

CUC106 Design and Innovation: Communicating Technology

Credit points:	10	Mode:	Internal/External
Assumed knowledge:	NA	Location:	Casuarina/External
Pre-requisite(s):	NA	Learning method:	Online Reliant (OLR)
Year:	2016	Unit Coordinator:	Susi Bertei (external)
Semester:	1	Phone:	08 8946 6009
School:	Academic Language and Learning	Email:	susi.bertei@cdu.edu.au

Unit Description

Design and Innovation: Communicating Technology provides students with the opportunity to learn about design, sustainable community development, team work and communication whilst contributing towards real international development projects. Students work in multidisciplinary teams to design solutions for projects ranging from water supply and quality to sanitation, health and education programs, and other infrastructure developments. Developing creative solutions and prototypes is an important focus in this Unit. The other component, academic literacy skills, is approached in the context of researching and communicating about the design project.

Learning Outcomes

On completion of this Unit students will be able to:
1. Understand the key environmental, technical, economic and cultural aspects of sustainable design in the context of developing countries.
2. Utilise creative and innovative problem solving techniques in design.
3. Build or draw, and evaluate, a design prototype in response to a real-world problem.
4. Effectively work in a team to organise and complete your design brief and report.
5. Present the outcomes of your design project through a professional, written technical report and a formal oral presentation.
6. Demonstrate in your written report and oral presentation, effective researching, critical reading, and referencing skills.
7. Demonstrate professional IT and graphic communication skills.
8. Demonstrate key graduate skills: leadership, social responsibility, communication, creativity, and flexibility.

Teaching and Learning Strategies

The approach to teaching and learning in this Unit is a **project based**, experiential one. In other words, it provides you with a real world design project to complete. In completing this project you learn essential theoretical and practical skills for design, project management, and communication.

The theoretical considerations of your design include: *cultural context, sustainability, and technical and economic feasibility*

Practical skills include: *project management, collaboration, and written and oral communication*.

These are all recognized graduate skills and are applicable to all university courses and professions.

Participation

Internal classes: Apart from the lecture in Week 1, all sessions take place in a wireless mobile computer lab with a teaching team that combines theoretical and practical expertise in project design and implementation. The workshop sessions focus on teaching the knowledge and skills required to successfully complete your project and written assignments as well as providing suggestions, technical help and support to ensure each project remains on schedule. Internal students sign up for one of the weekly workshop slots during the lecture in Week 1.

External classes: As external students, you will be provided with learning materials and support through a range of tools: email, phone, discussion forums, online classrooms, videos and PowerPoint. You will need to use your computer to access online learning material and you may also find the recommended textbook helpful as an additional resource. It is essential that external students attend the weekly on-line classes, or view their recordings afterwards. It is expected that external students will have regular access to high speed internet and a set of headphones with a microphone in-built, such as those that come free with a mobile phone.

Overview of Assessment

The assessment for this Unit is based on 'real life' assignments that simulate the tasks you would complete if you were on a design project team in a professional setting.

Assessment 1:

- Submit a **Personal Reflection on the project**

Assessment 2:

- Submit a **Project Research summary**

Assessment 3:

- a) Submit a **Project Management Plan**
- b) Deliver a **Presentation**, which includes building/developing a **detailed drawing** and/or a prototype **model**.
- c) Submit a final written **Report**

Assessments one and two are completed individually and assessment three is completed by each project team. For further details of assessment and marking criteria, please go to the 'Assessment Overview' page on Learnline. Click on the links provided.

Summary of Assignments

Assessment Item	Focus & details	Due Date	Deliverable	Value	Complete as
Assignment 1: Personal Reflection	Reflecting on what knowledge/ experience you bring to the project	Monday, March 14, 11:59pm. Start of Week 3	Approximately 250 - 300 words	10%	Individual
Assignment 2: Project Proposal - Research	Preliminary research, a proposed project area and design idea	Monday, March 28, 11:59pm. Start of Week 5	Approximately 1,000 words	30%	Individual
Assignment 3: Team Project Management Plan, Presentation and Report.	a. Project Management Plan	Monday, April 18, 11:59pm. Start of Week 7	Completion of provided template	10%	Team
	b. Presentation	Internal students: Week 11 workshop Monday, May 16 11:59pm. Start of Week 11	8 – 10 mins PowerPoint Presentation	20%	Team
	c. Final Report	Monday, May 30, 11:59pm. Start of Week 13	Approximately 2,500 words	30%	Team

Delivery and Submission

All assignments are to be submitted on Learnline via the Submission area, except in the following cases:

For Assignment 3b (presentation), internal students will give their presentations in the workshops instead of submitting via Learnline. External students will need to post their completed presentation via Learnline.

