

MCEN90034 Propulsion Systems

Credit Points:	12.50						
Level:	9 (Graduate/Postgraduate)						
Dates & Locations:	This subject is not offered in 2012.						
Time Commitment:	Contact Hours: 36 hours Total Time Commitment: 120 hour						
Prerequisites:	<table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>ENGR90030 Non-Renewable Energy</td> <td>Semester 2</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	ENGR90030 Non-Renewable Energy	Semester 2	12.50
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ENGR90030 Non-Renewable Energy	Semester 2	12.50					
Corequisites:	None						
Recommended Background Knowledge:	None						
Non Allowed Subjects:	<table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>MCEN90019 Advanced Thermodynamics</td> <td>Semester 2</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	MCEN90019 Advanced Thermodynamics	Semester 2	12.50
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MCEN90019 Advanced Thermodynamics	Semester 2	12.50					
Core Participation Requirements:	<p><p>For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry.</p> <p>It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: http://services.unimelb.edu.au/disability</p></p>						
Contact:	Assoc Prof Michael Brear mjbrear@unimelb.edu.au (mailto:mjbrear@unimelb.edu.au)						
Subject Overview:	This subject examines in detail the main forms of vehicle propulsion systems in current and likely future use. This includes - <ul style="list-style-type: none"> • The energy consumption of land, sea and air vehicles with conventional and increasingly electrified propulsion systems] • The suitability of different fuels for different applications • The current and likely future costs of land, sea and air transport with conventional and increasingly electrified propulsion systems • The opportunities for climate change mitigation, including modal switching between different forms of transport 						
Objectives:	On completion of this subject students should be able to do the following - <ul style="list-style-type: none"> • Calculate the basic performance metrics of different propulsion systems from first principles • Estimate the cost of operating land, sea and air vehicles with different propulsion systems and fuels • Estimate the greenhouse gas emissions of different propulsion systems and fuels 						
Assessment:	<ul style="list-style-type: none"> • Two assignments (30% each) not exceeding 12 pages each, one due mid-semester and the other at the end of semester • One written two-hour end-of-semester examination (40%) 						
Prescribed Texts:	None						

Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	<ul style="list-style-type: none">• Ability to apply knowledge of basic science and engineering fundamentals• Ability to undertake problem identification, formulation and solution• Ability to use a systems approach to design and operational performance• Ability to communicate effectively with the community at large• Understanding of the social, cultural, global and environmental responsibilities of a professional, and the need for sustainable development
Related Course(s):	Master of Energy Systems