

Unit Information

Design and Innovation: communicating technology

CUC106

Student Name _____

Unit
*Design & Innovation: Communicating
Technology*

Unit code
CUC106

Faculty
Common Units

Awards
Bachelor Degree

Prerequisites
None

Duration
HE - semester

Credit
10 credit points

Assessment tasks
Three

The complete study package contains:
Unit Information

Prepared by
CUC106 Course Advisory Team

Materials in this book are reproduced under section 40 (1A) of the Copyright Amendment Act 1980 (Cth) for the purposes of private study by external students enrolled in this unit.

© Charles Darwin University
CRICOS provider 00300K

First published 2008

Published by Teaching & Learning Development Group and printed by Uniprint NT, Charles Darwin University

If you need these materials in a different medium, please contact Access Services, LIA, (08) 8946 6483.

Contents

Introduction	2
Welcome	2
Assumed knowledge	2
About the lecturer/s	2
Unit Overview	3
Learning objectives	3
Participation requirements	3
Private study commitments	3
Teaching and Learning Approach	4
Project based learning	4
Teaching sessions	4
Learnline: online learning support	4
Learning Materials	5
Design project options	5
Set text	6
Assessment Information	6
Assessment Overview	Error! Bookmark not defined.
Summary of Assignments	6
Delivery and Submission	7
Extensions and late submission	8
Resubmission	8
Professional assessment	Error! Bookmark not defined.
University Plagiarism Policy	8
Assessment rules	Error! Bookmark not defined.
Student Evaluation of Learning and Teaching (SELT)	9
Study plan	8
Support services and resources	11
Accessing Learnline	Error! Bookmark not defined.
Academic Language and Learning Support	Error! Bookmark not defined.
Indigenous Tutorial Assistance Scheme (ITAS)	10
Student resources	Error! Bookmark not defined.
Students with disabilities	Error! Bookmark not defined.
DIRECTORY OF ASSISTANCE	13

Introduction

Welcome

Welcome to Design and Innovation: Communicating Technology. This unit provides students with the opportunity to learn about design innovation, sustainable community development, team work and communication whilst contributing towards real world development projects.

Students work in multidisciplinary teams to design solutions for projects in undeveloped countries and regions. Developing creative solutions and building a model is a major focus in this unit. The other component, academic literacy and graduate skills, is approached in the context of project management, teamwork, researching, reading and communicating in writing and orally about the design project.

This year the context for projects is the remote community of Devikulam in Tamil Nadu, India and projects options range from water supply and quality facilities to sanitation, health and education programs, and other infrastructure developments.

Assumed knowledge

Students enrolling in CUC106 are required to have achieved a level of IT skills equivalent to those offered in CUC100 (the other Academic Literacy unit) or be studying an appropriate IT unit simultaneously. Thus, in order to be accepted into CUC106 students need to demonstrate they have achieved or are in the process of achieving IT skills in basic word processing, creating visual presentations and spreadsheets, using the Internet and email.

About the lecturer/s

The unit is coordinated by Simon Hobbs and taught by a range of lecturers and tutors from different areas in the university. You are assigned a tutor to assist you with the technical aspects of your design and to assist you with the written and oral communication components. Your tutors will also help facilitate your group work so that it is positive and productive.

Contact details for your tutors can be found on the CUC106 Learn line site. Don't hesitate to get in touch if you are unsure of any aspects of the unit.

For general enquiries and/or if you can't get hold of your tutors contact Simon on:

Phone: (08) 8946 6009

Email: simon.hobbs@cdu.edu.au

Office: Purple 12.2.04

Unit Overview

Through a series hands-on workshops the unit simultaneously covers three themes: research, sustainable design, and communication over a period of 12 weeks.

Learning objectives

Successful completion of this unit should enable students to demonstrate key graduate skills: leadership, social responsibility, communication, creativity and flexibility. As a part of these students will be enabled to:

- Understand the key environmental, technical, economic and cultural aspects of sustainable design in third worlds contexts.
- Utilise creative and innovative problem solving techniques in design
- Build and evaluate a design prototype in response to a real-world problem
- Effectively work in a team to organise and complete your design brief and report
- Present the outcomes of your design project through a professional, written technical report and a formal oral presentation
- Demonstrate in your written report and oral presentation, effective researching, critical reading, and referencing skills.
- Demonstrate professional IT and graphic communication skills
- Demonstrate key graduate skills: leadership, social responsibility, communication, creativity, and flexibility.

Participation requirements

To complete this unit, you are required to fulfil your obligations to your team as laid out in the group project proposal.

External students work through learning materials independently and fulfil team participation requirements online, by email or through telephone hook ups.

Private study commitments

It is recommended that **internal students** undertake seven hours per week of private study and **external students** who work through lectures and tutorial materials independently should allocate ten hours per week.

