**STAGE 1 MATHEMATICS**

**PROGRAM 4 OVERVIEW**

**THREE SEMESTER PRE-MATHEMATICAL METHODS AND SPECIALIST MATHEMATICS**

This program provides the overview of a three semester course for a cohort of students intending to continue to Mathematical Methods and Specialist Mathematics at Stage 2.

**Topics listed in the teaching order outlined in program 4**

**Semester 1 (same as program 1: semester 1, 2 semester pre-Mathematical Methods)**

Topic 1: Functions and Graphs – subtopics 1.1, 1.2, 1.3 and 1.4

Topic 2: Polynomials – subtopics 2.1 and 2.2

Topic 3: Trigonometry – subtopics 3.1, 3.2 and 3.3

**Semester 2 (same as program 1: semester 2, 2 semester pre-Mathematical Methods)**

Topic 4: Counting – subtopics 4.1, 4.2, 4.3 and 4.4

Topic 6: Introductory Calculus – subtopics 6.1, 6.2, 6.3, 6.4 and 6.5

Topic 5: Growth and Decay – subtopics 5.1, 5.2, and 5.3

**Semester 3**

Topic 9: Vectors in the Plane – subtopics 9.1, 9.2, 9.3 and 9.4

Topic 12: Real and Complex Numbers – subtopics 12.2, 12.3, 12.4, 12.5

Topic 10: Further Trigonometry – subtopic 10.1 (part) and 10.2 (*Assumed teaching undertaken after completion of Topic 3: Trigonometry)*

**Pre-approved learning and assessment plans**

See Learning and Assessment Plans > Pre-approved LAPs

LAP 1

LAP 2

LAP 8

**Mathematical investigations**

Polynomials turning points and points of inflection

Calculus cake tin – optimisation

Bezier Curves