



The University of the West Indies
Faculty of Engineering
Department of Electrical and Computer Engineering

Student Manual

ECNG 3020 Special Project
2012/2013 Academic Year

University of the West Indies
September 2012

Table of Contents

1	Introduction.....	5
2	Prerequisites.....	5
3	Project Categories.....	6
4	Success in ECNG3020.....	6
4.1	Responsibilities of the ECNG 3020 Student.....	6
4.2	Ethics.....	7
4.3	Advice for the ECNG 3020 Student.....	7
5	Project Outcomes.....	8
5.1	Goals.....	8
5.2	ECNG 3020 Learning Outcomes.....	8
6	Project Proposals.....	9
7	Project Selection.....	10
8	Assessment And Moderation.....	10
8.1	Progress Report and Oral Presentation.....	11
8.2	Final Written Report.....	11
8.3	Demonstration.....	12
8.4	Final Oral Presentation.....	12
8.5	Grading.....	13
9	ECNG 3020 Schedule.....	13
10	Resources.....	13

10.1	Special Project Portal	13
10.2	Literature	14
10.3	ECNG 3020 Seminars	14
10.4	Laboratory Provisions	15
10.5	Parts and Components	15
10.6	ICT Use	17
	Appendix I – Log Notebooks	18
	Appendix II – Attendance Record	19
	Appendix III - Statement of Academic Honesty	20
	Appendix IV - ECNG 3020 Project Grading Scheme	21

List of Tables

Table 1 ECNG 3020 Project Categories	6
Table 2 ECNG 3020 Assessment Periods.....	10
Table 3 ECNG 3020 Seminar Schedule.....	15
Table 4 Project Evaluation Levels.....	21
Table 5 Quality Descriptors.....	22
Table 6 Project Category Weightings.....	22
Table 7 Project Assessment Categories.....	23

1 Introduction

The ECNG 3020-Special Project is regarded as the capstone course of the entire BSc. Electrical and Computer Engineering Programme. ECNG 3020 is a **student-driven project** and does not involve regular classroom delivery and assessment (such as lectures, tutorials, final examinations, etc). It is a year-long course that counts for 6 credits and contributes 20% of the final weighted average used in the determination of honours.

Industry requires engineers who can design and innovate, as well as display exemplary professional conduct in many contexts. It is no longer sufficient to be competent in analyzing problems; engineers are called on to propose, design and implement solutions to problems and respond to opportunities created by the marketplace. ECNG 3020 responds to the needs of industry in two broad ways – by providing students with a forum for **engineering practice** and by cultivating the **values and ethics necessary for professional conduct** in the workplace.

ECNG 3020 Special Project is designed to develop technical skills in the following areas:

- Design to specification
- Formulation of creative solutions to engineering problems
- Engineering analysis and enquiry
- Validation and testing against benchmarks
- Project management - concept development, planning, implementation and testing
- Time management - planning for unforeseen events and setting realistic goals
- Communication writing technical reports and delivering professional presentations

It is expected that, in the completion of ECNG 3020, you will use the wide range of knowledge and engineering skills that you have gathered over the course of your degree programme. However, it is not unusual for a project to require students to rely on a body of knowledge outside that taught in the programme or, as has been the case on occasion, completely outside of Electrical and Computer Engineering. ECNG 3020 therefore presents the opportunity to build upon a core of learning, gained in the earlier years, and to broaden the scope of that knowledge.

2 Prerequisites

Students enrolled in this course should have passed all Level 1 courses, and at least have attempted all prescribed level 2 courses.

3 Project Categories

Projects are classified into four (4) broad categories as summarised in Table 1. The project category **determines how the project will be evaluated**. It is essential that you ascertain the category of your project before you begin.

