



UNSW Course Outline

GMAT4400 Land Management Project - 2024

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General Course Information

Course Code : GMAT4400

Year : 2024

Term : Term 1

Teaching Period : T1

Is a multi-term course? : No

Faculty : Faculty of Engineering

Academic Unit : School of Civil and Environmental Engineering

Delivery Mode : In Person

Delivery Format : Standard

Delivery Location : Kensington

Campus : Sydney

Study Level : Undergraduate

Units of Credit : 6

Useful Links

[Handbook Class Timetable](#)

Course Details & Outcomes

Course Description

Design and studio project for a residential neighbourhood development, taking into account a range of issues including: (a) constraint and site analysis: preparation of maps of land use, vegetation, surface and soils, drainage and terrain, slopes, climate and aspect; composite overlay

maps; (b) structure plan design: infill subdivisions, residential precincts, schools, commercial areas, industrial areas, active and passive recreation, pedestrian ways and road hierarchy; (c) plan of detailed lot layout: shadow diagrams, consideration of access, grades, drainage reserves, parks and pedestrian ways; (d) engineering design and plans: catchment details, road longitudinal and cross-sections, drainage layout, flow schedule, hydraulic grade line calculations, longitudinal sections of kerb profiles, driveway designs.

Course Aims

This course brings together knowledge gained in several CVEN courses related to water engineering, rainfall/runoff and road design, as well as SAGE courses related to land law, cadastral surveying and land development practices in NSW. It does this via a major group project focusing on the design for a residential neighbourhood development. A number of individual topics are dealt with. The course is run with the assistance of several sessional staff with considerable practical experience in land management/development. The students learn about the following: (a) constraint and site analysis: preparation of maps of land use, vegetation, surface and soils, drainage and terrain, slopes, climate and aspect; composite overlay maps; (b) structure plan design: infill subdivisions, residential precincts, schools, commercial areas, industrial areas, active and passive recreation, pedestrian ways and road hierarchy; (c) plan of detailed lot layout: shadow diagrams, consideration of access, grades, drainage reserves, parks and pedestrian ways; (d) engineering design and plans: catchment details, road longitudinal and cross-sections, drainage layout, flow schedule, hydraulic grade line calculations, longitudinal sections of kerb profiles, driveway designs.

The is a studio type project supplemented with lectures. The CivilCad software is used.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Assess an undeveloped parcel of land to determine its suitability for urban development and design a development based on planning and environmental factors

Course Learning Outcomes	Assessment Item
CLO1 : Assess an undeveloped parcel of land to determine its suitability for urban development and design a development based on planning and environmental factors	<ul style="list-style-type: none">• Weekly Progress Inspections/Studio Involvement/Random Quizzes• Site Analysis• Structure Plan• Lot Layout

Learning and Teaching Technologies

Moodle - Learning Management System | Echo 360

Other Professional Outcomes

Apply knowledge and understanding of:

- potential site constraints to urban land development in site evaluation and site analysis in contemporary practice
- the methodology in the preparation of structure plans
- the methodology in the preparation of lot layout

Additional Course Information

Teaching strategies revolve around using a Studio Project (tutorial) format, in which groups of 3-4 students work together on a residential plot development. The tutorials (and student project work) is guided by sessional staff with experience in land management and development in NSW. Lectures will be linked to tutorial and studio activities.

The assessment tasks are broken down into three major submissions, each dealing with a range of issues and competencies as listed in the Short Description. By the end of the course each student should be able to assess an undeveloped parcel of land as to its suitability for urban development (or redevelopment), and to be able to undertake the design process according to planning and environmental guidelines (state and local government).

The student will be able to apply prior knowledge gained from several CVEN and SAGE courses. Use of CAD packages such as Civil3D will ensure high quality project submissions.

