THE UNIVERSITY of ADELAIDE COLLEGE

Foundation Studies Program

Mathematical Studies

Aims

The aim of the Mathematical Studies subject is to prepare students for University level mathematics. This subject also satisfies the mathematics prerequisite requirements of the following University of Adelaide degree programs:

Bachelor of Mathematics & Computer Science, Biotechnology, Science (Optics & Photonics), Science (Space Science & Astrophysics), Business Information Technology, Economics/Finance, Economics/Laws, Finance, Finance/Laws, Finance/ Mathematical & Computer Sciences, Economics/Computer Science, Economics/Mathematical & Computer Science, Finance/Commerce.

Learning outcomes

After successfully completing this subject students should be able to:

- Understand mathematical concepts and relationships
- Use mathematical algorithms and techniques (implemented electronically where appropriate) to find solutions to routine and complex questions
- Apply knowledge and skills to answer questions in applied and theoretical contexts
- Apply mathematical models to data in order to make predictions
- Develop solutions to mathematical problems set in applied and theoretical contexts
- Interpret mathematical results in the context of the problem
- Understand the reasonableness and possible limitations of the interpreted results, and recognise any assumptions made
- Develop and test conjectures, with some attempt at proof
- Communicate mathematical ideas and reasoning to develop logical arguments
- Use appropriate mathematical notation, representations, and terminology.

Prerequisites and assumed knowledge

Mathematics to an Australian Year 11 standard.

Subject content

Week	Topic and assessment schedule
1	Orientation week
2 – 3	Introductory Skills
4-10	Differential calculus
Break	
11	Differential calculus
12 – 16	The exponential function, natural logarithm and modelling data
17	Revision
18	SWOTVAC
19	Exam week
20	Exam review
Break	
21	Linear equations
22 – 25	Matrices
26 – 29	Integral calculus
30	Statistics
Break	
31 – 35	Statistics
36	Revision. SWOTVAC
37 – 38	Exams
39	Graduation and transcript collection
40	End of course

Assessment

General weightings for each assessment item are outlined below

Assessment item	Weighting	Due dates
Tests	40%	As per assessment schedule
Assignments	7%	As per assessment schedule
Projects	8%	As per assessment schedule
Midyear examination	5%	As per College examination timetable
Final examination	40%	As per College examination timetable

Foundation Studies and Degree Transfer programs (The University of Adelaide) CRICOS 00123M | English language programs (Kaplan) CRICOS 03127E.
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