Type	Category	Description
I	Research	This project type requires theoretical analysis leading to new knowledge. It will entail extensive background preparation and comprehension of subject matter, clear thinking and sound logic.
II	System Development and Design	This type of project involves system design and implementation requiring little knowledge outside of that obtained in the programme. This category of project focuses strictly on the application of engineering expertise and knowledge gained. A working prototype or simulation must support the design.
III	Analytical Study and Investigation	Type III projects entail extensive research into existing engineering systems and practices leading to conclusions on such aspects as validity, scope and proposals for improvement.
IV	Investigation with System Development and/or Design	Type IV projects require more background research than the Category II project, but must also deliver a working prototype or simulation to support findings

Table 1 ECNG 3020 Project Categories

4 Achieving Success in ECNG3020 Special Project

You are required to take **complete ownership of your project** and this necessitates a **considerable shift in attitude** as the project demands that, beyond the exercise of knowledge and skills, you must be **self-regulating** and **self-directed** in your time management and research, respectively.

4.1 Responsibilities of the ECNG 3020 Student

You are required to:

- Maintain a log notebook: All relevant information is to be recorded in the logbook. You are to sign and date each page. The content of your logbook should include circuit diagrams, designs, data, graphs, calculations, references, research results, flow charts, and any communication, in person, via telephone or written, that is relevant to the research. The log notebook is to be signed and dated by your supervisor during each meeting and brought to the oral presentations (refer to [Appendix I](#) for a complete description of the log notebook).

- Consult with your supervisor regularly: It is recommended that you consult your supervisor at **least once every week**. You are to keep an attendance record of meetings with your supervisor ([please see Appendix II](#)). Frequent consultation is common in industrial practice and is useful for detecting problems before they can have an irreversible, deleterious impact. Infrequent consultation has been the major cause of failure in past years. **Be sure to prepare notes in advance of your meetings.** Notes on your progress and difficulties, and a list of questions you may have will help your meetings to be productive.
- Order Requisite Project Materials and Components: If your project requires materials or components that have to be ordered make sure to place your order early. It is normal for an order to take two or more months for delivery. More information is given in Section 10.3 of this manual.
- Manage your Research Project: ECNG 3020 Special Project **must not be seen as a laboratory exercise fully directed by academic staff**. ECNG 3020 is a **student-directed, research-based** course for which the student-researcher is **ultimately responsible**. The department provides a wide range of support services to assist in your research. Make use of them.

4.2 Ethics

ECNG 3020 must not be regarded merely as a means toward the award of a degree. Rather, it must be thought of as **an opportunity for professional and personal development and achievement**. You are to spare no effort in **ensuring the integrity of your work** ([please see Appendix III – Academic Honesty](#)). You are bound by the following research obligations:

- You must provide both **in-text and bibliographic citation in accordance with the author-date system of the [Chicago Manual of Style 16th Edition](#) or later**. Failure to do so will be taken as an attempt to plagiarise. Plagiarism is a grave offence and will attract severe penalties as set out in the regulations of the University
- **Authentic research data are to be presented.** Manipulation of results is regarded as a serious offence, whether it involves falsifying results or distorting them to fit expectations.

4.3 Advice for the ECNG 3020 Student

The tips that we provide below are informed by problems students have encountered in the past. We hope that by sharing these, you can avoid the pitfalls encountered by others.

- The most important thing to keep in mind regarding your project is that it should be fun! You have to want to do it, enjoy doing it, and be proud you did it. Should this cease to be the case; you should seek help to get back on track. There is nothing worse than pursuing a project which is going nowhere; you will come to hate it, do a poor job, and feel badly about yourself.
- Pin down your project definition within the first month of receiving the project. Use this time to determine the resources required to arrive at a satisfactory conclusion to your activities. This includes both human (**your time and required effort**) and material resources (**accessibility and availability of parts and components**).

- A **comprehensive survey of relevant, scholarly literature** is essential to clarifying your project ideas. Reviewing literature identifies what was done previously and so can inform your project or it can direct the new and original paths that you can take. During your intense and wide reading make sure to keep detailed notes, including bibliographic references, to which you can easily refer as the need arises.
- Typically, students defer the bulk of their project till the second semester; this approach is characteristic of poor project management and is ill advised. Instead, you should try to **work at a steady pace throughout the entire year**. In addition, your efforts should be guided and charted with the aid of project management tools, such as Gantt Charts.
- Your job will be made easier if the **project can be decomposed into a sequence of significant steps or milestones**. Your supervisor should verify these milestones as soon as they are achieved. With this approach you will have some definite results, if you are unfortunate enough to run out of time.