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Weekly Progress Inspections/Studio Involvement/ Random Quizzes Assessment Format: Individual	10%	Due Date: As advised in class
Site Analysis Assessment Format: Individual	30%	Due Date: Week 7: 25 March - 31 March
Structure Plan Assessment Format: Individual	30%	Due Date: Week 9: 08 April - 14 April
Lot Layout Assessment Format: Individual	30%	Due Date: exam period, date TBA

Assessment Details

Weekly Progress Inspections/Studio Involvement/Random Quizzes

Assessment Overview

tba

Course Learning Outcomes

- CLO1 : Assess an undeveloped parcel of land to determine its suitability for urban development and design a development based on planning and environmental factors

Detailed Assessment Description

Progress inspection on collation of site information, 2.5%

Show the types of site information the student has assembled for analysis from reputable sources

Moodle quiz 1 Aspects of Planning and site Analysis, 2.5%

Knowledge of how planning is regulated in NSW and contemporary planning issues in NSW

Moodle quiz 2 Structure Plans, 2.5%

Purpose of a structure plan, what information is used and how is it shown, understanding of key terms

Moodle quiz 3 Lot Design, 2.5%

Regulation of lot design, principles of sustainability, understanding of key terms, basic cost estimation.

Assignment submission Turnitin type

Not Applicable

Site Analysis

Assessment Overview

tba

Course Learning Outcomes

- CLO1 : Assess an undeveloped parcel of land to determine its suitability for urban development and design a development based on planning and environmental factors

Detailed Assessment Description

1. Submit a set of plans that constitute a full professional site analysis. All plan sheets will be prepared in a consistent format, with consistent scale, coverage, layout and title blocks, and

- are to be presented in both A3 hard copy and PDF format.
2. Submit a report that outlines the major site constraints and the relevant planning instruments.
 3. An oral assessment with one or both lecturers to discuss the site analysis.

Submission notes

Group site analysis plan, report & presentation

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students do not see Turnitin similarity reports.

Structure Plan

Assessment Overview

tba

Course Learning Outcomes

- CLO1 : Assess an undeveloped parcel of land to determine its suitability for urban development and design a development based on planning and environmental factors

Detailed Assessment Description

1. Submit a structure plan prepared to a professional standard that demonstrates a logical response to the site analysis. The Structure Plan will be prepared in a consistent format to the site analysis plans and presented in both A3 hard copy and PDF format.
2. The Plan is to be supported by a brief written report that outlines the key constraints, opportunities and considerations relevant to the site, and the manner in which the structure plan has been developed to respond to these considerations.
3. An oral assessment with one or both lecturers to discuss the structure plan.

Submission notes

Individual structure plan & report

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students do not see Turnitin similarity reports.

Lot Layout

Assessment Overview

tba

Course Learning Outcomes

- CLO1 : Assess an undeveloped parcel of land to determine its suitability for urban development and design a development based on planning and environmental factors

Detailed Assessment Description

1. Submit a Lot Layout Plan of a high standard that demonstrates consistency with the Structure Plan. The Lot Layout Plan will be prepared in a consistent format to the structure plan and presented in both A3 hard copy and PDF format.
2. The Plan is to be supported by a brief written report that outlines the key constraints, opportunities and statutory planning controls relevant to the site, and the manner in which the layout has been developed to respond to these considerations.
3. An oral assessment with one or both lecturers to discuss the Lot Layout Plan.

Submission notes

to be submitted in the exam period, date TBA

Assessment information

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students do not see Turnitin similarity reports.

General Assessment Information

For the Site Analysis assessment each student will be a member of a group of 3 to 4 students. Groups will be finalised during the first lecture. Students are free to select their partners. However, students are advised to select their partners very carefully. Obtain the address, phone number, mobile phone number, e-mail address, etc. of your group members immediately after the formation of the group. The joint submission requires considerable interaction between the students.

Instead of students giving presentations to the entire class they will be in the format of an oral assessment with one or both of the lecturers.

There is no final exam, instead the final submission and oral assessment will be scheduled after Week 10. Further details will be provided on Moodle.

Grading Basis

Standard

Requirements to pass course

The Site Analysis Plan, Structure Plan and Lot Layout must all be submitted in order to pass the

course.

