

Module code

SPM-3201

Type of module

Undergraduate: Mathematical Sciences – Major Core

Research Project



Modular credits

8

Total student
engagement

112 hours

Prerequisite

SPM-2201 Advanced
Mathematical
Methods for the
Sciences SPM-2202
Linear Algebra and its
Applications

Anti-requisite

None

Aims

To develop students' ability to design, conduct, and communicate an independent research project by integrating mathematical knowledge, research methodologies, and appropriate analytical and computational techniques.

Module learning outcomes (MLO)

On successful completion of this module, a student will be expected to be able to:

MLO 1

Analyse research methodology and research ethics.

MLO 2

Review literature, identify research problem, formulate research framework.

MLO 3

Design research proposal, plan and prepare research protocol.

MLO 4

Conduct research including data analysis with the guidance of supervisor.

MLO 5

Collect data and follow procedures and protocols safely and efficiently.

MLO 6

Interpret and critically appraise study design, research procedure, and findings.

MLO 7

Present research findings orally.

MLO 8

Write a research project report in journal article format.

Module contents

Identifying a research problem in the mathematical sciences

Writing a research proposal

Obtaining permissions and approvals

Conduct of research in line with the research proposal

Writing a report in the format of an academic journal article

Assessment

0%

Examination

100%

Coursework

10%

Written reports
40%

Seminar presentation
25%

Viva voce
25%

Supervisor assessment — 10%

Written reports — 40%

Seminar presentation — 25%

Viva voce — 25%

Formative assessment

Weekly discussion and feedback, consultation with supervisor

Summative assessment

COMPONENT	WEIGHTING
Examination	0%
Coursework	100%
Individual	100%
Supervisor assessment	10%
Written reports	40%
Seminar presentation	25%
Viva voce	25%

Graduate attributes and skills

Programme learning objectives (PLO) addressed

1	PLO 1 (Core Mathematical Knowledge)	2	PLO 2 (Analytical Problem-Solving)
3	PLO 3 (Computational and Digital Tools)	4	PLO 4 (Mathematical Communication)
5	PLO 5 (Collaboration, Project Management and Industry Engagement)	6	PLO 6 (Adaptability and Lifelong Learning)

Sustainability concept addressed

4	SDG 4 Quality Education
9	SDG 9 Industry, Innovation and Infrastructure

Digital skills/software used (not limited to)

Generative AI tools
Mathematical and computational software (e.g. MATLAB, Mathematica, Maple, Python)
Statistical computing and data analysis software (e.g. R, SPSS)
Mathematical document preparation systems (e.g. LaTeX, Overleaf)
Spreadsheet and numerical analysis software (e.g. Microsoft Excel)
Learning management and collaboration platforms (e.g. Canvas)
Word processing software (e.g. Microsoft Word)

Micro-credentialling option No	Stackable towards GenBESTARI Undergraduate Degree Programme or other relevant Lifelong Learning Programmes No
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Document details

Office **ODVCE** Document date **26 June 2026** Status **New** Approval **GBF (12/02/2026)**