

B1411 BSc (Physical Sciences) in Physics MJ-PHY (students with ATAR Physics)

Academic Chair: [Associate Professor Piotr Kowalczyk](#)

Start Date: Semester 2 2026

| Year | Semester 1 Units | CP | Semester 2 Units | CP |
|---------------|--|-----------|--|----------------------------------|
| | Year 1 – 2026 | | | CHE144 Foundations of Chemistry‡ |
| | | | PEN152 Principles of Physics† | 3 |
| | | | MAS182 Introductory Calculus with Applications* | 3 |
| | | | Elective/Discovery | 3 |
| | | | Total | 12 |
| Year 2 - 2027 | Semester 1 Units | CP | Semester 2 Units | CP |
| | Elective or Spine/Discovery unit | 3 | CHE200 Electromagnetism and Electrochemistry | 3 |
| | PEN203 Scientific Computing and Visualisation | 3 | MAS221 Mathematical Modelling and Differential Equations ^a OR Elective/Discovery | 3 |
| | MAS161 Calculus and Matrix Algebra | 3 | PEN200 The Quantum Realm | 3 |
| | PEN100 Transitioning in Time and Space | 3 | Discovery/Elective | 3 |
| | Total | 12 | Total | 12 |
| Year 3 - 2028 | Semester 1 Units | CP | Semester 2 Units | CP |
| | CHE300 Surface and Interface Phenomena | 3 | PEN302 Functional Materials | 3 |
| | MAS220 Mathematical Methods and Multivariable Calculus ^a OR Elective/Discovery | 3 | MAS221 Mathematical Modelling and Differential Equations ^a OR Elective/Discovery | 3 |
| | PEN201 Thermodynamics for Chemistry and Physics | 3 | Elective/Discovery | 3 |
| | Elective/Discovery | 3 | PEN301 Soft Matter and Statistical Physics | 3 |
| | Total | 12 | Total | 12 |
| Year 4 - 2029 | Semester 1 Units | CP | Semester 2 Units | CP |
| | PEN300 Sensors and Biophysics | 3 | | |
| | Elective/Discovery | 3 | | |
| | MSP201 Real World Learning OR MAS300 Quantitative Projects and Consulting | 3 | | |
| | Elective/Discovery | 3 | | |
| | Total | 12 | | |

TOTAL CREDIT POINTS 72

| Semester 1 notes | Semester 2 notes |
|---|---|
| <p>†Students who have not successfully completed ATAR Physics will need to undertake PEN120 General Physics prior to enrolling in PEN152</p> <p>*MAS182 is not necessary if you have Year 12 Specialist Mathematics ATAR or equivalent. In that case you may wish to do MAS161 in Semester 1.</p> <p>^a students only need to do one of MAS220 or MAS221 to meet requirements for the major</p> | <p>‡ Students who have not successfully completed ATAR Chemistry will need to undertake CHE140 Fundamentals of Chemistry prior to enrolling in CHE144</p> <p>^a students only need to do one of MAS220 or MAS221 to meet requirements for the major</p> <p>Spine/Discovery unit – must be a unit from outside the School of Mathematics, Statistics, Physics and Chemistry. A list of potential units will be available on the Murdoch University website</p> |

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Please note: This course plan is a sample only and must be read in conjunction with the full course structure, unit prerequisites and enrolment options as outlined in the [Handbook](#). Students should note that due to unit prerequisites, commencing study in Semester 2 may extend the duration of the course. This information is correct as at 12/6/26.