

PROGRAM PLAN

BACHELOR OF ARTS / BACHELOR OF SCIENCE

PROGRAM OPTION:
Physics Major – 120 units

START DATE:
Semester 1, 2019-2021

LOCATION:
Callaghan

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 Program Advisor to ensure you remain on track.

 [PROGRAM HANDBOOK](#)
 [COURSE HANDBOOK](#)

NAME:

STUDENT NO.:

YEAR 1	SEMESTER 1	SCIE1001 Professional Scientific Thinking CORE	SCIE1002 Multidisciplinary Laboratories CORE	MATH1110* Maths for Eng, Science & Technology 1 PHYSICS MAJOR	PHYS1210 Advanced Physics I PHYSICS MAJOR	SEMESTER 2	HASS1000 BA Futures CORE	ARTS MAJOR 1000 level MAJOR	MATH1120* Maths for Eng, Science & Technology 2 PHYSICS MAJOR	PHYS1220 Advanced Physics II PHYSICS MAJOR
	YEAR 2	SEMESTER 1	HASS2000 BA Practice CORE	SCIE2001 Professional Employment Skills CORE	ARTS MAJOR 2000 level MAJOR	ELECTIVE 1000/2000/3000 level ELECTIVE	SEMESTER 2	SCIE2002 Interdisciplinary Challenges CORE	STAT1070 Statistics for the Sciences CORE	ARTS MAJOR 1000 level MAJOR
YEAR 3	SEMESTER 1	HASS3000 BA Project CORE	ARTS MAJOR 3000 level MAJOR	PHYS2111 Classical Physics 1 PHYSICS MAJOR	PHYS2211 Modern Physics 1 PHYSICS MAJOR	SEMESTER 2	ARTS MAJOR 3000 level MAJOR	ARTS MAJOR 3000 level MAJOR	PHYS2112 Classical Physics 2 PHYSICS MAJOR	MATH2310 Calculus of Science and Engineering PHYSICS MAJOR
	YEAR 4	SEMESTER 1	SCIE3001A Transdisciplinary Capstone: Planning and Implementing CORE	PHYS3112 Photonics PHYSICS MAJOR	PHYS3111 Biophysics PHYSICS MAJOR	MATH3820++ Numerical Methods PHYSICS MAJOR OR ARTS MAJOR 3000 level MAJOR	SEMESTER 2	SCIE3001B Transdisciplinary Capstone: Implementing and Communicating CORE	PHYS3211 Quantum Information Science PHYSICS MAJOR	ARTS MAJOR 3000 level MAJOR OR MATH2242 Complex Analysis PHYSICS MAJOR

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

++ 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 320 units (10 units = 1 course unless otherwise specified) which meet the following criteria:

- Core courses – 100 units (30 units of Arts Core courses plus 70 units of Science Core courses).
- Science Major – 120 units (Physics).
- Arts Major+ – 80 units
- Electives - 20 units, electives can be 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 complete a minimum of 40 units at all levels (1000, 2000 and 3000)
- Students must not exceed 120 units at 1000 level in this program.
- The duration of this program is 4 year full-time (40 units per semester) or part-time equivalent.
- The maximum time to complete this program is 10 years.

Students choose their MATH Directed course based on previous mathematical background. See the [Enrolling in mathematics](#) – Maths Placement Test information. If you do not meet the requisite for MATH1110 please contact programadvice@newcastle.edu.au for individual enrolment advice.

^ **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 (20 units of electives in total) as shown in the Program Plan

+Important Information for students who commenced the program prior to 2021:

Bachelor of Arts Majors

The majors in the Bachelor of Arts program have changed from 2021 please refer to the [Transition Arrangements](#) in the Bachelor of Arts Program Handbook.



Some courses have assumed knowledge and/or requisites, please refer to the individual [Course Handbook](#). Please refer to the [Program Handbook](#) for specific information on program structure. If you are intending varying from this program plan please seek advice from your [Program Advisor](#).

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BACHELOR OF SCIENCE MAJOR

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

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BACHELOR OF ARTS MAJORS

GLOBAL INDIGENOUS STUDIES

DIRECTED COURSES

Major: choose 80 units from Directed Courses, with a minimum of 10 units at 1000 level and a minimum of 40 units at 3000 level.

ENGLISH AND WRITING

DIRECTED COURSES

Major: choose 80 units from Directed Courses, with a minimum of 10 units at 1000 level and a minimum of 40 units at 3000 level.

