Faculty of Architecture

The colour band on the spine of this Handbook is an approximation of the lining colour of the hood worn by Bachelors of Architecture of this University.

Page
4 A. General Information
   Faculty Staff
5 Location
5 University of Newcastle Architectural Students' Association
5 Professional recognition & professional association
6 Advisory prerequisites
6 Student representation in faculty affairs
6 Financial assistance
6 Selection for admission
6 Awards
7 Prizes
7 Drawing office equipment
7 Academic dress
9 B. Degree Requirements
9 Bachelor of Science (Architecture)
11 Schedules A & B
12 Bachelor of Architecture
14 Schedules C & D
14 Master of Architecture
19 C. Faculty Policies
19 Criteria for award of degree with merit & honours
19 Conditions for the granting of standing
20 Student progression
20 Subjects incompatible with B.Sc.(Arch.) & B.Arch. elective requirements
20 List of subjects offered as electives
21 D. Subject Descriptions
22 Year I Subjects
29 Year II Subjects
38 Year III Subjects
46 Year IV Subjects
49 Year V Subjects
52 Electives offered by the Department of Architecture
56 Details of Architecture C Subjects
57 Design Data Check Lists
61 Subject Computer Numbers
A. GENERAL INFORMATION

Faculty Staff

Dean
Professor E. C. Parker, HonMArch, ASTC, FRAIA

Sub-Dean
Vacant

Faculty Secretary
B. J. Kelleher, BE, BCom

Architecture

Professor
E. C. Parker, HonMArch, ASTC, FRAIA

Associate Professor
R. M. Deamer, MArch, ASTC, FRAIA

Senior Lecturers
H. G. Appleby, MArch; Dip TCP (Sydney)
H. K. Banarjee, BE(Calcutta), MTech(Indian Institute of Technology),
PhD(Glasgow), MBA(Western Australia)
N. H. Clouten, BArch(Sydney), MArch(Ohio State), PhD(Edinburgh), FRAIA,
ARIBA
P. Drew, BArch(New South Wales) MArch(Sydney)
E. L. Harkness, BArch, MBdgSc(Sydney) MArch, FRAIA
S. C. Morton, ASTC, FRAIA, ARIBA, MRAPI

Lecturers
H. C. Clarke, BArch(Auckland), ARAIA, ARIBA, ANZIA
R. J. Donaldson, BArch, ARIBA
M. F. Park, BArch(New South Wales), ASTC, ARAIA
J. R. Rockey, BArch(New South Wales), PhD(Angelican, Rome), DPhil(Oxford),
ARAIA

Tutor
Sue Cumming, BArch(Melbourne)

Computer Programmer
D. J. Malcolm, ME(Auckland), AACS

Departmental Office Staff
Diane L. McNeil

Location

The Faculty of Architecture functions in a self-contained building on
the University campus where it is located across the western foot­
bridge beyond the Library and Union over the ring road and adjacent
to the Metallurgy building. The nearest general car park is west of
the Metallurgy building. See the frontispiece plan for further details.
The postal address is:

Faculty of Architecture
The University of Newcastle, N.S.W. 2308

The University telephone number is 68 0401.
The Departmental Office extension number is 361.

University of Newcastle Architectural Students' Association

Membership is open to both students and staff of the Faculty of
Architecture as well as members of the architectural profession.
Students of other faculties may be admitted as associate members.
The Association aims at bringing together students at all levels with­
in the Faculty and holds functions, both social and academic, includ­
ing lectures by prominent members of the profession.
Announcements of the Architectural Students' Association's activities
are posted on the Notice Board in the Architecture building.

Professional Recognition

Holders of the degree of Bachelor of Architecture of the University
are entitled to be registered as architects under the New South Wales
Architects Act (No. 8, 1921, as amended) and the Regulations under
that Act as amended.
An up-to-date copy of the Act and Regulations is held in the Depart­
mental Office as is a stock of forms for application for registration as
an architect.
Registered architects may apply to the New South Wales Builders
Licensing Board for a license to practise as builders under the
Builders Licensing Act (N.S.W. 1971).

Professional Association

Students enrolled in the Faculty of Architecture are advised to apply
for student membership of the Royal Australian Institute of Archi­
tects. The Institute issues a wide range of publications and holds
numerous functions both social and educational at specially reduced
rates for students, all of which should be of interest and value to the
student architect.
Advisory Pre-requisites for Entry to the Bachelor of Science (Architecture) Degree in 1980

Students admitted to the Faculty of Architecture as candidates for the degree of Bachelor of Science (Architecture) in 1980 will be assumed to have completed at least two units of Mathematics and two units of Physics at the 1979 H.S.C. examination or its equivalent.

Student Representation in Faculty Affairs

Provision is made for student representatives to be elected to the Departmental Board and the Faculty Board of the Faculty. The Faculty Board has responsibility for the teaching and research activities of the Faculty and determines such examinations as may be held within the Faculty.

The Departmental Board considers any matters related to the academic and other activities of the Department of Architecture referred to it by its members or by the Faculty Board, Faculty of Architecture and reports or makes recommendations as it sees fit to the Head of the Department of Architecture or the Faculty Board as may be appropriate.

Financial Assistance

Financial assistance is available to full-time students attending the University subject to certain conditions. Information on these conditions is available from Student Administration.

Selection for Admission

Admission to the Faculty of Architecture is competitive and in determining selection, account is taken of the academic qualifications and experience possessed by the applicant.

Awards

N. B. Pitt — James Hardie Scholarship, tenable for one year in Australia or overseas, is awarded to a University of Newcastle Bachelor of Architecture of not more than 3 years standing or a Bachelor of Architecture final year student for postgraduate study or research into environmental problems having particular regard to the Newcastle area.

Prizes

Newcastle Gas Co. Prize

This prize, donated by the Newcastle Gas Co. Ltd, is awarded at the end of 3rd year to the outstanding student in Architecture IB, Architecture IIB and Architecture IIIB.

P.G.H. Prize

The P.G.H. prize, donated by P.G.H. Industries Ltd, is awarded to the outstanding student graduating with the B.Sc.(Arch.) (3rd year).

Board of Architects of New South Wales Prize

The Board of Architects of N.S.W. Prize is awarded for the best academic performance in the Bachelor of Architecture degree course, if of sufficient merit.

Further information on prizes and awards may be obtained from University Administration.

Drafting Equipment

At the commencement of the course recommendations for draughting equipment will be given.

Academic Dress

The Academic Dress worn by graduates of the Faculty of Architecture of the University of Newcastle is as follows:

Gowns

(a) Degree of Bachelor

A gown of black cloth as worn by Bachelors of Arts of the University of Cambridge.

(b) Degree of Master

A gown of black cloth as worn by Masters of Arts of the University of Cambridge.
(c) **Degree of Doctor of Philosophy**

A gown of garnet cloth faced with silver grey to a width of 4 inches.

**Caps and Bonnets**

(a) **Degree of Bachelor and Master**

Men — a black cloth trenccher cap
Women — a black Canterbury cap.

(b) **Degree of Doctor of Philosophy**

A black velvet bonnet with a silver cord.

**Hoods**

(a) **Degree of Bachelor of Science (Architecture)**

A full hood of black silk lined to a depth of 6 inches with garnet and a 1½ inch edging of silver grey.

(b) **Degree of Bachelor of Architecture**

A full hood of black silk lined to a depth of 6 inches with garnet.

(c) **Degree of Master of Architecture**

A full hood of black silk lined with garnet.

(d) **Degree of Doctor of Philosophy**

A hood of garnet lined with silver grey.

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**B. DEGREE REQUIREMENTS**

**REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE (ARCHITECTURE)**

1. **Definitions**

   In these Requirements, unless the contrary intention appears, "the Faculty" means the Faculty of Architecture and "the Faculty Board" means the Faculty Board of the Faculty of Architecture.

2. **Timetable Requirements**

   No candidate may enrol in any year for any combination of subjects which is incompatible with the requirements of the timetable for that year.

3. **Annual Examinations**

   The Annual Examinations shall normally be held at the end of Third Term.

4. **Special Examinations**

   A candidate may be granted a special examination in accordance with the provisions of the Examination Regulations.

5. **Examination Grades**

   The results of successful candidates at Annual Examinations and Special Examinations shall be classified:
   - Pass,
   - Credit,
   - Distinction,
   - High Distinction.

6. **Grading of Degree**

   The degree of Bachelor of Science (Architecture) may be conferred as an ordinary degree or as a degree with merit.

7. **Relaxing Clause**

   In order to provide for exceptional circumstances arising in particular cases, the Senate, on the recommendation of the Faculty Board, may relax any requirement.

8. **Qualification for Degree**

   To qualify for the degree, a candidate shall:
   (a) pass the subjects prescribed in Schedule A; and
   (b) satisfy the Elective Requirements prescribed in Schedule B.
9. A Subject
(a) To complete a subject qualifying towards the degree, hereinafter called a subject, a candidate shall attend such lectures, tutorials, seminars, laboratory classes and field work and submit such written work as the Department concerned shall require.
(b) To pass a subject a candidate shall satisfy the requirements of the previous clause and pass such examinations as the Faculty Board concerned shall require.

10. Prerequisites and Corequisites
(a) Except with the permission of the Dean acting on the recommendation of the Head of Department offering the subject, a candidate may not enrol in any subject unless he has satisfied the requirements for prerequisites and has enrolled in or has already passed the corequisite prescribed for that subject.
(b) A candidate shall not enrol in a Part III subject until he has passed all Part I subjects prescribed for the course.

11. Standing
A candidate may be granted such standing in the course in recognition of work completed in another course, faculty or tertiary institution as may be determined by the Faculty Board.

12. Withdrawal
(a) A candidate may withdraw from a subject or course only by informing the Secretary to the University in writing and the withdrawal shall take effect from the date of receipt of such notification.
(b) A candidate who withdraws after the sixth Monday in second term from a subject in which he has enrolled shall be deemed to have failed in the subject save that, after consultation with the Head of Department concerned, the Dean may grant permission for withdrawal without penalty.

13. Progression
(a) Progression in the course shall be by subject;
(b) A candidate may not enrol in more than four subjects in any one academic year. The Dean may, in individual cases, relax this Requirement but only if he is satisfied that exceptional circumstances exist or the academic merit of the candidate warrants such relaxation.

