

436-460 Advanced Engineering Materials

Credit Points:	12.50
Level:	4 (Undergraduate)
Dates & Locations:	2009, This subject commences in the following study period/s: Semester 2, - Taught on campus.
Time Commitment:	Contact Hours: Twenty-four lectures and 24 hours of project work Total Time Commitment: Not available
Prerequisites:	436-121 Introduction to Mechanical Engineering (prior to 2005 436-101 Engineering Mechanics and Materials), 436-285 Engineering Design and Materials 1 and 436-286 Engineering Design and Materials 2, or equivalent.
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
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>
Coordinator:	Assoc Prof Kenong Xia
Subject Overview:	<p>Upon completion, students should be familiar with a selection of advanced materials and related processes; have a basic understanding of the scientific and technological aspects of these materials and processes; and appreciate the use of these advanced materials in engineering applications.</p> <p>Unit 1- Advanced Metallic Materials: Introduction to advanced materials. Advanced light alloys, Superalloys, Metal matrix composites, Intermetallic alloys, Ultrafine and nano structured materials.</p> <p>Unit 2 - Advanced Non-Metallic Materials: Polymers, Ceramics, Composites (polymer and metallic based), Biomaterials, and Functional materials.</p>
Objectives:	-
Assessment:	<p>Unit 1: One written report of up to 6000 words with no more than 20 pages of supporting material (appendices, diagrams, tables, computations and computer output) to be submitted in the second half of the semester (40%) and a 15 minute oral presentation of major findings before an audience of students and teaching staff to be held in the final weeks of the semester (10%). Unit 2: Two written reports, each up to 3000 words, with no more than 10 pages of supporting material (appendices, diagrams, tables, computations and computer output) to be submitted throughout the semester (40%) and a 15 minute oral presentation of major findings before an audience of students and teaching staff to be held in the final weeks of the semester (10%).</p>
Prescribed Texts:	None
Recommended Texts:	Information Not Available

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:	Information Not Available
Related Course(s):	Bachelor of Engineering (EngineeringManagement)Mechanical&Manufacturing Bachelor of Engineering (Mechanical &Manufacturing)& Bachelor of Science Bachelor of Engineering (Mechanical &Manufacturing)/Bachelor of Commerce Bachelor of Engineering (Mechanical and Manufacturing Engineering) Bachelor of Engineering (Mechatronics) and Bachelor of Computer Science