

## ELEN90016 Broadband Access Networking and Design

<b>Credit Points:</b>	12.50
<b>Level:</b>	9 (Graduate/Postgraduate)
<b>Dates &amp; Locations:</b>	This subject is not offered in 2013.
<b>Time Commitment:</b>	Contact Hours: 1x3 hour lecture per week Total Time Commitment: Estimated 120 hours.
<b>Prerequisites:</b>	4-year Electrical Engineering degree or equivalent.
<b>Corequisites:</b>	None
<b>Recommended Background Knowledge:</b>	None
<b>Non Allowed Subjects:</b>	None
<b>Core Participation Requirements:</b>	For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Students Experiencing Academic Disadvantage Policy, academic requirements for this subject are articulated in the Subject Description, Subject Objectives, Generic Skills and Assessment Requirements of this entry. The University is dedicated to provide support to those with special requirements. Further details on the disability support scheme can be found at the Disability Liaison Unit website: <a href="http://www.services.unimelb.edu.au/disability/">http://www.services.unimelb.edu.au/disability/</a>
<b>Contact:</b>	Email: Willam Shieh <a href="mailto:shiehw@unimelb.edu.au">shiehw@unimelb.edu.au</a> ( <a href="mailto:shiehw@unimelb.edu.au">mailto:shiehw@unimelb.edu.au</a> )
<b>Subject Overview:</b>	<p>A study of underpinning requirements, technologies, standards, industry developments, trends and network architectures in the delivery of multimedia (including audio and video) telecommunications services.</p> <ul style="list-style-type: none"> <li># Basic principles of the design of an access solution, including the application of basic economic optimization principles,</li> <li># Overview of Internet protocols and services,</li> <li># Introduction to the use of ATM and MPLS to provide a variety of solutions for access to telecommunications services,</li> <li># Quality of Service, managed solutions, and Virtual Private Networking,</li> <li># Management issues in access networks, especially performance and security,</li> <li># Technological, economic and regulatory aspects of the use of twisted-pair technology, Hybrid Fibre-Coax networks,</li> <li># Optical access network technologies,</li> <li># Wireless technologies including terrestrial radio and satellite as used for access.</li> <li># Case study of practical access network design.</li> </ul>
<b>Objectives:</b>	The aim of this subject is to provide students with a working knowledge of broadband access technologies. The subject is directed towards students aspiring to a professional engineering or management career in the telecommunications industry.
<b>Assessment:</b>	Assessment will be based on Project (group work) and a Final Examination. Group Seminar on Project 5% (group mark) Written Report on Project. Maximum 1500 words per student. 25% (group mark) Formally Supervised written examination - 3 hours 70% (end of semester). This final exam is a hurdle. A student must pass the exam to pass the subject.
<b>Prescribed Texts:</b>	Because of the breadth of topics in this subject, there are no prescribed texts. References to additional material will be given on the subject website.
<b>Breadth Options:</b>	This subject is not available as a breadth subject.

<b>Fees Information:</b>	Subject EFTSL, Level, Discipline & Census Date, <a href="http://enrolment.unimelb.edu.au/fees">http://enrolment.unimelb.edu.au/fees</a>
<b>Generic Skills:</b>	<p>On completion of this subject, the student will have developed:</p> <ul style="list-style-type: none"><li># Problem solving and analytical skills,</li><li># Critical and creative thinking, with an aptitude for continued self-directed learning;</li><li># Sense of intellectual curiosity;</li><li># Ability to interpret data and research results;</li><li># Ability to learn in a range of ways, including through information and communication technologies;</li><li># Capacity to confront unfamiliar problems;</li><li># Ability to evaluate and synthesise the research and professional literature;</li><li># Ability to develop models of practical applications and evaluate their performance by rigorous analytical means;</li></ul>
<b>Related Course(s):</b>	Master of Telecommunications Engineering Postgraduate Certificate in Engineering