5 Project Outcomes

5.1 Goals

ECNG 3020 requires you to:

1. Formulate requirement specifications to solve a given electrical and/or computer problem
2. Generate and implement acceptable, creative solutions and/or analysis methods to solve and/or evaluate the problem
3. Evaluate and/or validate the proposed solution and methodology
4. Explain and communicate effectively the problem, methodology and results using written reports and multimedia presentations
5. Apply planning and managing tools to carry out the project.

5.2 ECNG 3020 Learning Outcomes

KEY	MA: Modelling and Analysis	ES: Engineering Solutions	EPP: Engineering Professional Practice
-----	----------------------------	---------------------------	--

To successfully complete ECNG 3020 you will need to demonstrate the ability to:

- MA1. Apply mathematical, scientific, and engineering principles and techniques to describe the characteristics and behaviour of electrical and or computer systems.
- MA2. Analyze the functional and performance characteristics of electrical and or computer engineering systems, sub-systems, and relevant processes.
- ES1. Identify and formally define electrical and computer engineering problems.
- ES2. Develop requirements specifications for electrical and computer engineering solutions.

- EPP3. Use technical information, crediting the origins of ideas and other intellectual property in the solution of engineering problems.
- EPP4. Plan and realise engineering objectives as an individual or within a team.
- EPP5. Demonstrate an understanding of professional and ethical responsibility in the work environment.
- EPP6. Demonstrate awareness of relevant business principles, such as efficient time and resource management, to achieve engineering objectives.
- EPP7. Communicate effectively, conveying technical material through a variety of media, such as written products, graphics, and oral presentations.

Additionally, if you are attempting project types II or IV you will have to demonstrate the ability to:

- ES3. Select appropriate techniques and tools to realize engineering designs.
- ES4. Demonstrate competence in applying standard analytical tools in the implementation of engineering solutions.
- ES5. Design engineering solutions to meet functional as well as performance specifications.

6 Project Proposals

All project proposals must be approved by the Department. Project proposals can be made by staff or students using the online ECNG3020 Special Project Portal. The proposal must clearly specify:

- Project Title
- Project Category
- Thematic Group (*the BSc. Electrical Engineering option to which your project belongs- Energy Systems, Electronics, Computer Systems, Communications, Controls*)
- Background (*what is the justification for the project?*)
- Project Objectives (*what does the project seek to achieve or deliver?*)
- Project Implementation and Methodology(*the range of activities to complete the project*)
- Summary of Requirements:
 - Prerequisite skills and knowledge
 - General hardware requirements
 - General software requirements

If for any **just reason** any part of **an approved proposal is to be modified**, the revised proposal must receive the approval of the project supervisor and be submitted to the ECNG 3020 Project Coordinator.

7 Project Selection

There are three ways by which you may be assigned a project:

1. **Student Project Proposal:** You may propose your own project. You are to consult with lecturers, who will help to refine your project ideas. Make certain to use these consultations to secure a supervisor. Use the Special Project Portal (see Section 10.1) to submit your proposal. Your proposal will be reviewed and the ECNG 3020 Course Coordinator will communicate with you regarding the approval of your proposal.
2. **Directly Assigned Projects:** Staff will post projects on the Special Project Portal. The list of proposed projects will be available by 3rd September 2012. Once you have decided on your preferred projects, you should start consultations with the respective supervisors to find out more about them. These consultations take place during the first week of the semester. At this stage projects can be assigned at the **discretion of supervisors**. He or she will assign the project using the Special Project Portal.
3. **Open Bidding:** Students can bid for projects, from the official list posted on the Portal, that have **not been assigned**. You can bid for up to a maximum of four (4) projects, using the bidding tool in the Portal. Bidding will be permitted from 13th -14th September 2012. The bidding process is competitive. Projects are **awarded based on your preparedness to undertake the project**.

