

BACHELOR OF CHEMICAL ENGINEERING (HONOURS)/BACHELOR OF MATHEMATICS

Program Code: 40079

CRICOS Code: 088924F



Transition Arrangements

Last Updated: October 2020

The following description outlines the approved transition arrangements for students who commenced in the Bachelor of Chemical Engineering (Honours)/Bachelor of Mathematics program prior to 2021. Students who commence the program in 2021 onwards must complete the courses and follow the program structure that is outlined in the [Program Handbook](#). If you need further advice, then please contact your Academic Program Advisor on programadvice@newcastle.edu.au.

Course Code and Title (Not yet completed)	New Course Code and Title (Course to be completed from 2021 onwards as offered)
‘Completed’ means successfully passed a course or received approved credit for a course	
CORE COURSES	
<u>Mathematics Core Option</u> Option 1 MATH1110 Mathematics for Engineering, Science and Technology 1 AND MATH1120 Mathematics for Engineering, Science and Technology 2 AND MATH2340 Linearity and Continuity 1 OR Option 2 MATH1210 Mathematical Discovery 1 AND MATH1220 Mathematical Discovery 2 AND 10 units of electives	MATH1110 Mathematics for Engineering, Science and Technology 1 AND MATH1120 Mathematics for Engineering, Science and Technology 2 AND MATH2340 Linearity and Continuity 1 Please note: After 2021 , the option to do MATH1210 and MATH1220 has been removed from the program. From 2021 onwards: 1) if you have not yet completed MATH1210 you must complete MATH1110; and 2) if you haven’t completed MATH1220 then you must complete MATH1120. 3) Students who already completed MATH1210 & MATH1220 study one Elective.
CHEE2315 Fluid Mechanics for Chemical Engineers	ENGG2300 Engineering Fluid Mechanics
STAT2010 Fundamentals of Statistics	STAT1300 Fundamentals of Statistics
MATH2320 Linear Algebra	MATH2350 Linearity and Continuity 2 Note: If you have previously completed MATH2320 Linear Algebra AND MATH2330 Analysis you cannot take this course. You may instead take an additional mathematics directed course.

CHEE1000 Chemical Engineering Principles	CHEE1000 Process Engineering Principles <i>(change to course title only)</i>
CHEE2825 Chemical Engineering Laboratory 1	CHEE2825 Chemical and Renewables Engineering Laboratory <i>(change to course title only)</i>
CHEE2935 Sustainable Engineering Practices	CHEE2935 Resource and Energy Optimisation <i>(change to course title only)</i>
CHEE4945A Chemical Engineering Design A	CHEE4945A Design Project A <i>(change to course title only)</i>
CHEE4945B Chemical Engineering Design B	CHEE4945B Design Project B <i>(change to course title only)</i>
One 10-unit Elective	STAT2020 Predictive Analytics * This is not a direct replacement. Please refer to the table below for further information.
One 10-unit Elective	Additional 10-unit 2000 level Mathematics Directed course * This is not a direct replacement. Please refer to the table below for further information.

***30 units of Elective courses**

From 2021 onwards 30 units of Elective courses and the Mathematics pathway options have been removed from the program. One 10-unit Elective has been replaced by STAT2020 Predictive Analytics, one 10-unit Elective has been replaced by MATH2340 Linearity and Continuity 1 and one 10-unit Elective has been replaced by one additional 10-unit 2000 level Mathematics Directed course.

Mathematics Options

For students who commenced prior to 2021:

Option 1 Pathway: MATH1110 Mathematics for Engineering, Science and Technology 1 (10 units), MATH1120 Mathematics for Engineering, Science and Technology 2 (10 units) and MATH2340 Linearity and Continuity 1 (10 units) which together total 30 units.

For students who were previously undertaking the MATH1110/MATH1120 pathway you are still required to take MATH2340 Linearity and Continuity 1. Should you have remaining elective courses you are permitted, but not required, to take STAT2020 Predictive Analysis and/or choose one additional 10-unit 2000 level Mathematics Directed course each of these would count as one 10-unit Elective.