Teaching and Learning Approach

Project based learning

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 and in completing this project you learn essential theoretical considerations and practical skills for design and project management and communication.

The theoretical considerations of your design: *cultural context, sustainability, technical and economic viability*, and the practical skills: *project management, collaboration, written and oral communication* are all recognized graduate skills so these are applicable for all university courses and professions.

Teaching sessions

Internal classes: Apart from the lectures in Week 1 and Week 12, 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 to successfully complete your project and written assignments as well as providing suggestions, technical help and support to ensure each project remains on schedule.

External classes: External students are provided with the same information, learning materials and support through a range of tools: email, phone hook ups, discussion forums, online classrooms, videos and power point. You will need to use your computer, textbook and readings for all learning sessions.

Learnline: online learning support

Learnline is Charles Darwin University's on-line 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.

You will need to connect to the Internet to access it, <http://learnline.cdu.edu.au/>

NB Access to Learnline will not be available until Day 1 of Semester.

If this is your first time using Learnline, click on 'Student Support' in the left-hand navigation panel **before** logging in for a "how to" tutorial.

Learning Materials

Design project options

Over the first few weeks, students will work to become familiar with the Devikulam community context, and develop ideas for a potential design project aimed at improving the lives of the people in Devikulam.

Following this, students will form into small teams. Each team must come up with a single design idea to pursue. The item to be designed should be some **tangible** device or system. Teams will have to create a project plan, complete a conceptual design, and construct a physical model of their design (not necessarily a functional model). The design and model will then need to be communicated via a presentation and a formal report.

Because each design team is made up of students from different disciplines it is expected that each group will have enough collective expertise to tackle most of the design options presented below. To complete each design you need to address the engineering, creative, marketing and environmental aspects of the project. If you feel your team does not have sufficient expertise for the suggested projects note that the final scenario allows you to propose your own design project.

You may apply these designs to a NT remote context **or** if you wish to develop your design towards a **national design competition** organised by Engineers Without Borders (EWB) you should develop your product for the given context provided as part of the competition. A comprehensive description of this competition and details for each design scenario and context can be found on the CUC106 Learnline site under *Resources*.

Project Scenarios

Your challenge is to come up with a design proposal that offers an innovative and feasible solution or improvement in one of the following areas:

1. Devikulam Industry Development Plan
2. Building Construction
3. Transportation
4. Water Supply and Sanitation Systems
5. Energy
6. Information, Communication and Technology (ICT) for Educational Activities
7. Waste Management
8. Housing

Required text

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.

Rolls, N. & Wignell, P. 2008, *Communicating at University: Skills for Success*, CDU Press, Darwin, Australia.

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.

Assessment Information

The assessment for this unit based on “real life” assignments that simulate the tasks you would complete if you were on a design project team in a professional setting. So as with any design project you will be required to:

- Scope the project options and submit a preliminary **Research Report**
- Submit a **Project Proposal**
- Build and present the **Completed Design Model**
- Submit and present a **Final Written and Oral Report**.

The tasks above are organised into three assignments, each divided into parts so that each stage in completing the assignment is checked and assessed. Assignment one is completed individually and assignments two and three are completed by each project team.

Summary of Assignments

Assessment Item	Focus	Submit as	Deliverable	Value	Due Date
Compulsory Task	Referencing	Individual	Completed task worksheet	P/F	Friday, Week 2
Assignment 1: Research	Preliminary Research	Individual	Approx 500 words	15%	Friday, Week 4
Assignment 2: Plan for group project	Project Plan	Team	Approx 1000 words	25%	Monday, Week 7
Assignment 3: Presentation of completed group project	a. Model	Team	2D or 3D Model of Design	15%	Monday,* Week 10
	b. Presentation	Team	6 mins	15%	Monday,* Week 11
	c. Final Report	Team	Approx 2500 words	30%	Monday, Week 13

* **NOTE:** Internal students do not need to make a Learnline submission for Assigs 3A & 3B – instead, their assessment will take place in-class that week.

Delivery and Submission

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

- For Assignment 3A (physical model), internal students will demonstrate their model in the workshops instead of submitting via Learnline. External students will need to post a video, or photos + description of the model, via Learnline.
- 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.



Note: Please remember to attach the assignment cover sheet to your assignment and retain your own copy of the assignment as a back up.

Download a coversheet:

http://learnline.cdu.edu.au/support/ess/FDT101%20-%20Assignment%20Cover%20sheet%20____.doc

Extensions and late submission



You **must** contact your tutor **before the due date** for **all** assessment extensions.

- If your assessment is submitted late without prior arrangement with your tutor the maximum grade you can achieve is a pass
- Generally no extensions will be granted for the final assessment. Please contact your tutor if there is a problem.

