLITICS.—Course I.: Carne, A. M.
Course II.: Drake, A. F.
Course II.: Forsyth, M. F.

ZOOLOGY.—Course I.: Beattie, E. J.
Course I. (Med.): Wilker, W.
Course III.: Bursell, E.

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