

School / Faculty: Faculty of Science and Technology

Course Title: INDEPENDENT STUDY FOR ENGINEERS II

Course ID: ENGIN4003

Credit Points: 15.00

Prerequisite(s): Nil

Co-requisite(s): Nil

Exclusion(s): Nil

ASCED Code: 039999

Grading Scheme: Graded (HD, D, C, etc.)

Program Level:

AQF Level of Program						
	5	6	7	8	9	10
Level						
Introductory	■	■	■	■	■	■
Intermediate	■	■	■	■	■	■
Advanced	■	■	■	✓	■	■

Learning Outcomes:

On successful completion of the course the students are expected to be able to:

Knowledge:

- K1.** Develop a specific research question, line of enquiry or hypothesis related to the chosen area of study, commensurate with the year level and sequence of prior courses taken.
- K2.** Recall the salient information gleaned from a detailed exploration of a selected advanced engineering topic(s).
- K3.** Outline the conceptual issues and challenges associated with the chosen area of advanced study.

Skills:

- S1.** Critically review literature related to the area of advanced study.
- S2.** Apply a range of specialised engineering skills (such as analysis, design and evaluation) to the chosen area of advanced study.
- S3.** Consider the specific and pertinent implications of the topic studied in the context of the wider engineering discipline.

Application of knowledge and skills:

Course Outline (Higher Education)

ENGIN4003 INDEPENDENT STUDY FOR ENGINEERS II

- A1.** Undertake a detailed exploration of a selected advanced engineering topic(s) and interpret, evaluate and infer information related to the specialised area of study.
- A2.** Apply observed and inferred outcomes, associated with reviewing published work, to the chosen area of advanced study.

Course Content:

Independent studies are largely student-driven and the topic of study will be chosen by the student in consultation with the member of staff who will act as a mentor. Students will be expected to submit an appropriate formal proposal following guidelines established with their mentor. The majority of time will be spent working independently but students must attend any tutorials/seminars agreed with their mentor. Students are encouraged to develop research questions around relevant issues affecting their area of study, as a means of linking classroom based learning to their professional career.

Values and Graduate Attributes:

Values:

- V1.** Understand the role and limitations of an engineering area of study.

Graduate Attributes:

FedUni graduate attributes statement. To have graduates with knowledge, skills and competence that enable them to stand out as critical, creative and enquiring learners who are capable, flexible and work ready, and responsible, ethical and engaged citizens.

Attribute	Brief Description	Focus
Knowledge, skills and competence	Engineering is a fast-changing technological area, which affects our every-day life. Students will demonstrate the acquisition of all the knowledge, skills and competence needed to be a successful engineer.	High
Critical, creative and enquiring learners	Demonstration of the skills needed to be an independent, critical, and creative learner is an essential feature of engineering education. Within their studies, students will demonstrate an advanced ability to be creative, critical and enquiring.	High
Capable, flexible and work ready	Engineering is inherently interdisciplinary in nature. It requires a teamwork approach to execute tasks to achieve common objectives. Training for this engagement is built in to the final year through a demonstration of the detailed attention to detail that will be needed within the engineering workplace.	High
Responsible, ethical and engaged citizens	Through the breadth of learning the final year of the engineering programmes delivers, a student will demonstrate a detailed understanding of the engineering needed for the advancement of humanity.	Medium

Learning Task and Assessment:

Course Outline (Higher Education)

ENGIN4003 INDEPENDENT STUDY FOR ENGINEERS II

Learning Outcomes Assessed	Assessment Task	Assessment Type	Weighting
K1-K3, S1-S3, A1-A2	An investigation of a relevant appropriate project to the desired level of study will be submitted to describe the work undertaken, the analysis conducted and the context and relevance to the defined engineering area.	Report	100%

Adopted Reference Style:

Other (IEEE-Refer to the library website for more information.)