

Master of Engineering (Materials)

Mapping to Engineers Australia Professional Engineering Competencies

Listed below is the award's Program of Study and significant sequences/alternatives. Electives are generally not listed as students cannot be guaranteed to take specific topics. The "Worst Case" row indicates the pathological worst case in terms of sequences and electives.

		1. KNOWLEDGE AND SKILL BASE						2. ENGINEERING APPLICATION ABILITY				3. PROFESSIONAL AND PERSONAL ATTRIBUTES					
		1.1. Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline.	1.2. Conceptual understanding of the, mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline.	1.3. In-depth understanding of specialist bodies of knowledge within the engineering discipline.	1.4. Discernment of knowledge development and research directions within the engineering discipline.	1.5. Knowledge of contextual factors impacting the engineering discipline.	1.6. Understanding of the scope, principles, norms, accountabilities and bounds of contemporary engineering practice in the specific discipline.	2.1. Application of established engineering methods to complex problem solving.	2.2. Fluent application of engineering techniques, tools and resources.	2.3. Application of systematic engineering synthesis and design processes.	2.4. Application of systematic approaches to the conduct and management of engineering projects.	3.1. Ethical conduct and professional accountability	3.2. Effective oral and written communication in professional and lay domains.	3.3. Creative, innovative and pro-active demeanour.	3.4. Professional use and management of information.	3.5. Orderly management of self, and professional conduct.	3.6. Effective team membership and team leadership.
BLOOM'S REVISED TAXONOMY R = Remembering (Knowledge) U = Understanding (Comprehension) A = Applying N = Analysing E = Evaluating C = Creating (Synthesis)		Sequence															
Core Topic Code and Name																	
Masters																	
CHEM8801 Chemical Reactivity GE (4.5 units)	Core	RUN	RUN							RUA			RUA				
ENGR7921 Materials Selection in Design (4.5 units)	Core	RUN	RUN														
ENGR8791 Mechanics and Structures GE (4.5 units)	Core	RU		RUAN				RUAN	RUN	RUA	RUA						
ENGR8822 Engineering Materials 2 GE (4.5 units)	Core	RU		RU		RU	RU		RU								
ENGR9704 Engineering Management (4.5 units)	Core				RUA	RUA	RUA				RU	RUA					
ENGR9742 Systems Engineering (4.5 units)	Core				RUN	RUANE	RUANE			RUN	RUN	RUA	RUAC		RUN	RUA	RUA
ENGR7702 Biomaterials (4.5 units)	Core	RU		RUA			RU					RUN	RUAN	RUA	RUA	RUA	
ENGR7891 Fatigue and Fracture Analysis (4.5 units)	Core	RU	RUN	RUA													
ENGR9811 Solid Mechanics GE (4.5 units)	Core			RUANE	RUNE			RUNE		RUA							
ENGR9700 Masters Thesis (18 units)	Thesis			RUN	RUNE	RUN		RUA			RUAC						
ENGR9710 Masters Project (9 units)	Project			RUN	RUAC			RUA			RUN			RUAC	RU	RUAC	
ENGR3750 Workplace Preparation (0 units)	WorkExp											RU	RUAC	RU		RUA	
ENGR9405 Engineering Work Experience (4.5 units)	WorkExp					RUNE	RUN				RUN	RUAN		RUAC			RUAN
Count of Topics for which PE satisfied																	
	Core	6	3	5	3	3	4	2	5	4	3	2	3	1	2	2	2
	Thesis	0	0	1	1	1	0	1	0	0	1	0	1	1	1	1	0
	Project	0	0	1	1	0	0	1	0	0	1	0	1	1	1	1	0
	WorkExp	0	0	0	0	1	1	0	0	0	1	2	1	1	0	1	1
Worst Case Coverage		6 RUN	3 RUN	6 RUAN	4 RUAN	4 RUANE	5 RUANE	3 RUAN	5 RUN	4 RUAN	5 RUAN	4 RUAN	5 RUANC	3 RUA	3 RUAN	4 RUA	3 RUA