HUMAN GEOGRAPHY AND THE ENVIRONMENT

COMPULSORY COURSES

Major: complete the following compulsory courses.
Minor: complete only the 1000 and 2000 level courses listed below.

GEOG1020: Introduction to Human Geography
GEOG2080: Cities and Regions
ENVS3006: Surviving the Anthropocene: Sustainability in the 21st Century
GEOG3090: Society and Space

DIRECTED COURSES

Major: choose 40 units from Directed Courses, with a minimum of 20 units at 3000 level.

CREATIVE AND PERFORMING ARTS

COMPULSORY COURSES

Major: complete the following compulsory courses.
Minor: complete only the 1000 and 2000 level courses listed below.

CAPA1001: Creative and Performing Arts 1
CAPA2001: Creative and Performing Arts 2
CAPA3001: Creative and Performing Arts 3
CAPA3002: Creative and Performing Arts 4

DIRECTED COURSES

Major: choose 40 units from Directed Courses, with a minimum of 20 units at 3000 level.

Note: Creative and Performing Arts major is only available to students who commenced this program prior to 2021

FILM, MEDIA AND CULTURAL STUDIES

DIRECTED COURSES

Major: choose 80 units from Directed Courses, with a minimum of 10 units at 1000 level and a minimum of 40 units at 3000 level.

GERMAN

DIRECTED COURSES

Major: choose 80 units from Directed Courses, with a minimum of 10 units at 1000 level and a minimum of 40 units at 3000 level.

EDUCATION

DIRECTED COURSES

Major: choose 80 units from Directed Courses, with a minimum of 10 units at 1000 level and a minimum of 40 units at 3000 level.
Minor: choose 40 units from Directed Courses, with a minimum of 10 units at 1000 level and at least 20 units at 2000 or 3000 level.

Note: Education major is only available to students who commenced this program or prior to 2021.

FRENCH STUDIES (BEGINNER & INTERMEDIATE SEQUENCE)

DIRECTED COURSES

Major: choose 80 units from Directed Courses, with a minimum of 10 units at 1000 level and a minimum of 40 units at 3000 level.

HISTORY

DIRECTED COURSES

Major: choose 80 units from Directed Courses, with a minimum of 10 units at 1000 level and a minimum of 40 units at 3000 level.

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BACHELOR OF ARTS MAJORS

JAPANESE STUDIES (BEGINNER & INTERMEDIATE SEQUENCE)

DIRECTED COURSES

Major: choose 80 units from Directed Courses, with a minimum of 10 units at 1000 level and a minimum of 40 units at 3000 level.

LINGUISTICS

DIRECTED COURSES

Major: choose 80 units from Directed Courses, with a minimum of 10 units at 1000 level and a minimum of 40 units at 3000 level.

POLITICS AND INTERNATIONAL RELATIONS

COMPULSORY COURSES

Major: complete the following compulsory courses.

Minor: complete only the 1000 and 2000 level courses listed below.

POLI1010: Australian Politics and Government

POLI1020: Introduction to Politics

POLI2203: International Political Economy and Global Development

POLI3180: Politics, Policy and Government

DIRECTED COURSES

Major: choose 40 units from Directed Courses with a minimum of 30 units at 3000 level.

PSYCHOLOGY STUDIES

COMPULSORY COURSES

Major: complete the following compulsory courses.

Minor: complete only the 1000 and 2000 level courses listed below.

PSYC1010: Psychology Introduction 1

PSYC1020: Psychology Introduction 2

PSYC2500: Introduction to Abnormal Behaviour

PSYC3500: Advanced Health Psychology

PSYC3700: Advanced Developmental Psychology and Developmental Psychopathology

DIRECTED COURSES

Major: choose 30 units from Directed Courses, with a minimum of 20 units at 3000 level.

SOCIOLOGY AND ANTHROPOLOGY

COMPULSORY COURSES

Major: complete the following compulsory courses.

Minor: complete only the 1000 and 2000 level courses listed below.

SOCA1010: Society and Culture: A Sociological Introduction

SOCA1020: What is Anthropology?

SOCS2200: Social Analysis: Key Perspectives in the Social Sciences

SOCS3200: Applied Social Research Project

SOCA3780: Social Lab

DIRECTED COURSES

Major: choose 30 units from Directed Courses, with a minimum of 10 units at 3000 level.

Minor: choose 10 units from Directed Courses at 2000 or 3000 level.