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 12 February - 18 February	Lecture	Course outline and a brief introduction to planning,
	Project	Project Site selection and sources of information.
Week 2 : 19 February - 25 February	Lecture	Overview of the NSW Planning System.
	Project	Research & collate project site planning information
Week 3 : 26 February - 3 March	Lecture	Site analysis.
	Project	Practical site analysis of group project site.
Week 4 : 4 March - 10 March	Lecture	Road hierarchy, traffic engineering, stormwater drainage and their impact on the site.
Week 5 : 11 March - 17 March	Lecture	Lot access and engineering considerations.
Week 6 : 18 March - 24 March	Other	Flexibility Week
Week 7 : 25 March - 31 March	Lecture	Structure plans and how to prepare them.
	Project	Preparation of structure plans.
Week 8 : 1 April - 7 April	Lecture	Urban lot layout, liveability & sustainability.
	Project	Preparation of structure plans.
Week 9 : 8 April - 14 April	Lecture	Infill subdivisions and the economic feasibility of development.
	Project	Preparation of lot layout.
Week 10 : 15 April - 21 April	Lecture	The Development Application and approval process. Brownfield and industrial developments.
	Project	Preparation of lot layout.

Attendance Requirements

For courses with Workshops and/or Labs, attendance for those classes is a necessary part of the course. You must attend at least 80% of the workshop/lab in which you are enrolled for the duration of the session.

General Schedule Information

The teaching of this course will be shared between Aaron Gray (our valued Industry Lecturer) and Sandra Hoffmann.

Course Resources

Prescribed Resources

Use of computer software Autodesk Civil3D is a requirement for this course. This software is available in the School's computer lab CE611 and CE201 and may be available for access via the student's own device (details to be provided). Students will also be required to have data available for inspections by the lecturer from time to time.

Recommended Resources

Additional resources are listed on Moodle.

Additional Costs

Full colour A3 printing of plans for submission will be required.

Course Evaluation and Development

We encourage feedback on all aspects of this course, either by discussion with one of the presenters or via the "MyExperience" survey. The content and delivery methods are reviewed each year to ensure that the materials stay relevant and that the learning outcomes are achieved.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Lecturer	Aaron Gray				Limited availability during business hours.	No	No
Convenor	Sandra Hoffmann		CE415	02 9348 2227	Available any time outside of teaching commitments, knock on the door or email to arrange a time	Yes	Yes

Other Useful Information

Academic Information

I. Special consideration and supplementary assessment

If you have experienced an illness or misadventure beyond your control that will interfere with your assessment performance, you are eligible to apply for Special Consideration prior to, or within 3 working days of, submitting an assessment or sitting an exam.

Please note that UNSW has a Fit to Sit rule, which means that if you sit an exam, you are declaring yourself fit enough to do so and cannot later apply for Special Consideration.

For details of applying for Special Consideration and conditions for the award of supplementary assessment, please see the information on UNSW's [Special Consideration page](#).

II. Administrative matters and links

All students are expected to read and be familiar with UNSW guidelines and policies. In particular,

students should be familiar with the following:

- [Attendance](#)
- [UNSW Email Address](#)
- [Special Consideration](#)
- [Exams](#)
- [Approved Calculators](#)
- [Academic Honesty and Plagiarism](#)
- [Equitable Learning Services](#)

III. Equity and diversity

Those students who have a disability that requires some adjustment in their teaching or learning environment are encouraged to discuss their study needs with the course convener prior to, or at the commencement of, their course, or with the Equity Officer (Disability) in the Equitable Learning Services. Issues to be discussed may include access to materials, signers or note-takers, the provision of services and additional exam and assessment arrangements. Early notification is essential to enable any necessary adjustments to be made.

IV. Professional Outcomes and Program Design

Students are able to review the relevant professional outcomes and program designs for their streams by going to the following link: [https://www.unsw.edu.au/engineering/student-life/
student-resources/program-design](https://www.unsw.edu.au/engineering/student-life/student-resources/program-design).