SCHEDULE OF SUBJECTS—SCHEDULE A

<table>
<thead>
<tr>
<th>Subject</th>
<th>Prerequisites</th>
<th>Corequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part I</td>
<td></td>
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</tr>
<tr>
<td>Architecture IA</td>
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<td>Architecture IA and</td>
</tr>
<tr>
<td>Architecture IB</td>
<td></td>
<td>Architecture IB</td>
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<td>Architecture IIC</td>
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<td>Architecture IIC</td>
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<tr>
<td>Elective I</td>
<td>See Schedule B</td>
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<tr>
<td>Part II</td>
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<tr>
<td>Architecture IIA</td>
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<td>Architecture IIA or</td>
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<td>Architecture IIB</td>
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<td>Architecture IIB</td>
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<td>Architecture IIC</td>
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<td>Architecture IIC</td>
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<td>See Schedule B</td>
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<td>Part III</td>
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<td>Architecture IIB</td>
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<td>Architecture IIC</td>
<td></td>
<td>Architecture IIC</td>
</tr>
<tr>
<td>Elective III</td>
<td>See Schedule B</td>
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</tbody>
</table>

SCHEDULE OF SUBJECTS—SCHEDULE B

Electives I, II and III
A candidate shall select either:
(a) a subject or subjects offered by a department other than the Department of Architecture and approved by the Dean provided that the subject or subjects selected have not been passed previously by the candidate, or
(b) a subject offered by the Department of Architecture and approved by the Dean from the list of subjects approved for this purpose by the Faculty Board provided that the subject selected has not been passed previously by the candidate.

Note
The approved list of Elective subjects appears in the section "Faculty Policies" in this handbook.
1. Definitions
In these Requirements, unless the contrary intention appears, "the Faculty" means the Faculty of Architecture and "the Faculty Board" means the Faculty Board of the Faculty of Architecture.

2. Registration as a Candidate
(a) An application to register as a candidate for the degree shall be made on the prescribed form and lodged with the Secretary by the closing date indicated.
(b) To be eligible for registration as a candidate an applicant shall—
(i) have satisfied all requirements for admission to the degree of Bachelor of Science (Architecture) in the University of Newcastle; or
(ii) have satisfied all requirements of another university for an equivalent qualification approved for this purpose by the Faculty Board; or
(iii) in exceptional circumstances hold such other academic and professional qualifications as may be approved by Senate on the recommendation of the Faculty Board.

3. Timetable Requirements
No candidate may enrol in any year for any combination of subjects which is incompatible with the requirements of the timetable for that year.

4. Annual Examinations
The Annual Examinations shall normally be held at the end of Third Term.

5. Special Examinations
A candidate may be granted a special examination in accordance with the provisions of the Examination Regulations.

6. Examination Grades
The results of successful candidates at Annual Examinations and Special Examinations shall be classified:
Pass, Credit, Distinction, High Distinction.

7. Grading of Degree
(a) the degree of Bachelor of Architecture may be conferred as an ordinary degree or as a degree with honours;
(b) there shall be two classes of Honours, namely Class I and Class II.

8. Medals
The Faculty Board may recommend for the award of a University medal any candidate qualifying for admission to the degree with 1st Class Honours who, in its opinion, has displayed outstanding ability.

9. Relaxing Clause
In order to provide for exceptional circumstances arising in particular cases, the Senate, on the recommendation of the Faculty Board, may relax any requirement.

10. Qualification for Degree
To qualify for the degree, a candidate shall:
(a) pass the subjects prescribed in Schedule C; and
(b) satisfy the Elective Requirements prescribed in Schedule D.

11. Prerequisites and Corequisites
Except with the permission of the Dean acting on the recommendation of the Head of Department offering the subject, a candidate may not enrol in any subject unless he has satisfied the requirements for prerequisites and has enrolled in or has already passed the corequisite prescribed for that subject.

12. A Subject
(a) To complete a subject qualifying towards the degree, hereinafter called a subject, a candidate shall attend such lectures, tutorials, seminars, laboratory classes and field work and submit such written work as the Department concerned shall require.
(b) To pass a subject a candidate shall satisfy the requirements of the previous clause and pass such examinations as the Faculty Board concerned shall require.

13. Standing
A candidate may be granted such standing in the course in recognition of work completed in another course, faculty or tertiary institution as may be determined by the Faculty Board.

14. Withdrawal
(a) A candidate may withdraw from a subject or course only by informing the Secretary to the University in writing and the withdrawal shall take effect from the date of receipt of such notification.
(b) A candidate who withdraws after the sixth Monday in second term from a subject in which he has enrolled shall be deemed to have failed in the subject save that, after consultation with the Head of Department concerned, the Dean may grant permission for withdrawal without penalty.
15. Progression

(a) Progression in the course shall be by subject;
(b) A candidate may not enrol in more than four subjects in any one academic year. The Dean may, in individual cases, relax this Requirement but only if he is satisfied that exceptional circumstances exist or the academic merit of the candidate warrants such relaxation.

SCHEDULE OF SUBJECTS — SCHEDULE C

<table>
<thead>
<tr>
<th>Subject</th>
<th>Prerequisites</th>
<th>Corequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part IV</td>
<td>Architecture IVA</td>
<td>Architecture IVA or Architecture IVB</td>
</tr>
<tr>
<td></td>
<td>Architecture IVB</td>
<td>Architecture IVB</td>
</tr>
<tr>
<td></td>
<td>Architecture IVC</td>
<td>Architecture IVC or Architecture IVB</td>
</tr>
<tr>
<td>Elective IV</td>
<td>See Schedule D</td>
<td></td>
</tr>
</tbody>
</table>

Part V

| Architecture VA | Architecture IVA |
| Architecture VB | Architecture IVB |
| Architecture VC | Architecture IVC or Architecture IVB |
| Elective V | See Schedule D |

SCHEDULE OF SUBJECTS — SCHEDULE D

ELECTIVE REQUIREMENTS

Electives 1V and V

A candidate shall select either:
(a) a subject or subjects offered by a department other than the Department of Architecture and approved by the Dean provided that 'the subject' or 'subjects selected have not been passed previously by the candidate, or
(b) a subject offered by the Department of Architecture and approved by the Dean from the list of subjects approved for this purpose by the Faculty Board provided that the subject selected has not been passed previously by the candidate.

Note

The approved list of Elective subjects appears in the section "Faculty Policies" in the Faculty of Architecture handbook.

REGULATIONS GOVERNING THE DEGREE OF
MASTER OF ARCHITECTURE

Part I — General

1. (1) These Regulations, including the Schedules thereto, prescribe the conditions and requirements relating to the degrees of Master of Architecture, Master of Arts, Master of Commerce, Master of Education, Master of Education—
al Studies, Master of Engineering, Master of Engineering Science, Master of Mathematics, Master of Psychology (Clinical), Master of Psychology (Educational) and Master Science.

(2) In these Regulations and the Schedules thereto, unless the context of subject matter otherwise indicates or requires: "Faculty Board" means the Faculty Board of the Faculty responsible for the course in which a person is enrolled or is proposing to enrol; "programme" means the programme of research and study prescribed in the Schedule; "Schedule" means the Schedule of these Regulations pertaining to the course in which a person is enrolled or is proposing to enrol; and "thesis" means any thesis or dissertation submitted by a candidate.

(3) These Regulations shall not apply to degrees conferred "honoris causa.

(4) A degree of Master shall be conferred in one grade only.

2. An application for admission to candidacy for a degree of Master shall be made on the prescribed form and lodged with the Secretary to the University by the prescribed date.

3. (1) To be eligible for admission to candidacy an applicant shall:
   (a) (i) have satisfied the requirements for admission to a degree of Bachelor in the University of Newcastle as specified in the Schedule; or
   (ii) have satisfied the requirements for admission to a degree or equivalent qualification, approved for the purpose by the Faculty Board, in another tertiary institution; or
   (iii) have such other qualifications and experience as may be approved by the Senate on the recommendation of the Faculty Board or otherwise may be specified in the Schedule; and
   (b) have satisfied such other requirements as may be specified in the Schedule.

(2) Unless otherwise specified in the Schedule, applications for admission to candidacy shall be considered by the Faculty Board which may approve or reject any application.

(3) An applicant shall not be admitted to candidacy unless adequate supervision and facilities are available. Whether these are available shall be determined by the Faculty Board unless the Schedule otherwise provides.
4. To qualify for admission to a degree of Master a candidate shall enrol and satisfy the requirements of these Regulations including the Schedule.

5. The programme shall be carried out:—
   (a) under the guidance of a supervisor or supervisors either appointed by the Faculty Board or as otherwise prescribed in the Schedule; or
   (b) as the Faculty Board may otherwise determine.

6. Upon request by a candidate the Faculty Board may grant leave of absence from the course. Such leave shall not be taken into account in calculating the period for the programme prescribed in the Schedule.

7. (1) A candidate may withdraw from a subject or course only by informing the Secretary to the University in writing and such withdrawal shall take effect from the date of receipt of such notification.

    (2) A candidate who withdraws from any subject after the relevant date shall be deemed to have failed in that subject unless granted permission by the Dean to withdraw without penalty.

    The relevant date shall be:
       (a) in the case of a subject offered in the first half of the academic year — the eighth Monday in first term;
       (b) in the case of a subject offered in the second half of the academic year — the second Monday in third term;
       (c) in the case of any other subject — the sixth Monday in second term.

8. (1) If the Faculty Board is of the opinion that the candidate is not making satisfactory progress towards the degree then it may terminate the candidature or place such conditions on its continuation as it deems fit.

    (2) For the purpose of assessing a candidate's progress, the Faculty Board may require any candidate to submit a report or reports on his progress.

    (3) A candidate against whom a decision of the Faculty Board has been made under Regulation 8(1) of these Regulations may request that the Faculty Board cause his case to be reviewed. Such request shall be made to the Dean of the Faculty within seven days from the date of posting to the candidate the advice of the Faculty Board's decision or such further period as the Dean may accept.

    (4) A candidate may appeal to the Vice-Chancellor against any decision made following the review under Regulation 8(3) of these Regulations.

9. In exceptional circumstances arising in a particular case, the Senate, on the recommendation of the Faculty Board, may relax any provision of these Regulations.

Part II — Examination and Results

10. The Examination Regulations approved from time to time by the Council shall apply to all examinations with respect to a degree of Master with the exception of the examination of a thesis which shall be conducted in accordance with the provisions of Regulations 12 to 16 inclusive of these Regulations.

11. The Faculty Board shall consider the results in subjects, the reports of examiners and any other recommendations prescribed in the Schedule and shall decide:

    (a) to recommend to the Council that the candidate be admitted to the degree; or
    (b) in case where a thesis has been submitted, to permit the candidate to resubmit an amended thesis within twelve months of the date on which the candidate is advised of the result of the first examination or within such longer period of time as the Faculty Board may prescribe; or
    (c) to require the candidate to undertake such further oral, written or practical examinations as the Faculty Board may prescribe; or
    (d) not to recommend that the candidate be admitted to the degree, in which case the candidature shall be terminated.

