



Sample Study Outline

Materials Science and Engineering (Honours) (MSA)

Program / Degree: [3131 BE\(Honours\) in Materials Science and Engineering](#)

Year	Term 1	UOC	Term 2	UOC	Term 3	UOC
1 st	CHEM1811 Engineering Chemistry 1A	6	CHEM1821 Engineering Chemistry 1B	6	DESN1000 Introduction to Engineering Design and Innovation	6
	MATS1192 Design and Applications of Materials in Science and Engineering	6	MATH1231 Mathematics 1B	6	MATS2009 Transport Processes in Materials Engineering	6
	MATH1131 Mathematics 1A	6	ENGG1811 Computing for Engineers	6	PHYS1121 Physics 1A	6
	Total UOC	18	Total UOC	18	Total UOC	18
2 nd	MATS2001 Physical Prop of Materials	6	MATS2004 Mechanical Behaviour of Mats	6	ENGG4909 Co-op Industry Training 1	12
	MATS2003 Materials Characterisation	6	MATS2008 Thermodynamics & Phase Equilibria	6		
	MATH2019 Engineering Mathematics 2E	6	General Education/Free Elective*	6		
	Total UOC	18	Total UOC	18	Total UOC (nominal)	12
3 rd	MATS3001 Micromechanisms of Mechanical Behaviour of Metals	6	MATS3004 Polymer Sci & Engineering 1	6	MATH2089 Numerical Methods & Statistics	6
	MATS3002 Fundamentals of Ceramic Processing	6	MATS3006 Design and Applications of Materials in Science and Engineering 3	6	MATS3008 Design and Engineering of Composites and Coatings	6
	MATS3005 Phase Transformations	6	MATS3007 Materials Industry Management	6		
	Total UOC	18	Total UOC	18	Total UOC	12
4 th	ENGG4902 Co-op Industry Training 2A	12	ENGG4903 Co-op Industry Training 2B	6	ENGG4905 Co-op Industry Training 3B	12
			ENGG4904 Co-op Industry Training 3A	6		
	Total UOC (nominal)	12	Total UOC (nominal)	12	Total UOC (nominal)	12
5 th	MATS4025 Honours Project A	4	MATS4026 Honours Project B	4	MATS4027 Honours Project C	4
	MATS4014 Sustainable Materials Selection and Design	6	MATS Discipline Elective [#]	6	MATS Discipline Elective [#]	6
	MATS4015 Data Management and Communication for Materials Engineers	6	General Education/Free Elective*	6	General Education/Free Elective*	6
			General Education/Free Elective*	6		

Total UOC	16	Total UOC	22	Total UOC	16
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* Complete 24 UOC in total comprising of 12 UOC General Education courses and 12 UOC Free Electives (can be done in any term depending on student's timetable).

Select from MATS4004 Fracture Mechanics and Failure Analysis, MATS4007 Engineered Surfaces to Resist Corrosion and Wear, MATS4016 Structural Materials in Transportation and Infrastructure, MATS4017 Materials for Renewable Energy Technologies, MATS4018 Materials and Processing of Electronic Circuits and Devices, MATS4019 Materials and Processes for Biomedical Applications (complete 12 UOC in total).

Notes:

UNSW calendar will move from 3-trimester model to 2-semester model in 2028 so the sample study outline from 3rd to 5th year will be subject to significant change later.

- This is a SAMPLE study outline only and can be subject to change.
- You must always take your Industry Training schedule into consideration when planning your course enrolment or other commitments (see diagram below).
- Year 3 Terms 1 or 2 are suitable times for exchange.

Resources:

- [UNSW Handbook](#)
- [School of Materials Science & Engineering](#)
- [Co-op program](#)

Co-op Academic Coordinator

For enrolment related questions please always contact your Co-op Academic Coordinator in the first instance:

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When would I be on Industry Training (IT)?



