Course Outline (Higher Education)

School / Faculty:	Faculty of Science and Technology
Course Title:	ADVANCED MINE VENTILATION
Course ID:	ENGIN4502
Credit Points:	15.00
Prerequisite(s):	ENGIN3501, ENGIN3502, ENGIN3505
Co-requisite(s):	Nil
Exclusion(s):	ENMIN7020, ENMIN4050
ASCED Code:	030303
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. Determine production planning requirements for a mine.

K2. Review and recommend the parameters used in determining which planning system should be used.

K3. Review and recommend common mining planning methods.

K4. Analyse project management and network analysis.

K5. Account for some of the economic issues associated with mining.

K6. Review issues related to the environmental management.

Skills:

S1. Determine the best mining system for an ore deposit.

S2. Develop mine planning skills.

S3. Appraise the effects a mining operation may have in regard to social, political and environmental issues.

S4. Select appropriate excavation methods for various types of mineral deposits in varying conditions.

Course Outline (Higher Education)

Application of knowledge and skills:

A1. Plan, implement and evaluate short, medium and long term plans and schedules for a mine.

A2. Act Responsibly and have accountability for personal outputs and all aspects of the work or function of others.

A3. Incorporate environmental issues in mine planning.

Course Content:

Topics may include:

- Introduction to mine planning and sustainability.

- Mineral inventory and ore reserve estimation.

- Determination of size of mine, life of mine and production rates.

- Feasibility study.

- Short, medium and long term planning.

- Production planning.

- Equipment availability and utilisation.

- Mine optimisation.

- Mine closure planning.

- Project management and network analysis.

Values and Graduate Attributes:

Values:

V1. Recognise the need for good engineering practices in mining operations.

V2. Appreciate of the critical importance of pit optimisation.

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.

Course Outline (Higher Education)

ENGIN4502 ADVANCED MINE VENTILATION

Attribute	Brief Description	Focus
Knowledge, skills and competence	Mining engineering is a fast-changing technological area which impacts on our every-day life. Students will develop an appreciation that learning is a life-long process.	High
Critical, creative and enquiring learners	Development of independent, critical and creative learners is an essential feature of engineering education. Assessments tasks are individualised, so students need to rely on their personal efforts to arrive at their conclusions.	High
Capable, flexible and work ready	Mining engineering study requires a team work approach to execute tasks to achieve common objectives. Training for engagements is built in to the mining program. A student will graduate with a new outlook as an engaging capable, flexible and work ready individual.	Medium
Responsible, ethical and engaged citizens	Through the mining program delivery, a student will value the engineering input for the advancement of humanity. Students are made aware that the engineer does not work or act in isolation, but is part of a wider community that includes many stakeholders, some of which may have no technical knowledge of what the engineer does. An awareness of community as a responsible, ethical and engaged citizen is important when finding a design solution.	High

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Task	Assessment Type	Weighting
K1-6, S1-4, A1-3	Numerical and conceptual tasks.	Submitted assignments	20 - 40%
K1-6	Design project.	Report	20 - 40%
K1-6	Examination of some or all of the course materials.	Examination	40 - 60%

Adopted Reference Style:

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