Final decisions on project assignments will be made by 18th September 2012. The **ECNG 3020 Co-ordinator** or his/her **nominee** is the **final adjudicator** in the assignment of projects.

8 Assessment and Moderation

A team of two examiners will evaluate your project. The project supervisor will automatically be appointed as the first examiner. The second examiner shall be appointed by the ECNG 3020 Coordinator or his/her nominee. The second examiner is usually a member of the Department's academic staff but suitably qualified persons may be sourced externally to fulfil this role. The evaluation of ECNG 3020 is based on four student submissions these are summarised in the table below.

Period	Student Submission	Examiners
Start of Semester II	1. Progress report and oral presentation.	1 st Examiner 2 nd Examiner Moderator
	2. Final written report.	1 st Examiner 2 nd Examiner
End of Semester II.	3. Project demonstration (mandatory for Category II and IV projects).	1 st Examiner 2 nd Examiner
	4. Final oral presentation.	1 st Examiner 2 nd Examiner Moderator

Table 2 ECNG 3020 Assessment Periods

8.1 Progress Report and Oral Presentation

The progress report and oral presentation are mandatory. You will be evaluated on your **understanding of the problem**, the **general requirements of the problem solution**, the **project management procedures** used and **preliminary results** obtained.

These presentations are scheduled for 16th-18st January 2013. A written report, no more than **10 pages long**, must be submitted to your Supervisor on or before 11th January 2013. **You are to provide two (2) printed copies**, just before your presentation to your 1st and 2nd Examiners.

The oral examination is usually twenty (20) minutes in duration. You will present your work in the first ten (10) minutes. In the remaining ten (10) minutes examiners may pose questions to candidates. Immediate and formative feedback will be given by examiners.

For the oral presentations students will use multimedia facilities (laptop and projector) provided by the Department. Multimedia files must be in PowerPoint™ and brought to the presentation room on an USB Flash Memory Key and a backup CD-ROM.

The progress report should include:

1. The project title, project category and objectives
2. The background and scope of the project: the significance of the problem and solutions proposed or implemented by others
3. Details on how the problem is being addressed
4. Preliminary results
5. Plans for the completion of the solution
6. Details of problems encountered
7. A Gantt chart which describes the sequence of the solution procedures

8.2 Final Written Report

Guidelines on the writing of the final report are provided in the [ECNG 3020 Writing Manual](#). Group and individual support in the writing of your report will be provided in workshops and consultations respectively. Notice of these would be posted on the ECNG 3020 Special Project Portal.

The final written report is to be submitted on 4th April 2013, 2pm. **If you fail to comply with the deadline you will be allocated zero marks for the entire Special Project.**

A copy of the progress report is to be included as an appendix in the final report. You are to submit **two (2) copies of the final report**. If you have bulky appendices and or programming code place these on a CD-ROM. Ensure that the items are accurately referred to within your body of work. The CD-ROM must be placed in a pocket at the back cover of the report.

Also, you are to upload an electronic copy of your report to the Portal by this deadline. To upload your report:

- Ensure that the file is 2MB or less. If your whole report amounts to more than 2MB then you can divide your report into several smaller files. You can upload multiple files.
- Use any of the following file types: doc; docx; pdf; zip; xls; xlsx
- Use this format for naming your files:
Student identification number.file extension, e.g. 7410455.doc

If your report is divided into several files then name your files like this:

Student identification number. P1.file extension, e.g. 7410455.P1.doc, where "P1" designates the 1st part and P2 the 2nd part and so on.

If you fail to upload your report by the submission deadline; or incorrectly name your files; or use unapproved file types, you would be reported to the Head of Department for appropriate action, which may include the award of zero for your final project.

If you experience difficulty in uploading your report please contact the Course Coordinator via email – crista.mohammed@sta.uwi.edu .