Part III — Provisions Relating to Theses

12. (1) The subject of a thesis shall be approved by the Faculty Board on the recommendation of the Head of the Department in which the candidate is carrying out his research.

    (2) The thesis shall not contain as its main content any work or material which has previously been submitted by the candidate for a degree in any tertiary institution unless the Faculty Board otherwise permits.

13. The candidate shall give to the Secretary to the University three months' written notice of the date he expects to submit a thesis and such notice shall be accompanied by any prescribed fee.*

14. (1) The candidate shall comply with the following provisions concerning the presentation of a thesis:

    (a) the thesis shall contain an abstract of approximately 200 words describing its content;
    (b) the thesis shall be typed and bound in a manner prescribed by the University;

* At present there is no fee payable.
(c) three copies of the thesis shall be submitted together with:

(i) a certificate signed by the candidate that the main content of the thesis has not been submitted by the candidate for a degree of any other tertiary institution; and
(ii) a certificate signed by the supervisor indicating whether the candidate has completed the programme and whether the thesis is of sufficient academic merit to warrant examination; and
(iii) if the candidate so desires, any documents or published work of the candidate whether bearing on the subject of the thesis or not.

(2) The Faculty Board shall determine the course of action to be taken should the certificate of the supervisor indicate that in the opinion of the supervisor the thesis is not of sufficient academic merit to warrant examination.

15. The University shall be entitled to retain the submitted copies of the thesis, accompanying documents and published work. The University shall be free to allow the thesis to be consulted or borrowed and, subject to the provisions of the Copyright Act, 1968 (Com), may issue it in whole or any part in photocopy or microfilm or other copying medium.

16. (1) For each candidate two examiners, at least one of whom shall be an external examiner (being a person who is not a member of the staff of the University) shall be appointed either by the Faculty Board or otherwise as prescribed in the Schedule.

(2) If the examiners' reports are such that the Faculty Board is unable to make any decision pursuant to Regulation 11 of these Regulations, a third examiner shall be appointed either by the Faculty Board or otherwise as prescribed in the Schedule.

SCHEDULE 1 — MASTER OF ARCHITECTURE

1. The Faculty of Architecture shall be responsible for the course leading to the degree of Master of Architecture.

2. (1) To be eligible for admission to candidature an applicant shall:

(a) have satisfied the requirements for admission to the degree of Bachelor of Architecture from the University of Newcastle or any other approved university; OR
(b) in exceptional cases produce evidence of such academic and professional attainments as may be approved by the Faculty Board.

(2) Diplomates of the New South Wales Department of Technical and Further Education seeking admission to candidature under the provisions of section 2(1) (b) of this Schedule shall be required to produce evidence of academic and professional progress over a period of at least five years from the time of gaining the diploma.

3. To qualify for admission to the degree a candidate shall complete to the satisfaction of the Faculty Board a programme consisting of:

(a) such work and examinations as may be prescribed by the Faculty Board; and
(b) a thesis embodying the results of an original investigation or design.

4. The programme shall be completed in:

(a) not less than two academic years except that, in the case of a candidate who has completed the requirements for a degree of Bachelor with honours or a qualification deemed by the Faculty Board to be equivalent or who has had previous research experience, the Faculty Board may reduce this period to not less than one academic year, and
(b) except with the permission of the Faculty Board, not more than 5 years.

C. FACULTY POLICIES

Faculty Board policies of special interest to students are as follows —

Criteria for the Award of the Degree with Merit and Honours

The Faculty Board's policy with respect to the award of degrees with Merit and Honours is currently under review. A statement outlining the Faculty Board's policy on this matter is expected to be available early in 1980.

Conditions for the Granting of Standing as determined by the Faculty Board, Faculty of Architecture pursuant to clause 11 of B.Sc.(Arch.) and clause 12 of the B.Arch. degree requirements

(a) Subject to the approval of the Dean of the Faculty of Architecture, standing may be granted in a subject, subject-unit or subject sub-unit in recognition of work completed in another course in this university or any other tertiary institution.

(b) For the purpose of determining eligibility for the award of a degree with merit in the case of the B.Sc.(Arch.) degree or with honours in the case of the B.Arch. degree, of students admitted to either degree course with standing, results of those subjects completed within the University of Newcastle, N.S.W., only shall be taken into account in accordance with the relevant degree requirements.
Student Progression
As indicated in the degree requirements and the schedule of subjects, students proceed by subject and not by year. A student who is required to repeat a subject may, in exceptional circumstances and at the discretion of the Head of the Department, be granted standing in any passed unit or sub-unit of that subject. A student who has failed a subject should apply to the Head of the Department to determine whether any standing will be granted in units/sub-units of that subject.

Subj-----inecompatible with the elective requirements for the B.Sc. (Arch.) and B.Arch. degree courses.
The following subjects offered by departments other than the Department of Architecture, shall not be approved as elective subjects in respect of clause 8 Qualification for Degree sub clause (b) of the B.Sc. degree requirements and clause 10 Qualification for Degree sub clause (b) of the B.Arch. degree requirements because their content overlaps substantially with core subjects in the degree courses:

- Introductory Quantitative Methods
- Commercial EDP
- Legal Studies I

Students may not enrol in the units CE111 Statics and ME111 Graphics and Engineering Drawing offered by the Faculty of Engineering.

List of subjects approved by the Faculty Board as electives to be offered by the Department of Architecture in 1980.

**B.Sc.(Arch.) Degree Course**
Elective I may be chosen from:
- Urban Design A
- Fine Arts
- Landscape Design A
- Twentieth Century Architecture

Electives II and III may be chosen from:
- Fine Arts
- Movements in Contemporary Architecture
- Urban Design A
- Urban Design B
- Landscape Design A
- Twentieth Century Architecture

**B.Arch. Degree Course**
Electives IV and V may be chosen from:
- Architectural Research
- Fine Arts
- Movements in Contemporary Architecture
- Urban Design A
- Urban Design B
- Landscape Design A
- Twentieth Century Architecture

Notes: Students are advised that not all subjects listed will necessarily be offered in 1980.

D. SUBJECT DESCRIPTIONS
Preface
Subject descriptions are currently under review in the Department of Architecture and any variations and additional information to that shown below will be issued from the Departmental Office after the 1st February, 1980.
Subject Outlines and Reading Lists are set out in a standard format to facilitate easy reference. The policy adopted in this Handbook for interpretation of the various sections is set out below. This may not necessarily be the same policy adopted for other Faculty Handbooks.

1) **Name**
The official subject name as included in the Schedule of the degree requirements. This name must be used when completing any forms regarding enrolment or variation of enrolment.

2) **Prerequisites**
Before enrolling in the subject, a student shall have passed the subjects listed as prerequisites. In some cases an advisory prerequisite is stated and although this is not compulsory it would be a distinct advantage for the student to have passed such a subject.

3) **Corequisite**
A corequisite is a subject which should be taken concurrently with another subject if not previously passed.

4) **Hours**
Subject hours may include lectures, tutorials or studio periods. The periods vary in length, but are normally of one or two hours duration. Students should read the timetable for details.

5) **Examination**
The formal examination requirements are stated, however, progressive assessment is used in many subjects and students are required to make submissions of work as specified by lecturers and tutors. Periodic examinations are usually held during the year. Work completed during the year will be taken into account in assessing students' final resultant grades. Failure to submit written work may involve exclusion from examinations in accordance with the University By-Laws.

6) **Content**
An outline of subject content.

7) **Suggested Preliminary Reading**
A list of reading material which should help the student gain a basic understanding of a subject. This material should be read before attending the first lecture on the subject.
(8) Texts
Essential books which are recommended for purchase.

(9) References
Students should not restrict their reading to texts. Lists of other references will be issued to cover various aspects of the subject. Students may need to read all or part of a reference to gain an appreciation of a particular topic.

(10) Electives
A list of subject electives with relevant details will be available from the Faculty Secretary.

211700 Architecture IA

Prerequisites
Nil

Examination
See individual unit requirements

Content
Arch. IA consists of the following units:

(i) 211701 Visual Studies
(ii) 211702 Data Processing
(iii) 211705 Man Environment Studies

(i) 211701 VISUAL STUDIES

Hours
38 hours per week

Content
(a) Descriptive Geometry
(b) Studio — Qualities of Materials
Light, Shade
Aspects of 2-D and 3-D Organisation
Texture and Relief
Colour
Natural Growth
Proportion
Lettering, Graphics
Media
Presentation
Sketching

c) Visual aspects of building detail.

d) Aspects of other visual disciplines.

Unit Requirements
(a) Weekly Studio and/or Field sessions will be held.

(b) Submissions:
(i) Descriptive Geometry
Regular assignments will be set.
(ii) Studio and Building Detail Projects.
A programme for projects and submissions will be used, but a flexibility will be provided to encourage a self-realised development.
(iii) Complete year's work at the end of Term 3.

Assessment and Examination
(a) Descriptive Geometry submissions will be given a guide grade.
(b) Other projects will generally not be given separate grades, but will be seen as part of a student's overall work in the Unit.
(c) The Final Grade for the Unit will be determined after review of the submission of the complete year's work at the end of Term 3.

References
Ching, F. Architectural Graphics (Architectural Pr., 1975)
Reekie, R. F. Draughtsmanship 2nd edn (Edward Arnold 1974)
Gill, R. W. Basic Perspective (Thomas & Hudson 1974)
Itten, J. The Elements of Colour (Van Nostrand Reinhold)

(ii) 211702 DATA PROCESSING

Hours
1 hour lecture and 1 hour tutorial per week.

Content
Data Processing consists of the following sub-units:
(a) 211703 Information Handling
(b) 211704 Computing Studies

(a) 211703 INFORMATION HANDLING
The use of libraries. Information filing.

(b) 211704 COMPUTING STUDIES
Introduction to Computer Programming using FORTRAN.
Some architectural applications such as shadow and sunlight penetration calculations. The use of packages such as Perspective Plotting and Structural Frame Analysis.

Unit Requirements
Approximately 15 assignments (which include the running of computer and packages) and one essay (on information retrieval).

Assessment and Examination
One midyear test and one end of year test at the time of the final examinations, each of equal value of approximately 30%.
The assignments will count approximately 20% towards the final assessment.
The essay will count approximately 20% towards the final assessment.

Text
Watters, J. Fortran Programming (Heinemann 1972)

(iii) 211705 MAN ENVIRONMENT STUDIES

Content
Man Environment Studies consists of the following sub-units:
(a) 211706 Human Factors Engineering
(b) 211707 History of Architecture

(a) 211706 HUMAN FACTORS ENGINEERING
(Anthropometrics and Ergonomics)

Content
Approx. 1 hour of formal class commitment per week plus not less than 11 hours per week private study.

