### Bachelor of Science

**PATHWAY B – 120 UNIT PHYSICS MAJOR – Standard Pathway**

**Students Requiring MATH1002 see page 2**

**Commencing in Semester 1 2019**  
**Studying at 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 prior advice from your Program Advisor to ensure you remain on track.

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Semester 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>SCIE1001</strong> Professional Scientific Thinking</td>
</tr>
<tr>
<td></td>
<td><strong>SCIE1002</strong> Multidisciplinary Laboratories</td>
</tr>
<tr>
<td></td>
<td><strong>PHYS1210</strong> Advanced Physics I</td>
</tr>
<tr>
<td></td>
<td><strong>MATH1110</strong> or <strong>MATH1210</strong></td>
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</tbody>
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<table>
<thead>
<tr>
<th>Year 2</th>
<th>Semester 2</th>
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<tbody>
<tr>
<td></td>
<td><strong>STAT1070</strong> Statistics for the Sciences</td>
</tr>
<tr>
<td></td>
<td><strong>PHYS1220</strong> Advanced Physics II</td>
</tr>
<tr>
<td></td>
<td><strong>MATH1120</strong> or <strong>MATH1220</strong></td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Year 3</th>
<th>Semester 3</th>
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</thead>
<tbody>
<tr>
<td></td>
<td><strong>SCIE2001</strong> Professional Employment Skills</td>
</tr>
<tr>
<td></td>
<td><strong>PHYS2111</strong> Classical Physics 1</td>
</tr>
<tr>
<td></td>
<td><strong>PHYS2211</strong> Modern Physics I</td>
</tr>
<tr>
<td></td>
<td><strong>ELECTIVE</strong> <strong>1000/2000/3000 level</strong></td>
</tr>
<tr>
<td></td>
<td><strong>SCIE2002</strong> Interdisciplinary Challenges</td>
</tr>
<tr>
<td></td>
<td><strong>PHYS2112</strong> Classical Physics 2</td>
</tr>
<tr>
<td></td>
<td><strong>MATH2310</strong> Calculus of Science and Engineering</td>
</tr>
<tr>
<td></td>
<td><strong>ELECTIVE</strong> <strong>1000/2000/3000 level</strong></td>
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<table>
<thead>
<tr>
<th>Year 3</th>
<th>Semester 4</th>
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</thead>
<tbody>
<tr>
<td></td>
<td><strong>SCIE3001A</strong> Transdisciplinary Capstone: Planning and Implementing</td>
</tr>
<tr>
<td></td>
<td><strong>PHYS3112</strong> Photonics</td>
</tr>
<tr>
<td></td>
<td><strong>PHYS3111</strong> Biophysics</td>
</tr>
<tr>
<td></td>
<td><strong>MATH3820 ++</strong></td>
</tr>
<tr>
<td></td>
<td><strong>ELECTIVE</strong> <strong>2000/3000 level</strong></td>
</tr>
<tr>
<td></td>
<td><strong>SCIE3001B</strong> Transdisciplinary Capstone: Implementing and Communicating</td>
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<tr>
<td></td>
<td><strong>PHYS3211</strong> Quantum Information Science</td>
</tr>
<tr>
<td></td>
<td><strong>ELECTIVE</strong> <strong>2000/3000 level</strong></td>
</tr>
<tr>
<td></td>
<td><strong>MATH3242 ++</strong></td>
</tr>
</tbody>
</table>

Program Plan Key: 
- = Core  
- = Major  
- = Directed  
- = Elective

**Elective Options include:** Science Elective Pathways or any unrestricted courses offered within the university.

**++ Students must successfully complete either MATH3820 or MATH3242 as part of their major requirements and complete an elective in the alternate semester.**

Note: Students choose their 1000 level MATH courses based upon their previous mathematical background. If you do not have the required background knowledge to enrol in MATH1110 please follow the program plan on page 2. If you have not completed any MATH courses in Semester 1 please email programadvice@newcastle.edu.au for advice.
# Bachelor of Science

**PATHWAY B – 120 UNIT PHYSICS MAJOR – MATH1002 PATHWAY**

Commencing in Semester 2019  
Studying at 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 prior advice from your Program Advisor to ensure you remain on track.

