

Programme Intended Learning Outcomes Map	Certificate Level		
1 Graduate Attributes and Skills	2	3	4
Programme Intended Learning Outcomes (as worded in the Programme Specification) NB: The first year and a half of these courses is common and the subject area is essentially 'mechanical engineering'. Specialist modules are studied in the last year and a half and the subject areas are mechanical engineering plus either marine technology or composite materials engineering. There are no options in the Mechanical Engineering with Composites course and very limited options in the other two hence in the table below the core programme intended learning outcomes are the same as the programme intended learning outcomes. The FHEQ requirements are already given in here below:	Aim	Subject Benchmark	Related Core Modules
Knowledge/ Understanding i) knowledge of the underlying concepts and principles associated with mechanical engineering, and an ability to evaluate and interpret these within the context of mechanical engineering.	1, 2, 3, 5	B1, B2, B3	MECH 108 DSGN 143 DSGN 120 THER 103 ROCO 101 MATS 116 MATH 183. (BUS 140 - Knowledge and understanding, but not in the field of mechanical engineering)

<p>Cognitive / Intellectual Skills (generic) ii) an ability to present, evaluate, and interpret qualitative and quantitative data, to develop lines of argument and make sound judgements in accordance with basic theories and concepts of mechanical engineering</p>	2, 4	A4, A5	MECH 108 DSGN 143 THER 103 MATS 116
<p>Key / Transferable Skills (generic) a) evaluate the appropriateness of different approaches to solving problems related to mechanical engineering; b) communicate the results of their study/work accurately and reliably, and with structured and coherent arguments;</p>	2, 3, 4	B6	MECH 108 DSGN 143 THER 103 MATS 116 DSGN 120
<p>Practical Skills (subject specific) Carry out laboratory investigations in areas of mechanical engineering</p>	8	B4, B5	MECH 108 THER 103 MATS 116 PRRO 103

<p>Employment-related skills c) undertake further training and develop new skills within a structured and managed environment; d) qualities and transferable skills necessary for employment requiring the exercise of personal responsibility.</p>	6, 7	E4	DSGN 143

Intermediate level

Programme Intended Learning Outcomes Map	Intermediate level		
1 Graduate Attributes and Skills	2	3	4
Core Programme Intended Learning Outcomes (as worded in the Programme Specification)	Aim(s)	Subject) Benchmark (specific reference)	Related Core Modules

<p>Knowledge/ Understanding</p> <p>i) knowledge and critical understanding of the well established principles of mechanical engineering, marine technology and composite materials engineering, and the way in which those principles have developed;</p> <p>ii) knowledge of the main methods of enquiry in mechanical engineering, marine technology and composite materials engineering.</p> <p>iii) an understanding of the limits of their knowledge, and how this influences analyses and interpretations based on that knowledge;</p>	<p>1, 2, 3, 4, 5, 6, 8</p>	<p>A1, A2, A3, A4, B1, B2, B3, B6, C1, C2, D1, D2, D3, D4, D5, D6, D8, E1, E2, E3, F1, F2, F3, F4, F5</p>	<p>MATH 256 CONT 215 BUS 228 MFRG 207 MARN 201 DSGN 215 STRC 202 THER 205 HYFM 218 MATS 216 MARN 202</p>
<p>Cognitive / Intellectual Skills (generic)</p> <p>ii) ability to apply underlying concepts and principles outside the context in which they were first studied**</p>	<p>3, 4, 5, 6, 8</p>	<p>A1, A2, D4, D5, D6, D7, D9, D10</p>	<p>CONT 215 MFRG 207 MARN 201 DSGN 215 STRC 202 THER 205 HYFM 218 MATS 216 MARN 202</p>

<p>Key / Transferable Skills (generic)</p> <p>iii) continued ...* and ability to evaluate critically the appropriateness of different approaches to solving problems in the field of study;</p> <p>a) use a range of established techniques to initiate and undertake critical analysis of information, and to propose solutions to problems arising from that analysis;</p> <p>b) effectively communicate information, arguments, and analysis, in variety of forms, to specialist and non specialist audiences, and deploy key techniques of the discipline effectively;</p>	<p>1, 3, 4, 5, 6, 7, 8, 10, 11</p>	<p>A1, A2, A3, A4, A5, B2, B3, B6, C1, C4, D9, D10, E1, E2, E3, E4, E5, F5, F7, F8, F9, F10.</p>	<p>MATH 256 CONT 215 MFRG 207 MARN 201 DSGN 215 STRC 202 THER 205 HYFM 218 MATS 216 MARN 202</p>
<p>Practical Skills (subject specific)</p> <p>Apply relevant CAE tools to solving design and simulation problems in Mechanical engineering, marine technology and composite materials engineering.</p> <p>Carry out experimental investigations in mechanical engineering, marine technology and composite materials engineering.</p>	<p>12</p>	<p>B4, B5, C3, D6, D7, F6</p>	<p>CONT 215 MFRG 207 MARN 201 DSGN 215 STRC 202 THER 205 HYFM 218 MATS 216 MARN 202</p>