Hours
(a) First Term:
Introductory lectures and discussions of anthropometrics and ergonomics.
The students carry out a limited anthropometric survey to familiarise themselves with the measure of human.

(b) Second Term:
Full size models are made of any article that has its form determined ergonomically.
In preparation for making the model the student is required to carry out an investigation of the selected topic including, as appropriate, a bibliographic survey and/or field survey; and to justify conclusions and design proposals in a seminar submission.

22
(c) Third Term:
Seminar sessions on selected topics.
Topics studied in detail by students in past years include the design of office chairs, lounge chairs, cutlery, crockery, door handles, stair handrails, car seats, beds, surf boards, drafting table with chair, toilet seats, public outdoor seating; special design requirements for infants, school children, physically and mentally handicapped persons and geriatrics.

Sub-Unit Requirements
Within the outline of activities listed above:
(a) Students are required to attend all lectures and seminar discussions, to participate in discussion and take notes of all sessions — for it is the purpose of the course to assist the student to develop an ability in solving ergonomic problems. Practical experience is seen as a valuable vehicle toward that goal.
(b) The nature of submissions will be a function of the topic under study and will be determined in consultation with staff.
Submissions may be in the form of an essay, orthographies, models, and/or seminars in which any visual, audio or any other means of communication may be used.
(c) Students may elect to work on projects individually or in groups. Some projects may be specified to be individual submissions.

Assessment and Examination
Assessment will be progressive based on project submissions and seminars.

References
Chapanis, A. Man-Machine Engineering (Tavistock Publications 1965)
Chapanis, A. Research Techniques in Human Engineering (John Hopkins Press)
Sinaiko, H. W. Selected papers on human factors in the Design and use of control systems (Dover Publications 1961)

(b) 211707 HISTORY OF ARCHITECTURE

<table>
<thead>
<tr>
<th>Hours</th>
<th>Assessment</th>
<th>Content</th>
</tr>
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<tbody>
<tr>
<td>1 hour per week</td>
<td>Two essays 30% ea.</td>
<td>A study of Egyptian, Greek, Roman, Early Christian, Romanesque and Gothic architecture based on the theory of architecture as a concretization of existential space centring on the spatial properties of works drawn from each period. The structural analysis of landscape and settlement, building, articulation, and space conception and development is used to disclose the particular existential meanings of the architectural forms.</td>
</tr>
</tbody>
</table>

Texts:
Norberg-Schulz, C. Meaning in Western Architecture.
Norberg-Schulz, C. Existence, Space and Architecture.

211800 Architecture IB

Prerequisites
Nil

Hours
See individual unit requirements

Examination
See individual unit requirements

Content
Arch. IB consists of the following units:
(i) 211801 Structures
(ii) 211802 Construction
(iii) 211803 Environmental Technology

(i) 211801 STRUCTURES

<table>
<thead>
<tr>
<th>Hours</th>
<th>Content</th>
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<tbody>
<tr>
<td>1½ hours per week — includes lecture and tutorial</td>
<td>Deals with two dimensional and three dimensional statics, internal actions in rigid bars and pin jointed frames.</td>
</tr>
</tbody>
</table>

Unit Requirements
Weekly tutorial and home assignments, two term examinations and final examination.

Assessment and Examination
First term examination 20%
Second term examination 20%
Final examination 40%
Each assignment carries equal weight.

Text:

(ii) 211802 CONSTRUCTION

<table>
<thead>
<tr>
<th>Hours</th>
<th>Content</th>
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<tbody>
<tr>
<td>Lecture 1 hour per week</td>
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<tr>
<td>Tutorial/Studio 1½ hours per week</td>
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</tr>
<tr>
<td>Field Trips Approx. 2 hours each for 3 trips per term</td>
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<tr>
<td>Excursions No set time but usually on the basis of 1 full day excursion per term</td>
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</tbody>
</table>
The unit offers an introduction to methods of building construction based on the limitations of
1) walk up
2) light framed construction
3) simple load bearing construction

This involves the coverage of
1) Conventional and light timber framed domestic construction
2) Post and beam portal frames and non load bearing in fills
3) Alternatives to the above including proprietary metal framing systems.

Complementary to this is a coverage of site investigation methods. Fabrication, joinery, materials and finishes are covered in relation to the content matter and all elements are reviewed in their context as design elements.

Techniques of documentation and communication are covered using drafted, written and 3D model methods.

Assessment of submissions is orientated towards providing an adequate feedback of information after submission.

Lectures and tutorials are arranged in similar order to those processes occurring on the building site to display the need for complete job/trade co-ordination.

Unit Requirements

Drawn submissions include both freehand and mechanical scaled detail drawings of the various elements being treated. Generally assignments are set on the basis of one per week and submission times based on the particular problem in hand.

All assignments set must be submitted by the end of the term in which they were set.

Specialised reports are called for which include
1) footing failure in a selected building
2) several detailed reports on the total progress of a selected building under construction
3) the demolition of a building displaying traditional methods of construction and observing those elements which have failed or remained effective.

Group work includes the submission of various scaled construction models.

Attendance is considered a matter for the individual student but attendance at studio sessions as a working group is highly stressed.

Assessment and Examination

Assignments are set generally on a weekly basis but include extensive investigation reports which are submitted at the end of each term.

Marks for these assignments are averaged with those for short term quizzes and this result is used as the end of year result.

The final result becomes 1/3 of the final subject result along with Environmental Technology and Structures. Assignments are reviewed and commented upon by the lecturer and a grading only given.

Texts and References

To be advised.

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(iii) 211803 ENVIRONMENTAL TECHNOLOGY

Content

Environmental Technology unit consists of the following sub-units
(a) 211804 Properties of Materials
(b) 211805 Building Services

(a) 211804 PROPERTIES OF MATERIALS

Hours

Lecture 1 hour per week
Field Trips 1 per section as required
Excursions These are usually combined with field trips in Construction.

Content

The sub-unit investigates the properties of most building materials including
1) Cement and Concrete
2) Timber
3) Ceramic Materials
4) Concrete products
5) Metals
6) Stone
7) Plastics
8) Glass
9) Protective Coatings and Preservatives.

Particular attention is offered to the
1) Properties
2) Characteristics
3) Hazards
4) Special requirements
5) Grading, measuring
6) Use as a technical element
7) Use as a design element of each of or a group of the materials covered.

Guest lecturers representing various trade bodies are invited to offer special information on their products in the light of future developments in availability, relative cost, efficiency, etc. Various manufacturing processes are visited.

Sub-Unit Requirements

Assignments are set at the completion of each stage which involve the submission of research reports, diagrams, sketches of the work covered and include an assignment dealing with a material or combination of materials which explore an "alternative material technology".

Assessment and Examination

The results of section assignments are averaged with the results of term quizzes all of which are assessed and marked by the lecturer. This result is used as the end of year result.

The final result produced is averaged with that for the Properties of Materials sub-unit to form 1/3 of the total result for Architecture IB along with Structures and Construction.

Texts and References

To be advised.
211900 Architecture IC

**Prerequisites**  
Nil

**Corequisites**  
Architecture IA & IB

For details regarding Architecture C subjects see page 56 of this handbook.

212800 Architecture IIA

**Prerequisites**  
Architecture IA

**Hours**  
See individual unit requirements

**Examination**  
See individual unit requirements

**Content**  
Arch. IIA consists of the following units:

1.  
   212801 Visual Studies
2.  
   212802 Data Processing
3.  
   212805 Man Environment Studies

(i)  
**212801 VISUAL STUDIES**

**Hours**  
3 hours per week

**Content**

(a) Studio  
   (i) Field Sketching
   (ii) Elective — Sculpture
        — Painting
        — Printmaking

(b)  
   (i) Visual aspects of building detail.
   (ii) Visual aspects of the Urbanscape.

c) Aspects of other visual disciplines.

**Unit Requirements**

(a) Weekly Studio and/or Field sessions will be held.

(b) Submissions:
   (i) A programme for projects and submissions will be used, but a flexibility will be provided to encourage a self-realised development.
   (ii) Complete year's work at the end of Term 3.

**Assessment**

(a) Projects will generally not be given separate grades, but will be seen as part of a student's overall work in the Unit.

(b) The Final Grade for the Unit will be determined after review of the submission of the complete year's work at the end of Term 3.

**Reference**

Cullen, G. The Concise Townscape (Architectural Pr., 1973)

(ii)  
**212802 DATA PROCESSING**

**Content**

Data Processing consists of the following sub-units:

(a)  
   212803 Statistics

(b)  
   212804 Computing Studies

(a)  
**212803 STATISTICS**

**Hours**

1. Lecture one and a half hours/week
2. Tutorials to be integrated with lecture

**Content**  
1. Introduction  
   Nature of statistics, History of statistics.
2. Sets and Probability
3. Distribution and Random Variables
4. Organisation of Data
   Tabular Method, Graphical Methods, Measures of Central Tendency and Dispersion.
5. Mathematical Expectations
   Expected value of a random variable, Laws of Expectation, Special Mathematical Expectations, Properties of Variance, Chebyshev’s Theorem.
6. Probability Distributions and Applications
   Binomial, Hypergeometric, Poisson & Normal Distributions. Use of Normal Distribution Curve and Table.

Sub-Unit Requirements
It is a one-term sub-unit of lectures and tutorials.

Assessment and Examination
Class Assignments 50%
End of Term Examination 50%

Text
Walpole, R. E. Introduction to Statistics 2nd edn (Macmillan)

References
Neter, J. & others Fundamental Statistics for Business and Economics (Allyn & Bacon)
Sherlock, A. J. An Introduction to Probability and Statistics (Edward Arnold)
Clark, T. C. & Schkade, L. L. Statistical Methods for Business Decisions (South Western)

(b) 212804 COMPUTING STUDIES

Hours Approximately 1½ hours per week

Content
Lectures and tutorials on the FORTRAN computing language and batch processing on the ICL 1904 A computer. Development of a computer program to calculate solar altitude and azimuth angles for any time of day for any day of year. Use of this program to calculate position of shadows. Use of perspective package PERSDRAW. Use of plane frame stress package PLANEFRAM.

Assessment and Examination
Two 1½ hour examinations together with assignments.

