411-335 Biochemical/Environmental Engineering 1B

Credit Points:	6.250
Level:	Undergraduate
Dates & Locations:	2008, This subject commences in the following study period/s: Semester 1, - Taught on campus.
Time Commitment:	Contact Hours: Twenty-four hours. Total Time Commitment: Not available
Prerequisites:	None
Corequisites:	411-334 Biochemical/Environmental Engineering 1A or equivalent science subject.
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	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. 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
Coordinator:	Assoc Prof N Pamment
Subject Overview:	Students successfully completing the course should have developed an understanding of the kinetics of enzyme and microbial processes and the factors affecting the design and operation of fermentation equipment. Content: Enzymic processes. Michaelis-Menten approach. Kinetics of enzyme inhibition. Immobilised enzymes. Batch microbial growth and product formation. Continuous culture. Microbial growth kinetics. Application of Monod model to batch and chemostat culture. Kinetics of product formation. Maintenance energy and endogenous respiration. Design of fermentation processes. Medium formulation and inoculum preparation. Industrial sterilisation processes. Calculation of sterility level. HTST sterilisation. Design of continuous sterilisers. Air sterilisation. Vessel design for aseptic operation. Fermenter design configurations. Aeration of ermenters. Oxygen requirements of microorganisms. Mixing in fermenters. Biochemical separation processes.
Assessment:	One written 2-hour end-of-semester examination (100%).
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(Biochemical Engineering)and Bachelor of Science Graduate Diploma in Biotechnology