PROGRAM PLAN
BACHELOR OF SCIENCE (Physics Major)

PROGRAM OPTION:
Pathway B
120u PHYSICS Major

START DATE:
Semester 2, 2019-2021

LOCATION:
Callaghan and Central Coast

This Program Plan is an enrolment guide to ensure you are on track to graduate. If at any time you wish to vary from this program plan seek advice from your Academic Program Advisor to ensure you remain on track.

PROGRAM HANDBOOK
COURSE HANDBOOK

NAME:

STUDENT NO.:

COURSE STATUS KEY
C = Completed
En = Enrolled
NS = Not Started

YEAR 1	SEMESTER 1					SEMESTER 2	STAT1070 Statistics for the Sciences CORE	PHYS1210 Advanced Physics I MAJOR	PHYS1220 Advanced Physics II MAJOR	MATH1110* Mathematics for Engineering, Science and Technology 1 MAJOR	SUMMER	MATH1120* Mathematics for Engineering, Science and Technology 2 MAJOR
YEAR 2	SEMESTER 1	SCIE1001 Professional Scientific Thinking CORE	SCIE1002 Multidisciplinary Laboratories CORE	MATH2310 Calculus of Science and Engineering MAJOR	PHYS2111 Classical Physics 1 MAJOR	SEMESTER 2	SCIE2002 Interdisciplinary Challenges CORE	PHYS2112 Classical Physics 2 MAJOR	ELECTIVE** 1000/2000/3000 Level ECTIVE	ELECTIVE** 1000/2000/3000 Level ELECTIVE		
YEAR 3	SEMESTER 1	SCIE2001 Professional Employment Skills CORE	PHYS2211 Modern Physics 1 MAJOR	PHYS3111 Biophysics MAJOR	PHYS3112 Photonics MAJOR	SEMESTER 2	SCIE3001A Transdisciplinary Capstone: Planning and Implementing CORE	PHYS3211 Quantum Information Science MAJOR	MATH2242++ Complex Analysis (replaced MATH3242) MAJOR OR ELECTIVE** 2000/3000 level ELECTIVE			
YEAR 4	SEMESTER 1	SCIE3001B Transdisciplinary Capstone: Implementing and Communicating CORE	ELECTIVE** 1000/2000/3000 Level ---- *OR* ---- MATH3820++ Numerical Methods MAJOR	ELECTIVE** 2000/3000 Level ELECTIVE	ELECTIVE** 2000/3000 Level ELECTIVE	SEMESTER 2						

*Important Information for Pre 2021 students – MATH1210 and MATH1220 no longer offered. Please refer to the transition document for further information.

** Elective Options include: Science Elective Pathways or any unrestricted courses offered within the university. When choosing electives students must consider that the courses for the overall program must not exceed 100 units at 1000 level and must include a minimum of 40 units at 2000 level and a minimum of 40 units at 3000 level.

++ Students must complete either MATH2242 (replaced MATH3342) or MATH3820 to count towards their Physics Major.

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To be eligible to graduate make sure you have completed 240 units (10 units = 1 course unless otherwise specified) which meet the following criteria:

- Science Core – 70 units of Science Core courses
- Physics Major – 120 units (see **Program Handbook** for list of Physics major courses) (^10 unit Program MATH Directed included in the Major).
- Electives** - 50 units - chosen from Science Elective Pathways or any unrestricted courses offered within the university. Refer to the Science Elective Pathway documents located on the **Program Handbook** or visit the **Course Handbook** to see a list of available Electives.
- Students must not exceed 100 units at 1000 level in this program.
- **Students who commenced in 2019** must complete a minimum of 40 units at all levels (1000, 2000 and 3000).
- **Students who commenced from 2020 onwards** must complete a minimum of 40 units at 1000 and 2000 level and a minimum of 60 units at 3000 level.
- The duration of this program is 3 year full-time (40 units per semester) or part-time equivalent.
- The maximum time to complete this program is 8 years

^ Note: The Bachelor of Science includes a 10 unit MATH directed at 1000 level. This requirement is met in the Physics Major which allows for an additional 10 unit elective (50 units of electives in total) as shown in the Program Plan.

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PHYSICS MAJOR

COMPULSORY COURSES
Complete the following compulsory courses:

MATH1110: Mathematics for Engineering, Science and Technology 1
MATH1210: Mathematical Discovery 1
PHYS1210: Advanced Physics I
PHYS1220: Advanced Physics II
MATH2310: Calculus of Science and Engineering
PHYS2111: Classical Physics 1
PHYS2112: Classical Physics 2
PHYS2211: Modern Physics 1
PHYS3111: Biophysics
PHYS3112: Photonics
PHYS3211: Quantum Information Science

DIRECTED COURSES
Complete 10 units from:

***MATH2242: Complex Analysis**
MATH3820: Numerical Methods

***If you have already completed MATH3242, this will count in place of MATH2242.**

Courses removed from major, if you have already completed these courses, they still count towards your major:

MATH1210: Mathematics Discovery 1
MATH1220: Mathematical Discovery 2