To submit correctly, you must:

- Submit via Learnline, under 'Submission Area', under the relevant assignment link. Then 'Attach File'.



Note: Please remember to retain your own copy of the assignment as a backup.

Extensions and late submission

Time management is a key skill to learn at university and it is important that you make every attempt to meet the assignment due dates so that you don't fall behind with your study.

If you do require an extension it is important to apply for one before the assignment is due.

To request an extension, email your lecturer/tutor and provide the following information:

- Date you are requesting the extension until.
- Reason for requesting extension.
- Evidence supporting the reason (e.g. Medical certificate).

If you do not request an extension before the assignment is due then 5% a day is deducted to a minimum of a pass.

Resubmission

Resubmission of assignments will be offered to students where they have not met the standard for a pass. The resubmission is allowed on the proviso that you:

- Can only achieve a maximum pass grade
- Must resubmit within an agreed time frame

Discuss resubmissions with your lecturer.

University Plagiarism Policy

Plagiarism is the presentation of the work of another without acknowledgement. Collusion is another person assisting in the production of an assessment submission without the express requirement, or consent or knowledge of the assessor. Staff and students may use information and ideas expressed by others, but this use must be identified by appropriate referencing.

Plagiarism may result in a Fail and the student may be subject to disciplinary action by the University. The University's [Academic and Scientific Misconduct Policy](#) is the overarching CDU policy on plagiarism and can be viewed via this link, or found at <http://www.cdu.edu.au/governance/policies.html>.

Students should also familiarise themselves with the [Student Breach of Academic Integrity Procedure](#), which can be viewed via this link, or found at <http://www.cdu.edu.au/governance/procedures.html>.

Assessment rules

Assessment rules provide for all student assessment to be conducted in a fair and impartial manner. Information on CDU's [Grading Policy](#) can be viewed via this link, or found at <http://www.cdu.edu.au/governance/policies.html>.

Professional assessment

CDU recognises that students acquire skills and knowledge through work and life experiences. If you feel that you have the skills and knowledge to meet the learning outcomes of this Unit, discuss the option of professional assessment with your lecturer. A result of PA may be given for students who have enrolled in a higher education Unit and have been assessed as meeting the requirements of the Unit on the basis of their professional background.

The PA grade has the same value as an ungraded pass (PU) when determining university and chancellor's medal eligibility and does not count towards the Grade Point Average for the course.

Student Evaluation of Learning and Teaching (SELT)

Evaluation is part of the university's continual process of assessing and improving the quality of its programs. Not all Units are evaluated every Semester, but if this Unit is one that is selected, your feedback is important and valuable. SELT is conducted so that the reports a Lecturer receives, after survey responses have been analysed, contain no information to identify an individual student.

Resources

Recommended textbook:

Rolls, N. & Wignell, P. (2015). *Communicating at University: Skills for Success*. CDU Press, Darwin, Australia.

While we provide you with learning materials each week, this textbook is a very useful reference. It provides extensive coverage of the reading, note-taking, report writing and verbal presentation skills you will be learning in this Unit. It also covers other kinds of writing at university – essays, case studies, critiques and annotated bibliographies.

It is available from the CDU Bookshop and can be ordered through their website at www.cdu.edu.au/bookshop or over the phone. The CDU Bookshop accepts all major credit cards.

Learnline (Online Learning System)

Learnline is Charles Darwin University's online learning system. In this Unit, it is used to provide:

- Important announcements regarding your Unit
- A learning guide to step you through the activities and learning materials each week
- Access to readings, lectures, study materials, grades and other resources
- A communication point where you can interact with fellow students
- A place to access feedback and grades
- On-line classes for external students.

e-Reserve

e-Reserve allows electronic copies of journal articles, book chapters and lecturer notes that have been recommended by a lecturer as part of their course reading requirements. You can access e-Reserve at <http://ereadings.cdu.edu.au>.

This site is password protected. Your CDU student login will provide you access. You can then search for items by Lecturer, Unit Code, Title, Author, Keyword, Year, or Date if you have that information.