Every student submission made to the Department of Electrical and Computer Engineering is subject to examination by an electronic plagiarism checker. You will be required to sign a form indicating that your report does not involve any plagiarism or collusion. Projects will not be considered complete without these forms. **Students are not allowed to present any changes, addenda or new versions of their final reports after the deadline.**

8.3 Demonstration

Demonstrations are mandatory for category 2 and 4 projects. Other project types may be demonstrated, but this is subject to the instructions of your supervisor.

Demonstrations will be held from 8 - 12th April 2013. Each student is required to make arrangements for the demonstration of working prototypes/models/software packages to the first and second Examiners.

8.4 Final Oral Presentation

You are required to present a dissertation of your project, during the period of 15-17th April 2013. These presentations are open to the public.

Projects are examined by a panel comprised of the first examiner, the second examiner and a moderator. The duration of the examination is forty (40) minutes; you will present in the first fifteen (15) minutes. You should make the most of presentation aids; multimedia (laptop and projector) equipment will be provided by the Department. You will be orally examined on various aspects of your project.

8.5 Grading

The project is evaluated across seven categories: conduct, understanding and comprehension, approach and methodology, results, report(s) and presentation. Each of these is assessed using one of nine letter grades from Fail (F) to Perfect (A++). From this ranking, final marks are calculated using weights determined by the project category. Details are provided in Appendix IV.

The final mark is decided by consensus amongst the three members of the examination panel. In the determination of final marks the examiners will include their preliminary assessments (of the final written report and the project demonstration) and their evaluation of your final presentation.

Students are given a single opportunity to demonstrate and present their final project results. These components of the project may not be remarked. While the final project report may be reassessed, the maximum achievable mark is 40% of the report weighting for the specific project type.

9 ECNG 3020 Schedule

Posting of Approved List of Projects	3 rd September 2012
Deadline Project Selection	10 th September 2012
Bidding	13 th -14 th September 2012
Posting of Project Assignment List	18 th September 2012
Deadline for Progress Report Submission	11 th January 2013
Progress Report and Oral Presentation	16 th -18 st January 2013
Final Written Report	4 th April 2013, 2pm
Demonstrations	8 - 12 th April 2013
Final Oral Presentations	15-17 th April 2013

10 Resources

10.1 Special Project Portal

The ECNG 3020 Special Project Portal is a dedicated, course management tool. It is a **central hub for all course related information and resources**. You can access the User's Guide at <http://www.eng.uwi.tt/depts/elec/ugrad/ecng3020/Student's%20Guide.pdf> .

The Portal provides ECNG 3020 students with the following:

- Access to Course Manuals, Project Lists and Schedules
- Project Proposal facilities, which you can use to propose your own project

- Project Bidding forms. If you choose to bid for a project you must use this facility to submit your bid
- Uploading provision. All students are required to upload electronic copies of their final reports to the Portal.

To receive an account on the Portal, you must first be **registered on Banner for ECNG 3020**. After you are registered you can request an account via email to crista.mohammed@sta.uwi.edu . Please provide the following information:

- Your complete name, as it appears on your UWI Student Identification Card
- Your UWI Student Identification Card number
- A reliable, local telephone contact (to be used by the Coordinator, in cases of emergency)
- Both your UWI and personal email addresses (these will be used by the Coordinator to communicate with you on a regular basis)

10.2 Literature

The following are recommended for background reading and research.

1. Fogler, H. Scott., and Steven LeBlanc. 1995. *Strategies for creative problem solving*. NJ: Prentice Hall.
2. Horowitz, P., and Winfield Hill. 1989. *The art of electronics*. NY: Cambridge University Press.
3. Middendorf, W.D. 1981. *What every engineer should know about inventing*. NY: Marcel Dekker.
4. Wilcox, A.D., "Project planning for Electrical Engineers," Prentice Hall Int'l Editions, 1990

10.3 ECNG 3020 Seminars

Monthly seminars will be mounted as part of the ongoing support provided in the conduct of your project. **ALL students are expected to attend** these seminars. These seminars are listed in the tables 3-4 below.

