Port Moresby International School

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Owned and operated by the International Education Agency.

Unit and Assessment Semester Outline for Students and Parents, Grades 11–12.

Year	2025	Semester	2	Grade	12	Unit Value	0.5
Curriculum		ACT/IB					
Subject Title/s		Mathematics					
Course Name		Mathematical Methods / Mathematics SL					
Unit Name		Unit 4a: Mathematical Methods IB/AC					
Course Code		1155		Unit Code		970S3R	

Assessment Tasks

Week Due	Topic(s)	Type of Task	Weighting
2	Calculus	Test	50%
8	Semester Exam	Examination	50%

Learning outcomes against which the students will be reported

Applies differentiation techniques.
Analyses function behaviour.
Models change using calculus.
Applies integration to solve problems.

Assessment Criteria

Technology, its selection and appropriate use, is an integral part of all the following criteria.

Students will be assessed on the degree to which they demonstrate:

- Knowledge – knowledge of mathematical facts, techniques and formulae presented in the unit
- Application – appropriate selection and application of mathematical skills in mathematical modelling and problem solving
- Reasoning – ability to use reasoning to support solutions and conclusions
- Communication – interpretation and communication of mathematical ideas in a form appropriate for a given use or audience.

Regulations governing Late Submission of Work, Non-Submission of Work, Attendance, Cheating/Plagiarism, Grade Descriptors, Moderation Procedures, Method of unit score calculation, meshing procedures, Course information, Procedures for calculating course scores & Rights of Appeal may be found in the Grade 11-12 Curriculum Handbooks, or from the POMIS website.

www.pmis.iea.ac.pg

Summary of Content

Weeks	Content Outline	Curriculum Links
1	Review of Differential Calculus with Log and Exponential, and Trig Functions. PNG complex numbers.	
2	Differential Calculus Test. Area under the curve. Integration: Power Rule, Trig, Exponential and Log Functions. Determine indefinite integrals of the form: $\int f(ax+b)dx$ for exponential, power, log, sine and cosine functions. Finding $f(x)$ given $f'(x)$and $f''(x)$.	IB AA 5.10 – 5.11 ACT Unit 4a
3-4	Find areas under curves and between curves. Solve kinematic problems involving displacement, velocity, and acceleration. Revision.	IB AA 5.9 ACT Unit 4a
5-6	PNG and IB Trial Exams	
7-8	Review W8: Integration Exam	
9-11	Study for PNG and IB exams	