Text
Watters, J. Fortran Programming (Heinemann 1972)

(iii) 212805 MAN ENVIRONMENT STUDIES

Content
Man Environment Studies consists of the following sub-units:
(a) 212806 Social Sciences
(b) 212807 History of Architecture

(a) 212806 SOCIAL SCIENCES

Hours Approximately 1 hour per week

Content
Social Sciences sets out to examine how Architecture serves man’s spiritual, aesthetic and physical needs. The transmission of value systems through the built environment are illustrated by discussions on the influences of social, political and economic thought on the designer. Studies on the history of technological innovation, human institutions and ideas of social progress will portray how ideals and movements shape society and determine architectural expression.

Sub-Unit Requirements
Selected assignments into the social aspects of Architecture aim to assist the student’s personal development and awaken his professional convictions by exercising his ability to refine research material, define social objectives, and understand the complexity of the social phenomena.

Assessment and Examination
Term papers and final examination.

Texts and References
Pacey, A. The Maze of Ingenuity: Ideas and Idealism in the Development of Technology (M.I.T. 1976)
Schumacher, E. F. Small is Beautiful: A Study of Economics as if People Mattered (Abacus 1974)

(b) 212807 HISTORY OF ARCHITECTURE

Hours 1 hour per week

Assessment
Two essay assignments 30% ea. 60%
One 3-hour examination 40%.

Content
The subject of the course is the development of Renaissance, Mannerist and Baroque architecture of Europe which is analysed in terms of its spatial composition, corporeal form, visible form and pupose intention. The development of architectural theory and its application to built works will be emphasised.

Prescribed Text:
Norberg-Schulz, C. Meaning in Western Architecture.
Recommended Reading:

References:
Scott, G. The Architecture of Humanism.
Wittkower, R. Architectural Principles in the Age of Humanism.
212820 Architecture IIB

Prerequisite
- Architecture IIB

Hours
- See individual unit requirements

Examination
- See individual unit requirements

Content
- Arch. IIB consists of the following units:
  1. 212821 Structures
  2. 212822 Construction
  3. 212823 Environmental Technology

(i) 212821 STRUCTURES

Hours
- 14 hours per week including lectures and tutorials

Content
- 1. Uniaxial Loading
  - Force-deflection relationships; elastic and non-elastic behaviour; stress and strain; material properties; Poisson effect; axial deflections; strain energy; axially loaded curved members.
- 2. State of Stress
  - Direct stresses and shear stresses; general 3-dimensional state of stress; uniaxial, biaxial and triaxial loading as special cases; principal stresses and maximum shear stresses and their directions; Mohr's stress circle.
- 3. State of Strain
  - Normal, area and volumetric strains; shear strain; general state of strain; principal strains, maximum shear strains and their directions, Mohr's strain circle.
- 4. Elastic Stress Strain Relationships
  - Principal stresses and principal strains; shear stresses and shear strains; combined normal and shear stresses and strains; Young's Modulus, Poisson's Ratio; Shear modulus.
- 5. Internal Force Diagrams
  - Axial force, shear force, bending moment and torsion diagrams; use of static equilibrium to derive external reactions and internal forces.
- 6. Bending and Shear Stresses in Flexure
  - Cross-section properties, centroid location, first and second moment of area. Computation of direct, bending stresses; elastic and elastic-plastic behaviour. Flexural stiffness; computation of flexural deflections by integration of moment-curvature relationship, Shear force, computation of shear stresses in flexure; combined direct and shear stresses in flexure-resultant principal stress directions.

7. Combined Bending and Axial Load
   - Elastic case; computation of maximum and minimum stresses.

8. Column Behaviour
   - Short columns, buckling, Euler critical load, intermediate bracing, effective length; end conditions; critical stress, eccentric loading.

9. Torsion
   - Shear flow, shear centre, solid circular section, hollow sections, open sections.

Unit Requirements
- Weekly tutorial and home assignments, limited amount of laboratory work and submission of laboratory report on group basis, two term examinations and final examination.

Assessment and Examination
- First term examination: 20%
- Second term examination: 20%
- Final examination: 40%
- Tutorial and home assignments: 20%
- Each assignment carries equal value but each laboratory report carries weight equal to five assignments.

Text
- Timoshenko, S. Strength of Materials Part I (Van Nostrand)

(ii) 212822 CONSTRUCTION

Hours
- A total of 2½ hours per week including lectures, studio work and excursions.

Content
- Following the precept that design is indivisible and that the subject and its units, the technologies, the unit construction is considered as an area of study in collaboration with the projects required to be accomplished and integrated with the synthesis subject of Group II. The constructional studies are concerned with the basic technology of load bearing wall construction up to five stories in height. The student should become acquainted with technical literature, constructional detail, methods appropriate to the course content. The series of lectures includes consideration of:

- Foundations
  - Soils, Safe bearing values, Cut and fill, Larger projects with mixed foundations, Site, including sampling and testing methods of soil strata, Excavation and earth moving, Requirements of Local Government Building Ordinance No. 70.
- Footings
  - Use and application of all types of footings for various structural systems.
Basements and Cellars
- Retaining walls,
- Sub soil drainage,
- Waterproofing,
- Cantilever slabs,
- Hydrostatic pressure,
- Methods of de-watering.

Masonry Walls
- Load bearing construction methods,
- Jointing of dissimilar materials,
- Wall thicknesses required by Ordinance 70,
- Expansion joints,
- Applications of damp proof courses and flashings,
- Wall facings in brick, stone, masonry, veneers, plastering,
- Ceramic tiles,
- Terracotta,
- Applied finishes,
- Floors,
- Concrete floors on fill and suspended,
- Formwork for concrete slabs,
- Beams and columns,
- Materials used for supporting formworks and stripping methods,
- Upper timber floor constructions,
- Floor finishes,
- Granolithic terrazzo sheet and tile materials.

Roofs
- Truss forms and their construction in timber and steel,
- Jointings and fastenings,
- Ventilation and glazing,
- Sheet roof coverings,
- Box gutters,
- Parapets and verges.

Unit Requirements
The student will be expected to progressively read and carry out a literature research for each of the lectures and to prepare a report, including sketches, on each of the six major subsections of the unit subject unit and to prepare fully communicative detailed drawings for each subsection.

During the second or third term, depending on the synthesis project working drawings and give detail sheets of the students submission in the C subject is required. The prepared folio of working drawings and details is to be submitted with a report of 3,000 words, typed, fully describing and commenting on the constructional methods used.

Attendance at lectures and studio periods for discussions with lecturers is an essential co-requisite as will be seen from the method of assessment and examination.

Assessment and Examination
All assignments and submissions will be assessed and marked by the lecturer who will award marks in percentages for:
(a) Each of the six assignments.
(b) Working drawings and detail assignment which will have a factor of seven.
(c) Each of the two term tests set.

(i) The total of the marks so awarded in a, b, and c, will be directly averaged to determine a year's mark which shall form 60% of the final mark in the subject unit.
(ii) The final end of year examination percentage mark will form 40% of the final mark in the subject unit.

By adding the resultant marks of (i) and (ii) so will be determined the final mark and grade in the subject unit.

Texts and References
To be advised.

(iii) 212823 ENVIRONMENTAL TECHNOLOGY

Content
Environmental Technology consists of the following sub-units:
(a) 212824 Building Science
(b) 212825 Building Services

(a) 212824 BUILDING SCIENCE

Hours
Approx. 1.5 hours of formal class commitment per week plus not less than 3 hours per week private supporting study.

Content
Lectures, seminars, laboratory work and field survey studies in the assessment of the thermal environment, natural ventilation and solar radiation control.

There will be emphasis placed upon fenestration design that integrates design for the internal thermal environment, natural ventilation or air-conditioning, and solar radiation control with the structure and fabric of the external walls of a building. The aim will be that the student no longer thinks in terms of a sun screening device but rather in terms of fenestration design and building envelope design.

A lecture series will be offered on detailed fenestration design of modern buildings in cities throughout the world.

As a vehicle to gaining an insight into basic rationale in design for climate, students will research and present in seminar form studies of indigenous architecture in a variety of climatic zones and cultures.

Sub-Unit Requirements
(a) Students are required to attend all lectures, laboratory sessions and seminars and to submit all assignments.
(b) The student should determine by discussion with the lecturer, the appropriate method of communicating submissions.

Assignments, will include analytical numerate calculations, subjective field surveys, three dimensional analysis or orthographics and scale model analysis and design.

Scale model analysis will be carried out for solar radiation control and design for natural ventilation. The student is advised to establish a store of model materials including cardboard, coloured papers, glue, masking tape, balsa wood and perspex as model work will be carried out not only in this subject but also in a number of other subjects.
Note: Students are advised to orient their behaviour to working on models in the architecture building where advice and guidance can be obtained during tutorial sessions. It is not possible to effectively advise a student on the appropriateness of his design if the student insists that he works on his model at home and delivers it as a "fait accompli" on the submission date.

Assessment and Examination
Students' grading in the subject will be based upon 60% progressive assessment for assignments and seminars presented throughout the year; and 40% for an end of year examination. Progressive assessment has been accepted as fundamental to the method of presenting this subject and students must make submissions by the due date.

Texts
Giovoni, B. Man, Climate and Architecture (Elsevier 1969)
Commonwealth Experimental Building Station, Sydney. Technical Studies:
No. 24 Climate and House Design
No. 36 Selected Australian Climate Data for use in Building Design
Bulletins:
No. 3 Climate and House Design
No. 6 Designing Houses for Australian Climate
Notes on the Science of Building:
No. 1 Design for Climate — Hot, Arid & Humid
No. 21 Design for Climate — Temperate Climate
No. 32 Design for Climate — Cold Winter Climate.

References
Bedford, T. Basic Principles of Ventilation and Heating (H. K. Lewis 1948)

Students will be issued with a comprehensive bibliography on commencement of study in this sub-unit.

b) 212825 BUILDING SERVICES

Hours 1 hour per week

Content The sub-unit provides a detailed investigation of selected services from the point of view of the Architect's responsibility.

The following areas will be dealt with:
House Drainage in sewered areas
Materials used, correct use of fittings, house drainage design, house drainage principles, inspection, testing.
Drainage in unsewered areas
Disposal of liquid wastes in unsewered areas.

Sanitary Plumbing
Materials used, stock design in relation to the type of building and positioning of fixtures. Positioning of fixtures to simplify and reduce sanitary plumbing costs. Flushing systems.

Water supply in reticulated areas
Primary formalities for supply, service from main to meter, materials, sizes. Position of service in relation to water main and building. Service pipes from meter to fixtures, laid underground, above ground, concealed in the building. Water supply to high rise buildings, pumping, storage, pressure vessel storage.

