



Wed 09:00AM

online

- 11:00AM

online

Lab/Workshop Wed 11:00AM - 12:00PM Civil Engineering 201

Course Coordinator and Lecturer Professor Linlin Ge
 email: l.ge@unsw.edu.au
 office: Civil Engineering 414
 phone: 9385 4177

Lecturer
 email:
 office:
 phone

INFORMATION ABOUT THE COURSE

This is a standalone course but it can also be taken in connection with a few undergraduate and postgraduate courses, such as
 CVEN4800 Satellite Remote Sensing and Applications, and
 GMAT9606 Microwave Remote Sensing.

HANDBOOK DESCRIPTION

See link to virtual handbook:
<https://www.handbook.unsw.edu.au/undergraduate/courses/2019/gmat3500/>

OBJECTIVES

This course will enable students to explore and gain further understanding of remote sensing and photogrammetry for earth observation through the investigation of ground-based, aerial and satellite remote sensing and photogrammetric data with a direct emphasis of their application to real world situations in the field of mapping and environmental monitoring.

This course will address several programme attributes:

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EXPECTED LEARNING OUTCOMES

This course is designed to address the learning outcomes below and the corresponding Engineers Australia Stage 1 Competency Standards for Professional Engineers as shown. The full list of Stage 1 Competency Standards may be found in Appendix A.

After successfully completing this course, you should be able to:

| | Learning Outcome | EA Stage 1 Competencies |
|----|---|--|
| 1. | Investigate remote sensing and photogrammetric options for identified applications, | <i>PE1.1, PE1.2, PE1.3, PE1.4, PE3.4</i> |
| 2. | Apply theory to the implementation of the chosen option, | <i>PE1.5, PE2.1, PE2.3, PE3.3, PE3.5</i> |
| 3. | Appreciate the complementary nature between remote sensing, photogrammetry and surveying, | <i>PE1.3, PE1.4, PE1.5</i> |

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| COURSE PROGRAM |
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Term 3 2020

| Date | Tue 10:00AM - 12:00PM | Wed 09:00AM - 11:00AM | Wed 11:00AM - 12:00PM |
|------------------------|--|--|---|
| 14/09/2020 (Week 1) | Introduction to Course; Introduction to Remote Sensing; | Electromagnetic Radiation Definition & Physics (1) | Coordinated peer learning |
| 21/09/2020 (Week 2) | Electromagnetic Radiation Definition & Physics (2) | Spectral Reflectance and Atmospheric Attenuation (1) | <i>Lab assignment 1 - optical remote sensing</i> |
| 28/09/2020 (Week 3) | Spectral Reflectance and Atmospheric Attenuation (2) | Electro-optical Sensors (1) | Coordinated peer learning |
| 06/10/2020 (Week 4) | Electro-optical Sensors (2) | Thermal Infrared Sensing | Coordinated peer learning |

PENALTIES

All assignments or practical reports are compulsory parts of the course and must be handed in by the due date. A mark of zero will be given for any submission which violates this rule. OR **The marks for late submissions will be reduced as follows:** -20% (of the maximum mark) for up to 24 hours after the scheduled submission time, then -10% (of the maximum mark) for each additional 24 hour period late. (For example, a student submitting a report/assignment 4 days late has his/her mark reduced by 4 if the maximum mark of the submission is 10.) Any late submission must be made before solutions are issued to the class.

If a student is unable to submit on time due to illness or other legitimate reason, then a brief written explanation must be given to the lecturer for consideration as soon as is feasible. In some cases the lecturer may grant an extension to the submission date provided he has been contacted before the due date.

Further assessment may be granted in this course at the lecturer's discretion. If further assessment is granted then performance in workshops may be considered. 0 G[A]8(l)4 48 henwg(i)-4(l-11(r)-7(

Appendix A: Engineers Australia (EA) Competencies

Stage 1 Competencies for Professional Engineers

| | Program Intended Learning Outcomes |
|--|---|
|--|---|

PE1.1 Comprehensive, theory-

**PE1: Knowledge
and Skill Base**