

B1411 BSc (Physical Sciences) in Physics MJ-PHY (students without ATAR Physics)

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

Start Date: Semester 1 2025

Year 1 – 2025	Semester 1 Units	CP	Semester 2 Units	CP
	PEN100 Transitioning in Time and Space	3	MSP100 Career Learning: Managing Your Career	3
	PEN120 General Physics	3	CHE144 Foundations of Chemistry‡	3
	MAS182 Introductory Calculus with Applications*	3	MAS161 Calculus and Matrix Algebra	3
	Elective	3	PEN152 Principles of Physics	3
	Total	12	Total	12
Year 2 - 2026	Semester 1 Units	CP	Semester 2 Units	CP
	PEN201 Thermodynamics for Chemistry and Physics	3	MSP200 Building Employability Skills	3
	MAS220 Mathematical Methods and Multivariable Calculus ^a OR Elective	3	MAS221 Mathematical Modelling and Differential Equations ^a OR Elective	3
	PEN203 Scientific Computing and Visualisation	3	PEN200 The Quantum Realm	3
	CHE200 Electromagnetism and Electrochemistry	3	Elective	3
		Total	12	Total
Year 3 - 2027	Semester 1 Units	CP	Semester 2 Units	CP
	PEN300 Sensors and Biophysics	3	PEN302 Functional Materials	3
	CHE300 Surface and Interface Phenomena	3	PEN301 Soft Matter and Statistical Physics	3
	MSP201 Real World Learning OR MAS300 Quantitative Projects and Consulting	3	MAS300 Quantitative Projects and Consulting OR MSP201 Real World Learning	3
	Elective	3	Elective	3
		Total	12	Total

TOTAL CREDIT POINTS 72

Semester 1 notes	Semester 2 notes
<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>

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 09/12/2024.

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Start Date: Semester 1 2025

Year 1 – 2025	Semester 1 Units	CP	Semester 2 Units	CP
	PEN100 Transitioning in Time and Space	3	MSP100 Career Learning: Managing Your Career	3
	PEN152 Principles of Physics†	3	CHE144 Foundations of Chemistry‡	3
	MAS182 Introductory Calculus with Applications*	3	MAS161 Calculus and Matrix Algebra	3
	Elective	3	Elective	3
	Total	12	Total	12
Year 2 - 2026	Semester 1 Units	CP	Semester 2 Units	CP
	PEN201 Thermodynamics for Chemistry and Physics	3	MSP200 Building Employability Skills	3
	MAS220 Mathematical Methods and Multivariable Calculus ^a OR Elective	3	MAS221 Mathematical Modelling and Differential Equations ^a OR Elective	3
	PEN203 Scientific Computing and Visualisation	3	PEN200 The Quantum Realm	3
	CHE200 Electromagnetism and Electrochemistry	3	Elective	3
		Total	12	Total
Year 3 - 2027	Semester 1 Units	CP	Semester 2 Units	CP
	PEN300 Sensors and Biophysics	3	PEN302 Functional Materials	3
	CHE300 Surface and Interface Phenomena	3	PEN301 Soft Matter and Statistical Physics	3
	MSP201 Real World Learning OR MAS300 Quantitative Projects and Consulting	3	MAS300 Quantitative Projects and Consulting OR MSP201 Real World Learning	3
	Elective	3	Elective	3
		Total	12	Total

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>

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 09/12/2024.