Hot water supply
Central heating and distribution is not discussed. The following question is posed: The Architect is commissioned to design (a) a home, (b) block of home units, (c) block of residential flats, i.e., Bachelor flat, one bed room unit, family unit, etc. The available systems are discussed (not brands) merits and demerits, the hot water needs according to number of people and their occupations, running costs, the discussion being the basis on which the Architect will advise his client regarding the hot water system to be installed.

Gas Services
The basis of design of the service and formula (recorded only in notes) for pipe sizing. Position of gas services on or within the building and effect on building appearance.

The final 1/3 of the year involves the detailed consideration of the following:
1. Security and Protection equipment
   a) Lighting services
   b) Fire Fighting hydrants and services.
2. Waste Processing
   Collection, disposal, utilisation, maintenance and cleaning equipment, stand by plant.
3. Co-ordination of services
   Planning, By-Laws, Sub-contracts for engineering services.

Sub-Unit Requirements
Assignments are set which involve the submission of research reports, diagrams, sketches, etc. of services under investigation. Students are expected to complement the lecture/tutorial/demonstration course by personal investigation of and consequent reporting on selected examples of service installation.

Assessment and Examination
The results of set projects are used to produce a progressively assessed result for the sub-unit. No formal examination is offered. The result produced is averaged with that for lighting/acoustics sub-unit to form 1/3 of the total result for Architecture IIB along with structures and construction.

Texts and References
To be advised.
212840 Architecture IIC
Prerequisite Architecture IC
Corequisites Architecture IIA or IIB
For details of Architecture C subjects see page 56 of this handbook.

213800 Architecture IIIA
Prerequisite Architecture IIA
Hours See individual unit requirements
Examination See individual unit requirements
Content Architecture IIIA consists of the following units:
(i) 213801 Visual Studies
(ii) 213802 Data Processing
(iii) 213801 Man Environment Studies

(i) 213801 Visual Studies
Hours 1½ hours per week
Content
(a) Photography
(b) Studio
(i) Life Drawing
(ii) Man/Space Projects
(iii) Light/Kinetics
(c) Visual aspects of building detail
(ii) Aspects of the "visual" in architecture
(d) Aspects of other visual disciplines
Unit Requirements
(a) Weekly Studio and/or Field sessions will be held.
(b) Submissions:
(i) A programme for projects and submissions will be used, but a flexibility will be provided to encourage a self-realised development.
(ii) Complete year's work at the end of Term 3.
Assessment and Examination
(a) Projects will generally not be given separate grades, but will be seen as part of a student's overall work in the Unit.
(b) The Final Grade for the Unit will be determined after review of the submission of the complete year's work at the end of Term 3.
References
To be advised.

(ii) 213802 Data Processing
Content Data Processing consists of the following sub-unit:
(a) 213803 Statistics
Hours 1 hour per week
Content 1. Sampling Theory
Sampling Distributions, Sampling Distributions of the Mean, Sampling Distribution of the Differences of the Mean, Student's t Distribution, Chi-square Distribution, F Distribution.

2. Estimation Theory

3. Tests of Hypothesis
Hypotheses about the State of the World, Types I & II Errors, One-tailed and Two-tailed Tests, Testing Concerning Means and Variances, Goodness of Fit Test, Test for Independence, Sign & Tests.

4. Regression and Correlation
Linear Regression, Estimation of Parameters Prediction, Test for Linearity of Regression, Correlation.

5. Computer Applications
Use of standard packages.

Sub-Unit Requirements
It is a one-term sub-unit of lectures and tutorials.
Assessment
Class Assignments 50% End-of-Term Examination 50%
Text
Walpole, R. E. Introduction to Statistics 2nd edn (Macmillan)
References
b) Neter, J. & others Fundamental Statistics for Business and Economics (Allyn & Bacon)
c) Sherlock, A. J. An Introduction to Probability and Statistics (Edward Arnold)
d) Clark, T. C. & Schkade, L. L. Statistical Methods for Business Decisions (South-Western)

(iii) 213804 Man Environment Studies
Content Man Environment Studies consists of the following sub-units:
(a) 213805 Social Sciences
(b) 213806 History of Architecture

(a) 213805 Social Sciences
Hours Approximately 1 hour per week
Content This sub-unit complements the social science unit of the previous year by studying environmental effects on individuals and communities. Architectural psychology examines questions of colour, space and place while sociological problems of group dynamics illustrate how far Architecture goes beyond the disciplines of art, building and business.

Sub-Unit Requirements
Objective surveys and assessment of buildings, spaces and places will ascertain, to a certain extent, their value and effectiveness as well as provide data for the student's future use.
It is not assumed that the assemblage of the best physical and social elements of many buildings can produce architecture. Rather the aim of both streams of Social Science is to unite the immaterial and physical aspects of architecture and to emphasise the primacy of human over technological values, without denying either. However, the impulses of the whole man, his search for the divine, his need of community, personal identity, physical well-being and shelter are inseparable from Architecture.

Assessment and Examination

Term papers and final examination.

References

Canter, D. Environmental Interaction: Psychological Approach to Our Physical Surroundings (Surrey Univ. Pr. 1975)

Canter, D. The Psychology of Place (Architectural Press 1977)

(b) 213806 HISTORY OF ARCHITECTURE

Hours 1 hour per week.

Assessment Two essays 30% each. 60%

One 3-hour examination. 40%

Content

The course includes a study of predisposing factors from the nineteenth century, namely the evolution of new potentialities and the demand for morality in architecture, leading to the advent of the modern movement in architecture. The modern movement is analysed in terms of the development of theory and its application to design.

Prescribed Text

Banham, R. Theory and Design in the First Machine Age.

Recommended Reading

Conrads, U. (ed.) Programmes and Manifestos on 20th-Century architecture.

References

Benevolo, L. History of Modern Architecture.


Jencks, C. Modern Movements in Architecture.

Pevsner, N. Pioneer of Modern Design: from William Morris to Walter Gropius.

The Open University: History of Architecture and Design 1890-1939 Units 1-22.

213820 Architecture IIIB

Prerequisite Architecture IIB

Hours See individual unit requirements

Examination See individual unit requirements

Content Architecture IIIB consists of the following units:

(i) 213821 Structures

(ii) 213822 Construction

(iii) 213825 Environmental Technology

(i) 213821 STRUCTURES

Hours 1½ hours per week

Content The following areas will be covered:

Wind Forces AS1170 Part II

Basic principles. Design wind velocity and pressure.

Pressure coefficients. Slides and example computations.

Dead and Live Loads AS1170 Part I


Construction, Fire and Earthquake Loading

Combustible content, fire testing and fire ratings, fire protection.

Qualitative Consideration of the Criteria of Structural Design

Strength, Deflection, Creep, Torsional Buckling, Lateral Buckling, Instability.

Qualitative Consideration of the Structural Behaviour of Superstructure

Isostatic and Determinate, Simple Beams, Trusses, King Post, Warren Girder, Member Joints, Space Frames, Hypostatic and Indeterminate, Fixed End/Continuous Beams, Rigid Frames, Portals, Multi-storey Frames, Vierendeel Girders, R.C. Frame, Flat Plate/Slab.

Review of SAA Building Codes and Material Specifications

Loading Codes, Steel Structures, Cold-formed Structures, Welding Code, High Strength Bolting Code, Lift Code, Crane and Hoist Code, Concrete Structures, Prestressed Concrete, Brickwork Code, Concrete Block Masonry Code, Light Timber Framing Code.

Steel Structures AS1250

Design of Beams, Trusses, Columns and Struts, Tension Members, Design examples. Design Aids — AISC Safe Load Tables for Structural Steel.

Concrete Structures AS1480


Brickwork Code AS1640


Designation of Architectural Foundations with some Basic Calculations

Classification of Soils, Methods of Testing, Bearing Capacity, Settlement and Deformation, Problems and Failures.

Architectural Foundations

Pad and Strip Footings, Raft Floors, Bearing on Rock, Piling Retaining Walls.

Subject Requirements

Lectures, tutorials, assignments and reports.
Assessment and Examination
The lecturer will award marks in grades for the assignments and term tests and these will be combined with the marks of the final examination to determine the final mark and grade in the subject.

Texts and References
The Building Codes and Standards as set out in the content section above.

(ii) 213822 CONSTRUCTION

Hours
Lectures: 1 hour up to 2 hours per week
Studio: 1 hour up to 2 hours per week

Assessment and Examination
Progressive assessment of assignments. Each assignment will have equal value and the final mark will be the average of marks awarded for the assignments set.

Content
Lectures and assignments covering the following aspects of framed construction as applied to high-rise and heavy industrial buildings:
- Performance and maintenance, foundations — footings — building failures, framing systems, bracing, connection of members, basements, floors, walls, roofs, cladding, internal elements and finishes,
- Service installations, fire protection, fire resisting construction, special consideration of industrial building types, control joints, sealants, finishes and performance of materials.

Subject Requirements
Assignments, drawings, reports, and three or four organised field trips.

Texts and References
To be advised.

(iii) 213825 ENVIRONMENTAL TECHNOLOGY

Content
Environmental Technology consists of the following sub-units:
(a) 213826 Building Science
(b) 213827 Building Services

(a) 213826 BUILDING SCIENCE

Hours
Approx. 1½ hours per week of formal class commitment plus not less than 3 hours of supporting private study per week.

Content
Lectures, tutorials, seminars, laboratory work and field surveys in the assessment of, and design for, electric lighting, day lighting and architectural acoustics.

Unit Requirements
Lighting:
Most calculation assignments will be carried out under tutorial conditions.
Assignments will include electric illumination design for incandescent and fluorescent installations, daylight illumination and permanent supplementary artificial lighting of interiors. Students will be required to collate for their personal

Reference a catalogue of luminaires currently available including general purpose, commercial, industrial and special purpose luminaires for auditorium and stage design.
One tenth full size models will be used to design for effective integrated design of daylighting, Solar radiation control and permanent supplementary artificial lighting of interiors — for which purpose the Department of Architecture's artificial skies and heliodon table will be made available to students at any time that the Architecture building is generally agreed to be open.
The use of models is aimed at visual integration of design concepts and their objective and subjective analysis which would otherwise be abstract. The use of models is argued as an alternative means of design and perhaps a preferable means. Certainly the models offer experience in the three dimensional revelation of a design concept otherwise denied the student. Experience gained working with models may lead to confidence in making abstract calculated design proposals.

Acoustics:
A series of lectures will be offered on the basic concepts of hearing, noise control, transmission of airborne and structure borne sound, absorption of acoustic material, transmission loss and control of sound together with acoustic requirements of special purpose auditoria.
Students will engage in field surveys and record ambient sound pressure levels, transmission loss in building and analyse the reverberation time, and diffusion properties of auditoria. Laboratory work will include measurement of the sound absorption of materials, some aspects of psychoacoustics and model analysis.

