

431-481 Electronic Circuit Design 3

Credit Points:	12.500
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 of lectures, 6 hours of tutorials, 18 hours of assignments/ project work Total Time Commitment: Not available
Prerequisites:	431-331 Electronic Circuit Design 2
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>
Subject Overview:	<p>This course will build on 431-331 Electronic Circuit Design 2. Students completing it will gain skill for designing practical electronic circuits and exposure to some of the techniques and tools involved in the design, manufacture and assembly of real-world electronic circuits.</p> <p>Topics covered: circuit fundamentals (eg. noise in electronic circuits and systems, high frequency design), sub-systems (eg. crystal oscillators phase-locked loops and frequency synthesisers), trade-offs in electronic design (eg. illustrating topics such as analog vs digital approaches, component precision vs robust design), component technologies (lead vs SMD, parasitics, real behaviour of passives and their choice), PCB design techniques (CAD, multilayer boards, layout and routing for EMI, power distribution, high speed and mixed signal), electronic manufacturing (PCBs, component loading and soldering techniques).</p>
Assessment:	One 3-hour end-of-semester written examination (60%); 1-hour mid-semester examination (10%); and laboratory/assignment reports due throughout the semester (30%).
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:	<ul style="list-style-type: none"> # understanding the need for trade-offs in design # appreciation of the practical limitations in real-world components # appreciation of issues in manufacturing # appreciation of importance on robustness in design and the impact it has on manufacturability

Related Course(s):	Bachelor of Engineering (Electrical Engineering) Bachelor of Engineering (Software Engineering)
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