Semester I		
Date and Time	Topic	Venue
30 th August 2012 10.00 – 12.00 pm	Course Orientation	Room 101
28 th September 2012 2.00 – 3.00 pm	Scholarly Research – Accessing Resources	LT2, Block 13
5 th October 2012 2.00 – 3.00 pm	Referencing using the Chicago Manual of Style	LT2, Block 13
12 th October 2012 2.00 – 3.00 pm	Research Methods (Engineering Literature review)	LT2, Block 13
19 th October 2012 2.00 – 3.00 pm	Research Methods (worked examples)	LT2, Block 13
26 th October 2012 2.00 – 3.00 pm	Research Methods (self-assessment)	LT2, Block 13
23 rd November 2012 2.00 – 3.00 pm	Presenting the Progress Report	LT2, Block 13

Table 3:ECNG 3020 Semester I Seminar Schedule

Semester II		
Date and Time	Topic	Venue
Thursday 7 th March 2013 9.00 – 10.00 am	Writing Workshop- The Final Report	Room 1, Block 13
Thursday 11 th April 2013 9.00 – 10.00 am	Oral Presentations- Presenting your Project	Room 1, Block 13

Table 4:ECNG 3020 Semester II Seminar Schedule

10.4 Laboratory Provisions

The Department has reserved laboratory space exclusively for ECNG 3020 project work. This ECNG 3020 laboratory area has several stalls equipped with the types of equipment usually required by the majority of hardware projects. You should consult with the Chief Technician for bookings in the ECNG 3020 laboratory area. The availability of this space does not preclude your use of other labs in the Department; the Chief Technician is to be consulted in this regard as well. Suitable arrangements should be made if the project is to be conducted outside of the Department. These arrangements are to be communicated to your supervisor and duly recorded in your log notebook.

In the special case of solutions that are microprocessor based, the Department recommends the use of the PIC family of microprocessors with which most students would be familiar. You should note, however, that the PIC family targets small to medium scale complexity circuits and that projects may require the use of devices such as a DSP or a more powerful microprocessor. If the project requires low level logic designs, the Department recommends the use of programmable logic devices (PLDs).

10.5 Parts and Components

To procure the parts and component materials (e.g: electronic components, software, instrumentation components, etc.) required for your project you should:

1. Compile a list of components and parts for your project **AS SOON AS POSSIBLE** (latest by the end of October 2011).
2. Consult with the Department's Stores and your supervisor to inquire if any of the parts are available in the Department. **DO NOT ASSUME** that parts/resources normally used for teaching/labs (e.g. PIC microprocessors, programmers, computers) will be made available for project use. For parts/resources which are used by a large number of students it will be necessary to get your own.

3. If you need to buy any component get an accurate quotation from the company and have it authorized by your supervisor. Quotes should be addressed to:

ATTN: Student/Project Supervisor
Department of Electrical and Computer Engineering
Faculty of Engineering
UWI, St. Augustine.

For international orders, quotes MUST include all **shipping costs**, and **additional fees**. Please be aware that there are different forms of payment for companies overseas; you should pay using preferably a Credit Card or, alternatively via Wire Transfer - this will speed up the delivery of the product. Payment details/instructions should be attached to the quote.

4. Take the quotation to the Chief Technician and put the order through the system.
5. Make sure you check with the Chief Technician at least once a week on the progress of your order. In some instances you will be required to track the order in the Bursary to expedite the process. If you are encountering undue problems in the ordering of parts/components draw it to the attention of the Course Coordinator, who will intervene where possible.
6. International orders (on average) take two months to arrive and clear; some take longer. Keep this in mind for your scheduling, and make contingency plans in the event that your parts do not arrive.

10.6 ICT Use

If your project involves the use of the University's ICT resources, please be guided by the UWI's Acceptable Use Policy for ICTs. This policy can be accessed in full at:

http://sta.uwi.edu/resources/policies/Acceptable_Use_Policy.pdf

Examples of unacceptable use include, but are not limited to:

- intentionally circumventing or compromising the security controls or integrity of the University ICT resources or any other computer or communication network resource connected to it.
- intentionally denying access to or interfering with any network resources or any other computer or communication network resources, including spamming, jamming and crashing any computer.