Students will research selected topics and present their findings in seminars. Students may work in groups or individually.
Students must attend all lecture, tutorial and seminar sessions and complete all assignments issued.

Assessment and Examination
Progressive assessment of assignments, term tests, seminars will constitute a value of 60% of the student's final assessment. The remaining 40% will be based upon an end of year examination.

Texts
Parkin, P. H. & Humphreys, H. R. Acoustics Noise and Buildings
Lawrence, A. Acoustics in Building
British Lighting Council Interior Lighting Design.

References
Beranek, L. L. Music Acoustics and Architecture
Krudsen, V. O. & Harris, C. N. Architectural Designing in Architecture
Furrer, W. Room and Building Acoustics and Noise Abatement
Hopkinson, R. G. Architectural Physics: Lighting
Westinghouse Lighting Handbook.
I.E.S. Lighting Review (Journal).
b) 213827 BUILDING SERVICES

**Hours**  Approximately 4 hour per week

**Content**  The subject unit is presented by way of a series of lectures and installation inspections offering the student further detailed design information on particular engineering services incorporated in the building of larger projects.

The building services studies are concerned with the technology and economics and the special skills of the design of complex environmental systems and systematic engineering techniques applicable in the field of design and paralleled to those of Architecture. The students should become acquainted with technical literature and details of engineering services and installations in buildings together with methods appropriate to equipment and distribution for those services included in the course content.

The series of lectures includes:

1. **Co-ordination of engineering services**
   - Conceptual design,
   - Economics and performance,
   - Cost investment.

2. **Air Supply**
   - Types of systems,
   - Zoning,
   - Distribution,
   - Duct design,
   - Plant design,
   - Noise transmission.

3. **Power Supply**
   - Electrical installation,
   - Distribution of power,
   - Sub-stations,
   - Heating and refrigeration systems,
   - Heat, exchanges,
   - Gas installation,
   - Appliances and fittings for each of the power services.

4. **Water Supply**
   - Steam installation,
   - Water storage,
   - Water sprinkler systems,
   - Hot and cold water distribution systems.

5. **Transportation**
   - Principles of lift designs,
   - Cues,
   - Control and planning,
   - Escalators,
   - Pneumatic tubes,
   - Moving footways.

6. **Communication Services**
   - Telephones,
   - Television,
   - Sound amplifying and monitoring systems.

7. **Contractural Co-ordination**
   - Planning of structure,
   - Structural codes,
   - By-laws,
   - Sub-Contract pertaining to Engineering services.

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**Sub-Unit Requirements**

The student will be expected to carry out literature research for each of the lectures and to prepare a report, including sketches, on each of the seven major subsections of the subject unit.

During the second or third term depending on the synthesis project he will be required to prepare drawings of co-ordinated engineering services applicable to his previous submission in the C subject of Group 3 and submit a report of 2,000 words, typed, fully describing and commenting on the services involved and the methods used to co-ordinate them.

An inspection of 3 existing installations of particular services will be undertaken during the year on which the student is to prepare a report covering equipment, installation, distribution and the co-ordination of the particular installation.

Attendance at lectures and discussions with lecturers is an essential corequisite as a means for the student to gain a professional understanding of engineering service problems in order that he may incorporate such equipment and services as may be required for his submission in the C subject of Group 3.

**Assessment and Examination**

All assignments and submissions will be assessed and marked by the lecturer who will award marks in percentages for:

(a) Each of the seven assignments.
(b) The engineering services design submission.
(c) For term tests set.

(i) The total of the marks so awarded in a, b and c will be directly averaged to determine a year's mark which shall form 60% of the final mark in the subject unit.

(ii) The final end of year examination percentage mark will form 40% of the final mark in the subject unit.

By adding the resultant marks of (i) and (ii) so will be determined the final mark and grade in the subject unit.

**Texts**

- Kinzey & Sharp
- Environmental Technologies in Architecture (Prentice-Hall)
- Maver, T.
- Building Services Design (RIBA Publications)
- Burberry, P.
- Environment and Services (Batsford)

**References**

- Woods, R. I.
- Noise Control in Mechanical Services (Sound Alternators Ltd)
- Whiteley, R.
- A Guide to Engineering Services In Buildings for Australian Architects (Univ. N.S.W. Students Union)

Selected journal articles.

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213840 Architecture IIIC

**Prerequisite**  Architecture IIC

**Corequisites or**  Architecture IIIA or IIIB

**Prerequisites**

For details of Architecture C subjects see page 56 of this handbook.
214700 Architecture IVA

Prerequisites Nil

Hours See individual unit requirements

Examination See individual unit requirements

Content Architecture IVA consists of the following units:

(i) 214701 Professional Practice
(ii) 214704 Management for the Architect
(iii) 214705 Law for the Architect

(i) 214701 PROFESSIONAL PRACTICE

Hours 1 hour per week

Examination To be advised

Content The architecture profession; aims, functions, education, registration, institutes and associations. Architectural services; description, client agreements, fees, briefs, responsibility. Consultants; description, services, agreements, fees, co-ordination. Sequence for a hypothetical project; obtaining commission, correspondence and communications; agreements; briefing; surveys; client and other approvals; project analysis; consultants and cost control; preliminary sketches and estimates; client meetings; minutes; final sketch plans and estimates; preliminary working drawings and schedules; tender documents and procedures; contract documents and formalities; bills of quantities; specifications; consultants' documents; contract administration; clerk of works, inspection, reports, instructions; site meetings and minutes; certificates; checks re bonds, insurances, times etc.; variations; trade detail; P.C. items; provisionals and nominated sub-contracts; practical and final completion certificates; maintenance and defects liability period; maintenance manuals and work as executed drawings; final accounts. Competitions. Communication; verbal and written expression, letters, reports and specifications. Social patterns; human relationships and judgment, professional ethics, clients professionals, builders, sub-contractors, public and private works, building finance.

Texts and References To be advised.

(ii) 214704 MANAGEMENT FOR THE ARCHITECT

Hours 1 hour per week

Assessment and Examination Grades will be determined after the assessment of two of the following examination papers:

Term 1 2 hour paper
Term 2 2 hour paper
Term 3 3 hour paper

Content

Examination To be advised

Content

(i) 214800 Architecture IVB

Prerequisites Nil

Hours See individual unit requirements

Examination See individual unit requirements

Content Architecture IVB consists of the following units:

(i) 214801 Construction
(ii) 214802 Specification
(iii) 214803 Estimating

Candidates who sit the Term 3 paper will be required to answer questions from Term 3 topics and the topics from one other term.

Content Theories and research results relevant to problems of administration from the behavioural sciences viewpoint. Topics include behavioral models, values and attitudes, learning, perception, motivation, creativity, problem-solving, communications, group dynamics and leadership. These are treated in relation to the classical managerial functions, and the management of specialised functional areas, such as personnel, marketing, production and finance.

Texts Leavitt, H. J. & Pondy, L. R. Organisational Behaviour (McGraw-Hill)

References Vermeesch, R. B. Business Law of Australia 3rd edn (Butterworths) & Lindgren, K. E. Common Wealth and State Court Systems (Butterworths)


Notes supplied by Department of Legal Studies.

214705 LAW FOR THE ARCHITECT

Hours 2 hours per week over half the academic year

Examination To be advised

Content Nature and source of law (including case law and the doctrine of precedent, Commonwealth and State court systems and statute law and statutory interpretation; derivation of the Australian legal system and the Australian federation; "the adversary system" (including lawyers, litigation, procedure and evidence and the "expert" witness); classifications and areas of law; aspects of administrative law relating to the regulation of practising professions; aspects of contract law (e.g. interpretation of express terms and the implication of terms); aspects of the law of tort, viz. the development of liability for professional negligence.

Texts Shtein, B. J. L. An Introduction to Business Law 3rd edn (Law Book & Lindgren, K. E. Co. 1977)

Chisholm, R. & Nettheim, G. Understanding Law (Butterworths 1974)


Notes supplied by Department of Legal Studies.

References Vermeesch, R. B. Business Law of Australia 3rd edn (Butterworths) & Lindgren, K. E.
(i) 215501 PROFESSIONAL PRACTICE

Hours 1 hour per week
Examination To be advised

Texts To be advised.

(ii) 215502 MANAGEMENT FOR THE ARCHITECT

Hours 2 hours per week
Examination To be advised
Content Management for the design and construction of buildings; conventional systems, management consultants, construction management, project management. Framework for the management of any project; concepts and principles, definitions development and implementation. Project control; concepts and techniques structure and life cycle. Network analysis scheduling and control; CPA/CPM, PERT, Precedence Networks. System methodology; theory models for definition, planning scheduling and control phases. Conventional and fast-track systems. Case studies. Interpersonal dynamics; communication, leadership and conflict in project team organisation. Force field analyses; driving and restraining forces. Transactional analyses; recognition of personal ego states and definition of transactional games. Management games and case study exercises. Seminars with practicing professionals, consultants, builders and other members of the building industry.

Texts To be advised.

(iii) 215503 LAW FOR THE ARCHITECT

Hours 2 hours per week over half the academic year
Examination To be advised
Content Commercial arbitration and the Arbitration Act 1902; Parts XI-XII B of the Local Government Act 1919 (NSW) and the general nature and structure of townplanning schemes in N.S.W.; a detailed study of the standard forms of building contract in use in N.S.W.; aspects of the law relating to copyright in architects' drawings and plans; the Architects Act 1921 (NSW); the Builders' Licensing Act 1973 (NSW).

References To be advised.

215520 Architecture VB

Prerequisites Architecture IVB
Hours See individual unit requirements
Examination See individual unit requirements
Content Architecture VB consists of the following units:

(i) 215521 CONSTRUCTION

Hours 2 hours per week
Examination To be advised
Content First Phase: To develop a design proposal to a stage where constructual and service problems have been satisfactorily solved and the solutions presented in a drafted and specified form.
Second Phase: To integrate the constructional, structural and services into the design process and illustrate by drafted and written means the solutions in respect of a particular project.

References As required for each individual project.

(ii) 215522 SPECIFICATIONS

Hours 1 hour per week
Examination To be advised
Content Detailed dissection and analysis of guide specifications for a range of building types from simple to complex construction. Review of preliminaries, all trade sections, services specifications, specification for nominated sub-contractors and specialist works. Case studies and exercises in specification analysis, writing and production. Performance specifications, dimensional co-ordination, computer techniques, word processing and production.

Texts and References To be advised.

(iii) 215523 ESTIMATING

Hours 1 hour per week
Examination To be advised
Content
Detailed dissection and analysis of construction estimating. Preliminaries and all trade sections are reviewed. Contractors and nominated sub-contractors tenders and quotations are analysed, assessed and reported. Estimating exercises and case studies. Building construction economics, cost planning and cost control.