Option 2 Pathway: MATH1210 Mathematical Discovery 1 (10 units) and MATH1220 Mathematical Discovery 2 (10 units) and one 10-unit Elective course which together total 30 units.

For students who were previously completed both MATH1210/MATH1220 pathway, study one Elective. You are not required to use your elective course to take MATH2340 Linearity and Continuity 1. Should you have remaining elective courses you are permitted, but not required, to take MATH2340 Linearity and Continuity 1, STAT2020 Predictive Analysis and/or choose one additional 10-unit 2000 level Mathematics Directed course each of these would count as one 10-unit Elective.

For students commencing in 2021, they will complete:

- STAT2020 Predictive Analytics (10 units) (core)
- MATH2340 Linearity and Continuity 1 (10 units) (core)
- 10 units of Electives
- 60 units of Mathematics Directed courses:
 - 20 units at the 2000 level and
 - 40 units at the 3000 level.

Bachelor of Mathematics Transition Arrangements

MATHEMATICS DIRECTED COURSES	
Course Code and Title (Not yet completed)	New Course Code and Title (Course to be completed from 2021 onwards as offered)
‘Completed’ means successfully passed a course or received approved credit for a course	
2000 LEVEL DIRECTED COURSES – 50 units Choose 10 units from the following directed courses	
MATH2330 Real Analysis	If you have not yet done this course, then choose another 2000 level Directed course from the list.
MATH2730 Operations Research 1	If you have not yet done this course, then choose another 2000 level Directed course from the list.
STAT2000 Applied Statistics and Research Methods	STAT2000 Applied Statistics and Research Methods
	MATH2800 Ordinary Differential Equations
	STAT2300 Statistical Inference <i>Note: If you have completed STAT3010 Statistical Inference you cannot take this course.</i>
	MATH2242 Complex Analysis <i>Note: If you have completed MATH3242 Complex Analysis you cannot take this course.</i>
3000 LEVEL DIRECTED COURSES – 40 UNITS Choose 40 units from the following directed courses	
MATH3120 Algebra	MATH3120 Algebra
MATH3170 Number Theory	MATH3170 Number Theory
MATH3180 Topology	If you have not yet done this course, then choose another 3000 level Directed course from the list.
MATH3205 Fourier Analysis	MATH3205 Fourier Analysis
MATH3210 Directed Studies in Mathematics	If you have not yet done this course, then choose another 3000 level Directed course from the list.

MATH3242 Complex Analysis	If you have not yet done this course, then choose another 3000 level Directed course from the list.
MATH3400 Research Topics in Mathematics	If you have not yet done this course, then choose another 3000 level Directed course from the list.
MATH3510 Combinatorics and Graph Theory	If you have not yet done this course, then choose another 3000 level Directed course from the list.
MATH3700 Advanced Differential Equations	MATH3700 Partial Differential Equations (<i>change to course title only</i>)
MATH3820 Numerical Methods	MATH3820 Numerical Methods
MATH3800 Optimisation (<i>Previously MATH3830 Operations Research 2</i>)	STAT3800 Deterministic and Stochastic Optimisation
MATH3840 Optimisation in Business and Industry	If you have not yet done this course, then choose another 3000 level Directed course from the list.
MATH3850 Industrial Project	If you have not yet done this course, then choose another 3000 level Directed course from the list.
STAT3010 Statistical Inference	If you have not yet done this course, then choose another 3000 level Directed course from the list.
STAT3030 Generalised Linear Models	STAT3030 Generalised Linear Models
STAT3040 Time Series Analysis	STAT3040 Forecasting Linear Time Series (<i>change to course title only</i>)
STAT3100 Systems Thinking (<i>previously STAT3100 Total Quality Management</i>)	STAT3100 Systems Thinking
STAT3120 Applied Bayesian Methods	If you have not yet done this course, then choose another 3000 level Directed course from the list.
STAT3170 Surveys and Experiments	If you have not yet done this course, then choose another 3000 level Directed course from the list.
STAT3990 Topics in Statistics	If you have not yet done this course, then choose another 3000 level Directed course from the list.