Learning Schedule

Week	Topic	Assessments Due
Context		
1	Introduction to the Unit	
	Communication, Context and Credibility <ul style="list-style-type: none">• Getting to know each other• The importance of communication• Introduction to EWB and project context	
2	Finding & Using Information <ul style="list-style-type: none">• Searching for quality information - librarians• Evaluating credibility of information sources• Plagiarism and referencing	
Research		
3	Research towards a design project <ul style="list-style-type: none">• Note-taking & summarising• Towards a viable design project• Forming research questions• Introduction to Assignment 2	Personal Reflection (Monday 14/03/16 23:59 hrs midnight)
4	Introduction to Design and Report Writing <ul style="list-style-type: none">• Reports: anatomy, audience & purpose• Requirements, constraints, and assumptions• Design concepts	

Design		
5	Forming Groups & Teamwork <ul style="list-style-type: none"> • Forming groups & assigning roles • Getting ready for teamwork • Design process – brainstorming • The concept of project scope • Planning for your project – Assignment 3a 	Project Research (Monday 28/03/16 23:59 hrs midnight)
Study Break: 4 April 2016 – 8 April 2016		
6	Evaluating Designs and Working in a Team <ul style="list-style-type: none"> • Evaluating design alternatives • Active listening • Working together • Handling criticism 	
7	Design Sustainability and Feasibility <ul style="list-style-type: none"> • Feasibility & sustainability: cultural, environmental and technical considerations • Research and apply these to your design 	Project Management Plan (Monday 18/04/16 23:59 hrs midnight)
8	Presenting Your Design <ul style="list-style-type: none"> • Introduction to Assignment 3b • Modelling and prototyping • Costing your design 	
9	Communicating your Design with PowerPoint <ul style="list-style-type: none"> • Effective oral communication • Using PowerPoint effectively • Get started on your oral presentation 	
Presentation and report		
10	Final report <ul style="list-style-type: none"> • Introduction to Final Report 3c • Integrating evidence • Writing tips 	

11	Project presentations	3b. Project Presentation Internal: In Week 11 workshop External: (Monday 16/05/16 23:59 hrs midnight)
12	Finishing up reports	
13	Revision week: no workshop	3c. Final Report (Monday 30/05/16 23:59 hrs midnight)

Support Services and Resources

External Student Support

External Student Support, provides support to distance education/flexible learning students at CDU:

- hard copy assignment tracking (submission & return)
- management of external invigilated examinations
- management and support of OUA (Open Universities Australia) Units

Visit: <http://learnline.cdu.edu.au/support/ess/about.html>

Academic Language and Learning Support (ALLSP)

Academic Language and Learning provides study skills support for students. Contact the ALLSP Information Centre on (08) 8946 6557 or email allsp@cdu.edu.au

Visit: <http://www.cdu.edu.au/academic-language-learning/allsp>

Students with disabilities

The University is committed to providing an accessible, supportive, safe and inclusive learning environment for students with a disability; ensuring that prospective and current students with a disability are afforded appropriate opportunities to enter and participate fully in the life of the University.

If you have a disability that may impact on your ability to study please contact the Disability Liaison Officer on 8946 6288 or email disability@cdu.edu.au

Visit: <http://www.cdu.edu.au/equity-services/disability-services>

Indigenous Tutorial Assistance Scheme (ITAS)

If you are an Aboriginal or Torres Strait Islander student and you need extra help with your studies, the University can find you a tutor for any of the subjects you are studying as part of your formal education or training program, even if you are in a remote area.

View contact details for the [Indigenous Academic Support Team](#).

Visit: <http://www.cdu.edu.au/study/indigacadsupport.html>

Student resources

The Charles Darwin University website is where students have quick access to important dates, forms, student policies, support and services information and computer/email account details.

Visit: <http://www.cdu.edu.au/current-students>

Study Skills Online is designed to familiarise you with a range of study skills strategies appropriate for your needs, especially by providing general advice on the presentation of assessments.

Information literacy (the ability to locate and use information effectively) is an essential element of university life. It is recognised nationally by universities as being an essential graduate attribute. The Researching Skills interactive tutorial, which can be found at

<http://learnline.cdu.edu.au/researchingskills>, is designed to give you skills to find materials (books, journal articles, websites, etc) effectively and efficiently using the library's information resources and the Internet. You will not only learn how to develop search strategies but also to evaluate the information you find.