Where there is evidence of unacceptable use, the University may restrict or prohibit the use of its ICT resources. Violations of this policy shall be treated in accordance with applicable University Statutes, Ordinances, Rules and Regulations.

Appendix I – Log Notebooks

All students of ECNG 3020 must keep a log notebook; the following are stipulations for the maintenance of your log notebooks:

- The log notebook must be a bound 8.5" x 11" notebook. Three ring binders may not be used, as pages may become loose and get lost.
- No pages are to be torn out. Cross out a page if it contains an error but leave the contents legible.
- The contents should be clear to any technical reader, not just the author. Before you start working, it's often good to write a brief statement indicating what you are trying to accomplish with the task. Write a summary describing what went right and what went wrong with the task.
- Sign and date EACH page when you are through with that page. Draw a diagonal line through any portion of the page which remains blank.
- All communication relevant to your study, whether via phone, in person or by written means should be kept in the log.
- Calculations, sketches, theories, short software listings, lists of "Things to Do", and actual data belong in the notebook.
- Component data sheets, application notes, viewgraphs, handouts, reports, e-mails, and petty cash receipts (to name a few) are best kept in an indexed three ring binder. They do not belong in the log notebook.
- The log notebook **must be signed by your supervisor at each meeting.**

Appendix II – Attendance Record

The ECNG 3020 Attendance record is intended to help both Students and Project Supervisors manage and schedule their meetings. This record is to be kept current and to be made available upon request, by the Course Coordinator and or HOD and or either of their nominees. You may reproduce a similar table as shown below and keep this as part of your Log Notebook.

Student Name:		Supervisor:	
Project Title:			
Date/Time of meeting	Outcomes of Meeting/ Actions to be taken (insert in point form)	Supervisor's Initials	Student's Initials

Appendix III - Statement of Academic Honesty

Academic dishonesty has grave consequences which may include the award of zero on the assignment, debarment from class, or even expulsion from the University. Cheating and plagiarism are both forms of academic dishonesty.

Rule 32 , *The Faculty of Engineering: Undergraduate Regulations 2008-2009*, states:

“ Cheating, Plagiarism and Collusion are serious offences under University Regulations.

- (a) Cheating is any attempt to benefit one's self or another by deceit or fraud.
- (b) Plagiarism is the unauthorised and/or unacknowledged use of another person's intellectual efforts and creations howsoever recorded, including whether formally published or in manuscript or in typescript or other printed or electronically presented form and includes taking passages, ideas or structures from another work or author without proper and unequivocal attribution of such source(s), using the conventions for attributions or citing used in this University. Plagiarism is a form of cheating.
- (c) For the purposes of these Regulations, ‘collusion’ shall mean the unauthorised or unlawful collaboration or agreement between two or more students in the preparation, writing or production of a course assignment for examination and assessment, to the extent that they have produced the same or substantially the same paper, project report, as the case may be, as if it were their separate and individual efforts, in circumstances where they knew or had reason to know that the assignment or a part thereof was not intended to be a group project, but was rather to be the product of each student’s individual efforts.

Where two or more students have produced the same or substantially the same assignment for examination and assessment in circumstances that the assignment was to be the product of each student’s individual efforts, they shall receive a failing grade in the course.”

Every student submission made to the Department of Electrical and Computer Engineering is subject to examination through an electronic plagiarism checker.

Appendix IV - ECNG 3020 Project Grading Scheme

The grading system, which is essentially based on fuzzy logic and inferencing concepts, has the following characteristics:

1. The proposed system allows for the generation of 54 distinct marks in each project category; 18 of these are failing marks.
2. The grade assignments are fairly evenly spaced as shown in Table 4. An attempt has been made to align the letter values to current UWI grade assignments.
3. Quality descriptors have been characterized so as to reduce subjectivity. These are illustrated in Table 5.
4. Project Categories carry different evaluation weightings, as illustrated in Table 6. This reflects the fact that not all projects can be judged in the same way - the emphasis on the Type II project is on the actual prototype design and implementation, while a Type I project has a heavy emphasis on the comprehension of background theory and the approach taken to reach stated conclusions. The distribution of marks all sum to 100.
5. A student can get a perfect grade only if he/she gets A+ in all categories i.e. he/she is perfect in all aspects of project execution.
6. Assessment categories are not completely bounded; refer to Table 7. For example, "results" can refer to a final software design or a piece of hardware and demonstration of its functionality. It can also apply to findings of a research exercise.
7. Examiners will assign preliminary grades to all categories except "Presentation" before the actual oral examination. The final oral exam is used to determine the presentation grade and to modify the predetermined grade as a result of candidate responses.

Grade	A++	A+	A	B+	B	C	D	E	F
Level	1	.87	.75	.65	.57	.45	.3	.15	0
Descriptor	Perfect	Excellent	Very Good	Good	Satisfactory	Pass	Poor	Very Poor	No Effort
	← PASS →						← FAIL →		

Table 5 Project Evaluation Levels

<input type="checkbox"/> Perfect	There is absolutely no room for improvement in the aspect of work done
<input type="checkbox"/> Excellent	The work is deficient only in one or two relatively insignificant components and is overall of a much higher standard than that expected of a good student.
<input type="checkbox"/> Very Good	The work is deficient only in one or two relatively insignificant components but is of a much higher overall standard than that expected of an average student.
<input type="checkbox"/> Good	The work is deficient only in one or two significant components but is overall of a higher standard than that expected of an average student.
<input type="checkbox"/> Satisfactory	The work could have been done better but is of an average standard. The engineering input is generally correct but the treatment lacks depth.
<input type="checkbox"/> Pass	The work is below average but still acceptable. There may be some analytical and design flaws but the work is retrievable.
<input type="checkbox"/> Poor	The student needed to have put more effort into key aspects of the work. Its standard is too low to deserve a passing grade. In particular, there is very little evidence of engineering knowledge being applied here.
<input type="checkbox"/> Very Poor	The student made grave errors of judgment in executing the work and demonstrated very little understanding of the concepts and issues involved.
<input type="checkbox"/> No Effort	Student made absolutely no attempt at the aspect of work.

Table 6 Quality Descriptors

	Conduct	Understanding	Approach	Results	Report(s)	Presentation
I. Research	10	30	20	15	15	10
II. Development/ Design	10	15	25	30	10	10
III. Investigative	10	20	20	20	20	10
IV. Investigative & Design	10	20	30	20	10	10

Table 7 Project Category Weightings

❑ Conduct	Regular attendance and punctuality at meetings, rigour and diligence at researching material, use of project management techniques (planning, scheduling, Gantt chart update, identification and organisation of tasks).
❑ Understanding & Comprehension	The background theory, its application and its limitations.
❑ Approach and Methodology	Use of methods and approaches expected of a professional engineer, justification for selecting the methods used and evaluation of alternatives.
❑ Results	Provision of the deliverables- conclusions drawn, completeness of design and fabrication, quality of design, demonstration of results.
❑ Report(s):	Quality of reports, consistency, grammar and spelling, organisation of sections, captioning of figures, tables and graphs.
❑ Presentation	Coverage of work done, effectiveness, answers to questions, use of presentation technology.

Table 8 Project Assessment Categories

Grade Calculation

The final grade for a given project is determined as follows:

1. Select the project category (determined and set at the time project is issued)
2. Assign a letter grade to each evaluation category (e.g. Conduct: A, Approach: B etc.)
3. Sum the product of each Project Category weight and corresponding grade level
4. Round the result to the nearest integer

E.g.: Suppose we have a project in the research category with the following letter grade scores:

Conduct: A, Understanding: B+, Approach: A, Results: B, Report: B, Presentation: C. Then the corresponding project mark is:

$$\begin{aligned}
 P &= \text{Round}(10*0.75 + 30*.65 + 20*0.75 + 15*0.57 + 15*0.57 + 10*0.45) \\
 &= \text{Round}(63.6) = 64
 \end{aligned}$$