Note: This course outline sets out the description of classes at the date the Course Outline is published. The nature of classes may change during the Term after the Course Outline is published. Moodle or your primary learning management system (LMS) should be consulted for the up-to-date class descriptions. If there is any inconsistency in the description of activities between the University timetable and the Course Outline/Moodle/LMS, the description in the Course Outline/Moodle/LMS applies.

Academic Honesty and Plagiarism

UNSW has an ongoing commitment to fostering a culture of learning informed by academic integrity. All UNSW students have a responsibility to adhere to this principle of academic integrity. Plagiarism undermines academic integrity and is not tolerated at UNSW. *Plagiarism at UNSW is defined as using the words or ideas of others and passing them off as your own.*

Plagiarism is a type of intellectual theft. It can take many forms, from deliberate cheating to

accidentally copying from a source without acknowledgement. UNSW has produced a website with a wealth of resources to support students to understand and avoid plagiarism, visit: student.unsw.edu.au/plagiarism. The Learning Centre assists students with understanding academic integrity and how not to plagiarise. They also hold workshops and can help students one-on-one.

You are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting and the proper referencing of sources in preparing all assessment tasks.

Repeated plagiarism (even in first year), plagiarism after first year, or serious instances, may also be investigated under the Student Misconduct Procedures. The penalties under the procedures can include a reduction in marks, failing a course or for the most serious matters (like plagiarism in an honours thesis or contract cheating) even suspension from the university. The Student Misconduct Procedures are available here:

www.gs.unsw.edu.au/policy/documents/studentmisconductprocedures.pdf

Submission of Assessment Tasks

Work submitted late without an approved extension by the course coordinator or delegated authority is subject to a late penalty of five percent (5%) of the maximum mark possible for that assessment item, per calendar day.

The late penalty is applied per calendar day (including weekends and public holidays) that the assessment is overdue. There is no pro-rata of the late penalty for submissions made part way through a day. This is for all assessments where a penalty applies.

Work submitted after five days (120 hours) will not be accepted and a mark of zero will be awarded for that assessment item.

For some assessment items, a late penalty may not be appropriate. These will be clearly indicated in the course outline, and such assessments will receive a mark of zero if not completed by the specified date. Examples include:

- Weekly online tests or laboratory work worth a small proportion of the subject mark;
- Exams, peer feedback and team evaluation surveys;
- Online quizzes where answers are released to students on completion;

- Professional assessment tasks, where the intention is to create an authentic assessment that has an absolute submission date; and,
- Pass/Fail assessment tasks.

Faculty-specific Information

[Engineering Student Support Services](#) – The Nucleus - enrolment, progression checks, clash requests, course issues or program-related queries

[Engineering Industrial Training](#) – Industrial training questions

[UNSW Study Abroad](#) – study abroad student enquiries (for inbound students)

[UNSW Exchange](#) – student exchange enquiries (for inbound students)

[UNSW Future Students](#) – potential student enquiries e.g. admissions, fees, programs, credit transfer

Phone

(+61 2) 9385 8500 – Nucleus Student Hub

(+61 2) 9385 7661 – Engineering Industrial Training

(+61 2) 9385 3179 – UNSW Study Abroad and UNSW Exchange (for inbound students)

School-specific Information

Final Examinations

Final Exams in T1 2024 will be held on campus between the 26th April and 9th May, and Supplementary Exams between the 20th - 24th May 2024. You are required to be available on these dates. Please do not make any personal or travel arrangements during this period.

School Contact Information

For assistance with enrolment, class registration, progression checks and other administrative matters, please see [the Nucleus: Student Hub](#). They are located inside the Library – first right as you enter the main library entrance. You can also contact them via <http://unsw.to/webforms> or reserve a place in the face-to-face queue using the UniVerse app.

For course administration matters, please contact the Course Coordinator.

Questions about this course should normally be asked during the scheduled class so that everyone can benefit from the answer and discussion.