Resubmission

In a situation where your work is assessed as being close to a pass grade, but that standard has not quite been reached, the opportunity to re-submit **may** be offered to you by the 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. (CDU Academic and Scientific Misconduct policy 3.3 v.1)

Plagiarism may result in a Fail and the student may be subject to disciplinary action by the University. The University policy on academic and scientific misconduct is the overarching CDU policy on plagiarism:

<http://www.cdu.edu.au/governance/documents/3.3academicandscientificmisconduct.pdf>

[3.3.01: Student Plagiarism Management Process](http://www.cdu.edu.au/governance/documents/StudentPlagiarismManagementProcess_SPMP.pdf) can be found at:
[http://www.cdu.edu.au/governance/documents/StudentPlagiarismManagementProcess_SPMP .pdf](http://www.cdu.edu.au/governance/documents/StudentPlagiarismManagementProcess_SPMP.pdf)

Assessment rules

Assessment rules provide for all student assessment to be conducted in a fair and impartial manner. The following links provide information on CDU's assessment rules:
<http://www.cdu.edu.au/governance/documents/AssessmentRules.pdf>

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.

Study plan

Week	Topic	Assessments Due
Context		
1 28/2/2011	Lecture: Introduction to the Unit & Workshop Sign-up Communication, Context, and Credibility <ul style="list-style-type: none"> The importance of communication Introduction to EWB and Project Context Evaluating credibility of information sources 	
2 7/3/2011	Finding & Using Information <ul style="list-style-type: none"> Searching for quality information Plagiarism and referencing 	Compulsory Task: Referencing (due Friday)
3 14/3/2011	Research towards a design project <ul style="list-style-type: none"> Note-taking & summarising Towards a viable Design Project Forming research questions 	
Proposal		
4 21/3/2011	Working in Groups & Report writing <ul style="list-style-type: none"> Forming Groups & assigning roles Personality types and group dynamics Brainstorming & planning 	1. Preliminary Research (due Friday)
5 28/3/2011	Report Writing & The Design Approach <ul style="list-style-type: none"> Reports: Anatomy, audience & purpose What is good design, and how do you get there? Requirements, Constraints, and Assumptions 	
Mid semester Break 4 – 8/4/2011		
6 11/4/2011	Design Concepts <ul style="list-style-type: none"> Cultural, environmental and technical considerations Creating a project plan 	
Prototype		
7 18/4/2011	Modelling your design <ul style="list-style-type: none"> Building a model Creating a design matrix 	2. Project proposal (due Monday)
8 25/4/2011	Evaluating Design Alternatives <ul style="list-style-type: none"> Evaluation methodology Exploring improvements and alternatives 	
9 02/5/2011	Communicating your Design <ul style="list-style-type: none"> Planning your final written report Effective oral communication Using PowerPoint effectively 	
Presentation		
10 09/5/2011	Model presentations	3a. Physical Model (due Monday)
11 16/5/2011	Project presentations	3b. Project Presentation (due Monday)
12 23/5/2011	Lecture: Final presentations	
	Workshop: Finishing up reports	
13 30/5/2011	Revision week: no workshop	3c. Final Report (due Monday)

Support services and resources

The role of External Student Support

External Student Support, part of Flexible Delivery Team, TLQG, provides support to distance education/flexible learning students at CDU:

- dispatch of learning materials
- assignment tracking (submission & return)
- management of external invigilated examinations
- management and support of OUA (Open Universities Australia) units

Visit <http://www.cdu.edu.au/tlqg/about/rp.html>

Academic Language and Learning Support (ALLSP)

Academic Language and Learning provides study skills support for students. Contact Ruth Warwick on (08) 8946 6557 or email ruth.warwick@cdu.edu.au

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 Student Facilitator, Disabilities on 8946 6288 or email equity@cdu.edu.au.

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.

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

Student resources

The Charles Darwin University website is home to **StudentNet**. From here, 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/studentnet/>

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.

<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 staff contacts
Assignment submission/return. Please refer to specific unit information. Dispatch of learning materials Open Universities Australia (OUA) External/invigilated end of semester exam period	External Student Support, External Student Support	Ph: (08) 8946 6483 Email: ess@cdu.edu.au 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
Difficulties accessing your Student Computer account Technical difficulties in PC Labs	ITMS Helpdesk	Ph: (08) 8946 6600 Email: itms-support@cdu.edu.au
Off campus library services to distance and disabled students Library enquiries Research Support - Help with library databases, Internet searching and Reference queries	CDU Library CDU Library	Ph: (08) 8946 7016 Email: referencedesk@cdu.edu.au http://www.cdu.edu.au/library/
Liaison Librarians Help with subject specific searches and library databases, Internet searching and reference queries	CDU Library	Email: library-liaison@cdu.edu.au Liaison Librarians contact details: http://www.cdu.edu.au/library/LILL/index.html
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