Texts and References
To be advised.

215540 Architecture VC
Prerequisites
Architecture IVC
Corequisites
Architecture VA or VB
For details of Architecture C subjects see page 56 of this handbook.

ELECTIVES OFFERED BY THE DEPARTMENT OF ARCHITECTURE

216005 Architectural Research
Hours
4 hours per week for 3 terms.
Prerequisite
Bachelor of Science (Architecture).
Assessment and Examination
Projects will be assessed by staff supervisors.
Content
This Elective subject is offered to students enrolled in the Bachelor of Architecture degree course to afford the opportunity to those who wish to pursue in depth a course of study and research into an aspect of architecture of particular interest to them.
Subject Requirements
Students proposing to enrol in this subject are required to propose a research project under the supervision of an appropriately qualified member of staff of the Department of Architecture. Subject to the approval in principle of the Head of Department of the proposed programme, the student will work under the direction of the supervisor and carry out such work and present such reports and other submissions as may be directed by the supervisor. The student may be required to give seminars on the selected topic.
Texts and References
These will relate to the approved topics.
NOTE: Architectural Research is only available as Elective IV or Elective V of the B.Arch. course

216013 Fine Arts
Hours
4 hours per week
Prerequisite
Nil

Assessment and Examination
Marks as percentages will be awarded for each of the following requirements and directly averaged to determine the Final Grade for the Subject
(a) Term 1 Essay
(b) Term 2 Essay
(c) Comparative Study and Seminar Presentation
(d) Visual Test.

Content
The aim of this course is to give students an opportunity to familiarise themselves with the current philosophical issues in contemporary architecture and to enable him to investigate some selected movement, group, or aspect to which he is particularly drawn. There will be no formal lectures, rather a programme of seminars will be planned which will allow each student to present his findings
on a selected topic and to discuss this with his fellow students. Topics for discussion and research may include:

Subject Requirements
The course will consist of a series of seminars and research assignments. Each student will be required to prepare three papers and present them to the class group. In addition, there will be a single major research assignment.

Texts and References
Jencks, C. The Language of Post-Modern Architecture (1977)
Jencks, C. Architecture 2000 (Studio Vists 1977)
Venturi, R. Complexity and Contradiction in Architecture (Museum of Modern Art 1966)

216016 Twentieth Century Architecture
Hours 4 hours per week
Prerequisite Nil
Assessment Projects will be assessed by the students and lecturer and both will produce a grade for each term's work. The lecturer will be responsible, as subject assessor, for the final grade.

Content
The subject first concentrates on the architecture of Finland, then widens to Scandinavia, Europe and North America. From an introduction to medieval farm houses, wooden towns and civic buildings of the 18th and 19th centuries in Finland, a study is made of Finnish architecture of the last 25 years. The work of Alvar Aalto, Reima Pietila, Timo and Tuomo Suomalainen is discussed with particular reference to combined geometries in planning and the inclusion of non-rectilinear spaces. Scandinavian church architecture from 1960 to 1980 will be closely examined including the work of Sigurd Lewerentz, Carl Nyren and John Utzon. Recent examples of housing include the community participation projects of Ralph Erskine.

A sample of architects' design philosophies will be discussed including those of Hans Scharoun; Herman Hertzgerger; James Stirling; Ahrens, Burton and Koralek in Europe and John Portman; Paul Rudolph; Charles Moore and Hardy, Holzman, Pfeiffer in North America.

References
Arkiteker and Arkitektur Journals

Subject Requirements
The course will consist of lectures, seminars and research assignments.

216012 Urban Design A
Hours 4 hours per week
Prerequisite Nil
Assessment Projects will be assessed by the student and lecturer. Both will propose a grade for the year's work, though the lecturer will be responsible for the final grade.

Content
Topics may include: Urban history, physical planning, locational factors, social factors, built form studies, communication systems, urban economics, legal and political studies, urban design projects.

Subject Requirements
The student will initiate his or her own projects in co-operation with the lecturer, who will act as a resource and facilitator.

Texts and References
To relate to projects.

216003 Urban Design B
Hours 4 hours per week
Prerequisite Urban Design A
Assessment and Examination As for Urban Design A
Content
This subject carries on the studies of Urban Design A.

Subject Requirements
As for Urban Design A.

Texts and References
To relate to projects.

Details of Architecture C Subjects
The following applies to the subjects
- 211700 Architecture IA
- 212840 Architecture IIC
- 213840 Architecture IIC
- 214900 Architecture IVC
- 215540 Architecture VC

Information presented in the Architecture A and B subjects is brought together firstly as an intellectual and philosophical perspective of architecture and related subjects and secondly as a basis for design. From 1978 the Architecture C subjects have been taught on a vertically integrated basis.

Vertical integration in this context means that students eligible to enrol in Architecture IC through VC may elect to work with staff of their own choice.

Members of staff of the Department of Architecture have drawn up individual statements on the aims, means, assessment and grading procedures they intend to use in Architecture C subjects. These statements will be available from the Departmental Office prior to the beginning of First Term.

With the exception of newly enrolling students, students are requested to nominate in order of preference two staff members with whom they would prefer to work.

Students are asked to discuss their proposed programmes before the commencement of First Term.

The following points should be kept in mind:
1. Projects should be planned to enable a stage to be completed at the end of Term 1.
2. Students may transfer from one group to another at the end of Term 1, at which time the work of the student will be assessed and graded.
3. Students may request one re-assessment and re-grading for a completed project or stage.
4. The staff will give notice of their intention to be sole examiner or to examine by jury.

5. A check list of Architecture A and B core subject data and design factors has been compiled by staff for use in Architecture C subjects. These check-lists relate to each Architecture C subject from IC through VC and are detailed below.

6. Students may expect to receive a grade.

DESIGN DATA CHECK LISTS

211700 Architecture IA

(iii) 211705 MAN ENVIRONMENT STUDIES
(a) 211706 HUMAN FACTORS ENGINEERING

Term 1 Anthroponometrics — the measure of man: consideration for the accommodation of persons of various stature as opposed to designing for an 'average person'.

Term 2 Preferred ergonomic design of: door handles, handrails, steps, taps, toilet pedestals, baths, sinks, stoves, cupboards, dining chairs and tables, office furniture, theatre seating, drafting furniture, etc. of any item used by man in buildings which an architect might be required to take responsibility for selection or design.

Term 3 Before designing an item first assess the suitability of existing items. A thorough study of existing items might reveal a preferred ergonomically designed item.

211800 Architecture IB

(ii) 211802 CONSTRUCTION

1. Can the proposal be erected with materials, methods and labour available.
2. Is the system efficient and economical.
3. Does the system make use of efficient and rational technology.
4. Have alternative systems been considered.
5. Is the construction system an integral part of the proposal.
6. Has the construction been considered since the conception of the proposal. Has it been "tacked on" later with enforced compromises in the proposal.
7. Can the proposal be easily dissembled or altered and extended.
8. Is the proposal waterproof, draughtproof, tolerably flexible, stable.
9. Can the structure and components accommodate movement, deflection, thermal and moisture movement.
10. Is the system acceptable to local authorities.

(iii) 211803 ENVIRONMENTAL TECHNOLOGY
(a) 211804 PROPERTIES OF MATERIALS
1. Are materials rational in their use.
2. Are materials selected appropriate for the particular location.
3. Is each material used an integral part of the proposal.
4. Have the materials used been considered since the conception of the proposal.
5. Is the material(s) visually acceptable.
6. Have alternative materials been investigated.
7. What is the expected or anticipated life of the proposal.
8. Are materials permanent, compatible.
9. What short/long term problems are expected from the selection of materials.
10. Is the material usage acceptable to local authorities.
11. Is there any risk to human comfort — Heating, freezing, oxidisation, toxic solutions, soiling, abrasion, odour, etc.

(b) 211805 BUILDING SERVICES
1. Co-ordination between service installations.
2. Integration of services into proposal.
3. Have services been considered since conception of proposal.
4. Access to services for alterations, additions or maintenance.
5. Compliance with the requirements of local authorities.
6. Selection of suitable materials for the proposal.
7. Selection of suitable fittings for the proposal.
8. Does each service installation provide optimum human comfort conditions. These need to be defined — noise, temperature, speed, acceleration, vibration, re-fill time, privacy, safety, etc.
9. Is the service proposal efficient. Can waste products be re-cycled for use within the proposal or by other services.
10. Is there a services proposal.

212820 Architecture IIIB
(iii) 212823 ENVIRONMENTAL TECHNOLOGY
(a) 212824 BUILDING SCIENCE

213820 Architecture IIIB
(iii) 213825 ENVIRONMENTAL TECHNOLOGY
(a) 213826 BUILDING SCIENCE
Lighting
1. Effect of sunscreens for particular orientations upon the quality and quantity of daylight admitted.
2. Glare — direct or by reflection.
3. Discomfort glare, disability glare.
4. Electric lighting to supplement daylighting.
6. Use of models — particularly for daylight design — which integrate the many variables of fenestration design, surface colour, form and texture and interior design.

Acoustics
1. Planning principles in locating noisy and quiet areas.
2. Sound reduction in rooms.
3. Sound transmission loss through walls.
4. Desirable acoustic environments.
5. Form, texture, volume, materials, reverberation time, reflection sequence of room types: lecture room, drama theatre, cinema, church, opera house, music rehearsal room, broadcasting studio, concert hall.
6. Design for speech intelligibility in over reverberant rooms.
7. Assessment of acoustic environments.

NOTE: Further Checklists will be available from the Department of Architecture office.

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Subject Computer Numbers for Architecture Courses

The subjects selected should be written on the enrolment form in the following manner.

<table>
<thead>
<tr>
<th>Computer Number</th>
<th>Subject Name</th>
<th>Computer Number</th>
<th>Names of Components</th>
</tr>
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<tbody>
<tr>
<td>211700</td>
<td>Architecture IA</td>
<td>211701</td>
<td>Visual Studies</td>
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<tr>
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<td>211702</td>
<td>Data Processing</td>
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<td>211703</td>
<td>Information Handling</td>
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<td>211704</td>
<td>Computing Studies</td>
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<td>211706</td>
<td>Man Environment Studies</td>
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<td>211707</td>
<td>History of Architecture</td>
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<td>211800</td>
<td>Architecture IB</td>
<td>211801</td>
<td>Structures</td>
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<td>211802</td>
<td>Construction</td>
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<td>Environmental Technology</td>
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**B.ARCH.**

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**Electives Offered by the Department of Architecture**

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