

## Bachelor of Science (Physics) (Mathematics Minor) – 2020 Beginning of Year Entry

**The Mathematics minor is compulsory for students studying the Physics major.**

**Students undertaking this Major will have successfully completed senior Maths B or equivalent, or will need to complete the preparatory Maths subject within this course structure.**

Teaching Period 1, 2020		Teaching Period 2, 2020	
<a href="#">Study Period 1</a>	<a href="#">SC1101</a> :03 Science, Technology and Truth	<a href="#">Study Period 2</a>	<a href="#">SC1102</a> :03 Modelling Natural Systems PREREQ: MA1020 or Senior Mathematics or equivalent <b>OR</b> <a href="#">SC1109</a> :03 Modelling Natural Systems-Advanced PREREQ: MA1000 or MA1009, allow concurrent enrolment for MA1009
<a href="#">Study Period 1</a>	<b>Major Subject</b> <a href="#">PH1005</a> :03 Advanced Stream Physics 1 PREREQ: Maths B or MA1020 or MA1000 or MA1008. Allow concurrent for MA1000 and MA1008	<a href="#">Study Period 2</a>	<b>Major Subject</b> <a href="#">PH1007</a> :03 Advanced Stream Physics 2 PREREQ: ((Maths B or equivalent or MA1020) and PH1005) or (Physics and Maths C)
<a href="#">Study Period 1</a>	Select 3 credit points of subjects from <a href="#">List 1 (Breadth Subjects)</a>	<a href="#">Study Period 2</a>	Select 3 credit points of subjects from <a href="#">List 1 (Breadth Subjects)</a>
<a href="#">Study Period 1</a>	<b>Minor Subject</b> <a href="#">MA1000</a> :03 Mathematical Foundations PREREQ: MA1020 or Mathematics B or Maths C	<a href="#">Study Period 2</a>	<b>Minor Subject</b> <a href="#">MA1003</a> :03 Mathematical Techniques PREREQ: MA1000 or MA1011 or MA1009
Teaching Period 1, 2021		Teaching Period 2, 2021	
<a href="#">Study Period 1</a>	<b>Major Subject</b> <a href="#">PH2002</a> :03 Classical Mechanics and Quantum Physics 1 PREREQ: MA1003 and PH1005 and (PH1006 or PH1007 or (EG1012 and EG1011))	<a href="#">Study Period 2</a>	<b>Major Subject</b> <a href="#">PH2240</a> :03 Atomic and Nuclear Physics PREREQ: PH2002 and MA1003
<a href="#">Study Period 1</a>	<b>Major Subject</b> <a href="#">PH2019</a> :03 Introduction to Electromagnetism Optics and Early Quantum PREREQ: (EG1012 or PH1005) and MA1003	<a href="#">Study Period 2</a>	<b>Minor Subject</b> <a href="#">MA2210</a> :03 Linear Algebra
<a href="#">Study Period 1</a>	<b>Minor Subject</b> <a href="#">MA2000</a> :03 Mathematics for Scientists and Engineers PREREQ: MA1003	<a href="#">Study Period 2</a>	Select 3 credit points of subjects from <a href="#">List 2 (Skills Subjects)</a>
<a href="#">Study Period 1</a>	<a href="#">SC2202</a> :03 Quantitative Methods in Science PREREQ: 6 credit points of level 1 subjects <b>OR</b> <a href="#">SC2209</a> :03 Quantitative Methods in Science-Advanced PREREQ: SC1109 and MA1003 plus 6 credit points of other level 1 subjects	<a href="#">Study Period 2</a>	Second Minor Subject/Elective Subject (depending on chosen structure)

Teaching Period 1, 2022		Teaching Period 2, 2022	
<a href="#">Study Period 1</a>	<b>Major Subject</b> <a href="#">PH3008</a> :03 Statistical Mechanics and Transport PREREQ: PH2019 and PH2002 and MA2000	<a href="#">Study Period 2</a>	<b>Major Subject</b> <a href="#">PH3002</a> :03 Quantum Physics 2 PREREQ: MA2000 and PH2002
<a href="#">Study Period 1</a>	<b>Major Subject</b> <a href="#">PH3019</a> :03 Electromagnetic Phenomena PREREQ: MA2000 and PH2019	<a href="#">Study Period 2</a>	<a href="#">SC3008</a> :03 Professional Placement PREREQ: Students must have successfully completed 12 second year credit points and be enrolled in their final year of study within the College of Science and Engineering
<a href="#">Study Period 1</a>	<a href="#">SC3010</a> :03 Sensors and Sensing for Scientists PREREQ: BZ2001 or SC2202 or SC2209	<a href="#">Study Period 2</a>	Second Minor Subject/Elective Subject (depending on chosen structure)
<a href="#">Study Period 1</a>	Second Minor Subject/Elective Subject (depending on chosen structure)	<a href="#">Study Period 2</a>	Second Minor Subject/Elective Subject (depending on chosen structure)

### ADDITIONAL COURSE REQUIREMENTS

Applicants who have not completed high school intermediate level Mathematics B (or equivalent) must select [MA1020](#): Preparatory Mathematics as part of their study plan to successfully complete the Bachelor of Science.

[CH1020](#): Preparatory Chemistry may also need to be selected, depending on the major. Students must familiarise themselves with the subjects needed to complete their chosen major.

Students should undertake the above subject/s in block mode where available and be aware that restrictions may apply to electives if they wish to complete in the normal three (3) year timeframe. These preparatory subjects typically start earlier than the standard course commencement date. Contact JCU on 1800 246 446 for more information.

### SPECIAL ADMISSION REQUIREMENTS

Some majors require attendance at block mode or limited attendance subjects on either the Townsville or Cairns campus. If students must attend block-mode classes at a campus other than the one they are enrolled at, they are responsible for their own expenses.

### COURSE PROGRESSION REQUISITES

Must successfully complete 18 credit points of Level 1 and 2 science subjects before attempting any Level 3 science subject.

### SPECIAL ASSESSMENT REQUIREMENTS

The first year of study may be completed in Cairns.

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### ADDITIONAL INFORMATION

[Bachelor of Science course handbook](#)

[Physics major handbook](#)

[Mathematics minor handbook](#)