

| Attributes | Related to this course |
|--|-------------------------------|
| the skills involved in scholarly enquiry | Significant |
| an in-depth engagement with relevant disciplinary knowledge in its interdisciplinary context | Significant |
| the capacity for analytical and critical thinking and for creative problem solving | Significant |
| the ability to engage in independent and reflective learning | Some |
| the skills to locate, evaluate and use relevant information (Information Literacy) | Some |
| the capacity for enterprise, initiative and creativity | Minimal |
| a capacity to contribute to, and work within, the international community | Minimal |
| the skills required for collaborative and multidisciplinary work | Minimal |
| the skills of effective communication. | Significant |

More details on how the teaching and learning activities in this course are linked to each of these attributes will be discussed in classes.

TEACHING STRATEGIES

A variety of teaching activities will be conducted to achieve optimal teaching and learning outcomes. Major teaching activities in this course are:

- 1) Regular lectures;
- 2) Workshop case studies;
- 3) GPS/GNSS practical;
- 4) Regular quizzes, and discussions on the questions from the quizzes;
- 5) Class discussions.

all the lectures and other teaching activities. In addition, relevant resources on the web (visit the course website for details) are of great help in understanding the basic concepts discussed in the lectures and the trends in the discipline of surveying and geospatial engineering, including modern positioning/mapping, navigation and timing technologies.

Based on some studies by a higher education research expert John Biggs, most active students in the class do not just listen, see, collect notes and take notes, but most importantly, they will

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.

By the end of this Semester you should be able to

| Learning Outcomes (LO) | | EA Stage 1 Competencies |
|------------------------|---|----------------------------|
| 1. | <i>Describe the basic concepts of geo-positioning and geodesy</i> | <i>PE1.1, PE1.2, PE1.6</i> |
| 2. | <i>Explain geospatial reference systems and frames/datums for geospatial information and mapping applications;</i> | <i>PE1.2, PE1.3, PE1.4</i> |
| 3. | <i>Master map projection concepts, and understand the Universal Transverse Mercator (UTM) projection in particular;</i> | <i>PE1.5, PE2.1, PE2.3</i> |
| 4. | <i>Explain the principles of GPS/GNSS positioning methods;</i> | <i>PE2.2, PE2.3, PE3.3</i> |
| 5. | <i>Appreciate the role of GNSS-based geo-positioning in geospatial information collection;</i> | <i>PE2.4, PE3.3, PE3.4</i> |

At UNSW, Normal workload expectations for each program are a minimum of 25 hours per semester per unit of credit, including class contact hours, preparation and time spent on all assessable work.

For each hour of contact it is expected that you will put in at least 1.5 hours of self-centred and self-directed study: for example, reading the course related materials provided through the course website and reflect on the conceptual framework discussed in the classes.

RELEVANT RESOURCES

Lecture Materials

The course materials will be available on Canvas LMS: <http://moodle.telt.unsw.edu.au/>

All assignments and assessment items should be submitted with a signed Assessment Cover Sheet:

I declare that this assessment item is my own work, except where acknowledged, and has not