More subject specific assistance and can be provided by a **Liaison Librarian** through the 'Ask Us' service. If you can't find what you are looking for or don't know where to look, fill out the 'Ask Us' form and a Liaison Librarian will answer your query by email.

Visit: <http://www.cdu.edu.au/library/askus.html>.

Liaison Librarians can be contacted by phone or email. Details of your subject specific Liaison Librarian can be accessed from the following link: <http://www.cdu.edu.au/library/LILL/index.html>.

DIRECTORY OF ASSISTANCE		
Concern	Contact	Contact details
Matters concerning your Unit/Module	Lecturer/Tutor	Refer to the Introduction in this <i>Unit Information</i> or the Staff Information section of this Unit's Learnline site (if applicable)
General academic issues relating to your course	Course Co-ordinator	Refer to the CDU website at http://www.cdu.edu.au/studentnet & click the link to student central contacts
Assignment submission/return. Please refer to specific Unit information. Open Universities Australia (OUA), external/invigilated end of Semester exam period	External Student Support	Ph: (08) 8946 6483 Email: ess@cdu.edu.au Visit: http://learnline.cdu.edu.au/support/ess/about.html
Learnline difficulties 24 hour / 7 days a week	Learnline Support	Ph: 1800 559 347 Email: learnlinesupport@cdu.edu.au Visit: http://learnline.cdu.edu.au/support/
Difficulties accessing your Student Computer account Technical difficulties in PC Labs	ITMS Helpdesk	Ph: (08) 8946 6600 Email: itms-support@cdu.edu.au Visit: http://www.cdu.edu.au/itms/contactus
Distance library services to distance and disabled students	CDU Library	Ph: (08) 8946 7016 Email: referencedesk@cdu.edu.au Visit: http://cdu.v1.libguides.com/friendly.php?s=DistanceServices
Research Support - Help with library databases, Internet searching and Reference queries	Library enquiries	http://www.cdu.edu.au/library/
Help with subject specific searches and library databases, Internet searching and reference queries	Liaison Librarians	Email: library-liaison@cdu.edu.au Liaison Librarians contact details: http://www.cdu.edu.au/library/how/librarians.html#LILLteam
Purchasing of text books and stationery	CDU Bookshop	Ph: (08) 8946 6497 Fax: (08) 8946 6656 Email: bookshop@cdu.edu.au Charles Darwin University Bookshop PO Box U476 Casuarina Campus Charles Darwin University DARWIN NT 0815
General administration enquiries e.g. admissions/ enrolments, course information, graduation Obtaining student cards and student computer accounts	Student Administration	Ph: (08) 8946 7766 Freecall: 1800 061 963 Email: uni-info@cdu.edu.au Visit: http://www.cdu.edu.au/student-central/student-card

CDU Graduate Attributes

CDU graduate attributes refer to those skills, qualities and understandings that should be acquired by students during their time at the University regardless of their discipline of study. (See <http://www.cdu.edu.au/graduateattributes/graduateattributes.html>).

In this Unit, the following graduate attributes are developed:

Attribute	Description	Learning outcomes
Acquisition	Can identify, retrieve, evaluate and use relevant information and current technologies to advance learning and execute work tasks.	2,5,6,7
Application	Is an efficient and innovative project planner and problem solver, capable of applying logical and critical thinking to problems across a range of disciplinary settings and has self-management skills that contribute to personal satisfaction and growth.	2,3
Creativity	Can conceive of imaginative and innovative responses to future orientated challenges and research.	2,3,8
Communication	Demonstrates oral, written, and effective listening skills as well as numerical, technical and graphic communication skills in a cross generational environment.	5,7,8
Team work	Has a capacity for and understanding of collaboration and co-operation within agreed frameworks, including the demands of inter-generational tolerance, mutual respect for others, conflict resolution and the negotiation of productive outcomes.	4,5
Social responsibility	Is able to apply equity values, and has a sense of social responsibility, sustainability, and sensitivity to other peoples, cultures and the environment.	1,8

Engineers Australia Graduate Attributes

University education provides the learning base upon which competence for a professional engineering career is built. It is important that the education provides the graduate with generic attributes as outlined by Engineers Australia.

Details of the Engineers Australia graduate attributes addressed in this Unit can be found at: <http://media.online.cdu.edu.au/engit/ga/cuc106.pdf>