<p>Employment-related skills</p> <p>ii) continued ...**including, where appropriate, the application of those principles in an employment context;</p> <p>c) undertake further training, develop existing skills and acquire new competencies that will enable them to assume significant responsibilities within organisations;</p> <p>d) qualities and transferable skills necessary for employment requiring the exercise of personal responsibility and decision making.</p>	<p>9, 10, 11</p>	<p>A4, A5, B6, C4, E4, E5, F8, F9, F10</p>	<p>BUS 228 MFRG 207 MARN 201 DSGN 215 MATS 216 MARN 202</p>

Programme Intended Learning Outcomes Map	Honours Degree Level		
1 Graduate Attributes and Skills	2	3	4
Programme Intended Learning Outcomes (as worded in the Programme Specification)	Aim	Subject Benchmark	Related Core Modules
<p>Knowledge/ Understanding</p> <p>i) a systematic understanding of mechanical engineering, marine technology and composite materials engineering, including acquisition of coherent and detailed knowledge, at least some of which is at, or informed by, the forefront of defined aspects of a discipline;</p> <p>ii) an ability to deploy accurately established techniques of analysis and enquiry within a discipline;</p> <p>iv) an appreciation of uncertainty, ambiguity and the limits of knowledge;</p> <p>a) apply the methods and techniques that they have learned to review, consolidate, extend and apply their knowledge and understanding, and to initiate and carry out projects;</p>	<p>1, 2, 3, 4, 5, 6, 9, 11, 12</p>	<p>A2, A3, B2, B3, C2, C3, D1, D2, D3, D4, D5, D6, D8, E1, E2, E3, F1, F2, F3, F4, F5</p>	<p>STAT 353 MFRG 318 MECH 306 MFRG 310 MARN 303 DSGN 313 PRME 304 THER 305 CONT 314 MARN 304 MARN 335 MATS 324 MATS 320</p>

<p>Cognitive / Intellectual Skills (generic)</p> <p>iii)conceptual understanding that enables the student:</p> <ul style="list-style-type: none"> - to devise and sustain arguments, and / or solve problems, using ideas and technique, some of which are at the forefront of a discipline; and - to describe and comment upon particular aspects of current research, or equivalent advanced scholarship, in the discipline; <p>b) critically evaluate arguments, assumptions, abstract concepts and data (that may be incomplete), to make judgements, and to frame appropriate questions to achieve a solution - or identify a range of solutions - to a problem;</p>	<p>2, 3, 4, 5, 6</p>	<p>B2, B3, B6, C2, D5, D6, D7, D8, D9, D10, F4, F6, F7, F8,</p>	<p>MFRG 318 MECH 306 MFRG 310 MARN 303 DSGN 313 PRME 304 THER 305 CONT 314 MARN 304 MARN 335 MATS 324 MATS 320</p>
<p>Key / Transferable Skills (generic)</p> <p>v) the ability to manage their own learning, and to make use of scholarly reviews and primary sources (e.g. refereed research articles and/or original materials appropriate to the discipline).</p> <p>c) communicate information, ideas, problems, and solutions to both specialist and non specialist audiences;</p>	<p>7, 8, 10, 11, 12</p>	<p>A4, A5, B6, C4, D9, D10, E4, E5, F8, F9, F10.</p>	<p>MFRG 318 MECH 306 MFRG 310 MARN 303 DSGN 313 PRME 304 THER 305 CONT 314 MARN 304 MARN 335 MATS 324 MATS 320</p>

<p>Practical Skills (subject specific)</p> <p>Carry out practical investigative work in mechanical engineering, marine technology and composite materials engineering.</p>	<p>12</p>	<p>A3, B4, B5, C3, D6, D7, D8, F6, F7.</p>	<p>MECH 306 MARN 303 DSGN 313 PRME 304 THER 305 CONT 314 MARN 304 MARN 335 MATS 324 MATS 320</p>
<p>Employment-related skills</p> <p>d) qualities and transferable skills necessary for employment requiring:</p> <ul style="list-style-type: none"> - the exercise of initiative and personal responsibility; - decision making in complex and unpredictable contexts and - the learning ability needed to undertake appropriate further training of a professional or equivalent nature. 	<p>7, 10, 11</p>	<p>D6, D9, D10, E5, F8, F9, F10.</p>	<p>DSGN 313 PRME 304 MATS 320</p>

D J Grieve, 28th March 2006.