Course Title:	**Mathematics for Software Engineering 1**
Course Code:	**ENGE602**
Descriptor Start Date:	**14/07/2023**
Descriptor End Date:	**30/01/2025**
POINTS:	**15.00**
LEVEL:	**6**
PREREQUISITE/S:	**None**
COREQUISITE/S:	**ENGE501**
RESTRICTION/S:	**None**

LEARNING HOURS

Hours may include lectures, tutorials, online forums, laboratories. Refer to your timetable and course information in Canvas for detailed information.

Total learning hours: 150

PRESCRIPTOR

Gives students a solid foundation in algebra and discrete mathematics, providing essential background for further study in Software Engineering and Computer Science.

LEARNING OUTCOMES

1. Analyse software engineering problems and prove simple mathematical results.(a,b,c,d,j)
2. Apply basic number theory(b,c,d,e,j).
3. Apply set theory in writing programs(b,c,d,e,j).
4. Calculate and interpret relations and functions(b,d,j)
5. Perform matrix algebra(b,c,d,e,j).
6. Apply basic linear algebra to solve systems of linear equations(b,c,d,e,j).

CONTENT

- Number theory: divisibility, GCD
- Foundations of mathematical logic
- Methods of proving theorems
- Sets, relations and functions
- Matrix algebra and systems of linear equations

Key to Graduate Capabilities Profile
a. Engineering knowledge
b. Problem analysis
c. Design/development of solutions
d. Investigation
e. Modern tool usage
f. The engineer and society
g. Environment and sustainability
h. Ethics
i. Individual and team work
j. Communication
k. Project management and finance
l. Lifelong learning

LEARNING & TEACHING STRATEGIES

Online lectures, tutorials, discussion forums.

ASSESSMENT PLAN

Assessment Event	Weighting %	Learning Outcomes
Assignment 1	20.00	1, 2, 3, 4, 5, 6
Assignment 2	20.00	1, 2, 3, 4, 5, 6
Mid-semester Test	20.00	1, 2, 4
Final Exam	40.00	1, 2, 4, 5, 6

Grade Map **MAP1**

A+ A A- Pass with Distinction
B+ B B- Pass with Merit
C+ C C- Pass
D Fail

Overall requirement/s to pass the course:

To pass the course, students must satisfy the stated learning outcomes and achieve a minimum overall grade of C-.

LEARNING RESOURCES

A recommended reading list will be provided.

Principal Programme:	**AK3751, Bachelor of Engineering (Honours)**
Related Programme/s:	