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<th>Year 1</th>
<th>Semester 1</th>
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|        | **SCIE1001**  
Professional Scientific Thinking | **SCIE1002**  
Multidisciplinary Laboratories | **PHYS1210**  
Advanced Physics I | **MATH1002**  
Foundation Studies in Mathematics |

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<tr>
<th>Year 2</th>
<th>Semester 2</th>
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</table>
|        | **STAT1070**  
Statistics for the Sciences | **PHYS1220**  
Advanced Physics II | **MATH1100**  
Mathematics for Engineering, Science and Technology 1 |
|        | **SCIE2001**  
Professional Employment Skills | **PHYS2111**  
Classical Physics 1 | **PHYS2211**  
Modern Physics I | **ELECTIVE**  
1000/2000/3000 level |

<table>
<thead>
<tr>
<th>Year 3</th>
<th>Summer Term</th>
</tr>
</thead>
</table>
|        | **SCIE3001A**  
Transdisciplinary Capstone: Planning and Implementing | **PHYS3112**  
Photronics | **PHYS3111**  
Biophysics | **MATH3820**  
++  
2000/3000 level |
|        | **SCIE3001B**  
Transdisciplinary Capstone: Implementing and Communicating | **PHYS3211**  
Quantum Information Science | **ELECTIVE**  
2000/3000 level | **ELECTIVE**  
2000/3000 level |

|        | **PHYS2112**  
Classical Physics 2 | **MATH2310**  
Calculus of Science and Engineering | **ELECTIVE**  
1000/2000/3000 level |

**Program Plan Key:**  
= Core  
= Major  
= Directed  
= Elective

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Note: If you have not completed any MATH courses in Semester 1 please email programadvice@newcastle.edu.au for advice.

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Information correct as of April 2019 and subject to change.  
Program Code: 40165  
CRICOS CODE: 098539K  
CRICOS Provider: 00109J
To be eligible to graduate make sure you have completed 240 units (10 units = 1 course unless otherwise specified) which meet the following criteria:

- Core courses - 80 units (including 10 units of MATH directed*).
- Major - 120 units (Students who complete either MATH1110 or MATH1210 as their Mathematics Directed course can also count this towards their major requirements).
- Electives - 50 units - Choose 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), and can complete a maximum of 100 units at 1000 level.
- The duration of this program is 3 years full time study (40 units per semester) or part time equivalent.
- The maximum time to complete this program is 8 years.

Some courses have assumed knowledge and/or requisites, please refer to the individual Course Handbook.

* Students choose their MATH Directed course based on previous mathematical background. See the Enrolling in mathematics - Maths placement test section of this page.

The Program Handbook has valuable information on program structure and requirements, if you are intending on studying part time or varying from this program plan please seek prior advice from your Program Advisor.
### Helpful Hints & Tips

#### Enrolment Help
- Need help? **Ask UON**
- How do I use the Web Timetable?

#### Info for New Students
- First year undergraduate students usually only enrol in 1000 level courses
- New Postgraduate students should only enrol in 6000 level courses
- Find out all you need to know about getting started at uni

#### Understanding Courses & Programs
- Not sure what courses to study?
- Understanding program and course jargon
- Understanding UON Jargon

#### Prior Study
- Check you have met the assumed knowledge and requisites for courses before enrolling
- Have you studied elsewhere or transferred programs? Don't forget to apply for credit

#### Considering a Break?
- Need to take a break? This is called a 'leave of absence'. Check if you are eligible
- Planning on going overseas? Keep electives free, so it's easier for you to receive credit for your overseas studies

#### More Questions?
- We are here to answer questions about your program. Talk to us your way!
- Ask UON
- 1300 ASK UON
- Visit Student Central
- Message us on Facebook or Twitter
- UONline via myUON

It is important to follow this Program Plan.
You cannot repeat a course you’ve passed to try and get a better grade.
You cannot enrol in any extra courses not required by your program.