

# **B1317 Bachelor of Science, Physics and Nanotechnology – 72cps**

## **Sample Course plan 2019, Semester 1 entry**

### Major Prerequisites

#### Mathematics Background

Students may need to complete one prerequisite unit depending on their background in mathematics with either a C grade in Mathematics Specialist ATAR (or Mathematics: Specialist 3C/3D) or a final scaled score of 60 percent or more in Mathematics Methods ATAR (or Mathematics 3C/3D). Students without this background will need to complete,

**MAS164** Fundamentals of Mathematics - 3 points  
MURDOCH: S1-internal, S1-external, S2-internal, S2-external

#### Physics Background

Students may need to complete one prerequisite unit depending on their background in physics OR a final scaled score in Physics 3A/3B (or equivalent) of 60 percent or more within the past three years. Students without this background will need to complete,

**PEN120** General Physics - 3 points  
MURDOCH: S1-internal, S1-external, S2-internal, S2-external

#### Chemistry Background

Students may need to complete one prerequisite unit depending on their background in chemistry OR a final scaled score in Chemistry 3A/3B or Chemistry ATAR of 50 percent or more within the past three years. Students without this background will need to complete,

**CHE140** Fundamentals of Chemistry - 3 points  
MURDOCH: S1-internal, S1-external, S2-internal, S2-external

If you need MAS164, CHE140 and/or PEN120, please contact your Academic Chair or Student Advisor to discuss your options, <http://our.murdoch.edu.au/Student-life/My-First-Year/Student-Life/Student-Advisors/#engineering>

	Semester 1		Semester 2	
Year 1	<b>BSC100 Building Blocks for Science</b>	3pts	<b>BSC150 What is Science?</b>	3pts
	PEN152 Principles of Physics	3pts	CHE144 Foundations of Chemistry	3pts
	MAS182 Applied Mathematics	3pts	ENG192 Energy, Mass and Flow	3pts
	Option	3pts	MAS161 Calculus and Matrix Algebra	3pts
		<u>12pts</u>		<u>12pts</u>
Year 2	<b>Research Skills Unit (Choose from list below*)</b>	3pts	PEN202 Thermodynamics for Physics and Nanotechnology	3pts
	PEN231 Modern Physics	3pts	Option	3pts
	MAS220 Mathematical Methods	3pts	Option	3pts
	PEN261 Applications of Nanotechnology	3pts	<b>University-wide breadth unit</b>	3pts
		<u>12pts</u>		<u>12pts</u>

**Students should note that if unit prerequisites are required, this may extend the duration of your course.**

**Disclaimer: This course plan is a sample only and must be read in conjunction with the full course structure, unit prerequisites and enrolment options as per the online [Handbook](#) .**

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<b>Year 3</b>	Research Skills Unit (Choose from list below*)	3pts	PEN363 Experimental Physics and Nanotechnology	3pts
	MAS221 Mathematical Modelling OR	3pts	PEN317 Physics of Materials	3pts
	MAS351 Environmental and Biological Modelling	3pts	Option	3pts
	PEN332 Electromagnetism	3pts	University-wide breadth unit	3pts
	Option	3pts		
		<u>12pts</u>		<u>12pts</u>

\*Research Skills Units. Select from the following:

MAS222 Probability and Statistical Inference	MAS223 Applied Statistics
ICT289 Computer Graphics Principles and Programming	ENG207 Principles of Electronic Instrumentation
ENG297 Circuits and Systems II	ICT319 Intelligent Systems
MAS351 Environmental and Biological Modelling	MAS221 Mathematical Modelling
BSC304 Innovations and Ethics in Science	MAS354 Modelling and Simulation
ICT283 Data Structures and Abstractions	

Every semester, if you change anything in your course, or you fail units, please make an appointment with your Academic Chair to discuss.

[http://www.murdoch.edu.au/contacts/academic/division/school/School\\_of\\_Engineering\\_and\\_Information\\_Technology/](http://www.murdoch.edu.au/contacts/academic/division/school/School_of_Engineering_and_Information_Technology/)

**Students should note that if unit prerequisites are required, this may extend the duration of your course.**

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