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

Student Manual

ECNG 3020 Special Project
2024/2025 Academic Year

The University of the West Indies
September 2024

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1. Introduction

ECNG 3020 Special Project is the capstone course of the 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, six-credit course that contributes 20% of the final weighted average used in the classification of the degree.

Industry requires engineers who can design and innovate, as well as have exemplary professional conduct. Engineers are expected 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 aims to develop 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 oral presentations

It is expected that you will use the wide range of knowledge and engineering skills from your degree programme. However, it is not unusual for students to rely on 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 on a core of learning, broadening the scope of that knowledge.

All queries regarding the administration of ECNG 3020 should be directed to the course coordinator:

Ms Crista Mohammed
Room 335, Block 1
E-mail: Crista.Mohammed@sta.uwi.edu
Tel/ext: (868)-662-2002 ext. 83184

2. Enrolment

To enrol you should have passed all level 1 and attempted all level 2 courses.

ECNG 3020 runs from September to April of each academic year. Where a student has been asked to withdraw or takes leave of absence in semester 2, he or she shall be:

1. de-registered from ECNG 3020;
2. required to register for the course in Semester 1 of the next academic year for which he or she is eligible to register; and
3. required to take-up a new project.

3. Project Categories

Projects are grouped into four broad categories (see Table 1). The category determines how the project will be evaluated. You must understand your project category before you begin, as the type determines your deliverables.

Table 1: ECNG 3020 Project Categories

Type	Category	Description
I	Research	This project type requires theoretical analysis. It involves extensive scholarly research and synthesis on an electrical engineering or software engineering topic toward stated ends. The type 1 project can take the form of a state-of-the-art paper; a white paper; or meta-analysis.
II	System Development and Design	Type II projects involve system design and implementation, mainly requiring knowledge and skills obtained in the programme. The student must implement a prototype or simulation. The design and implementation processes for a Type II project must be planned, implemented, and documented using standard engineering tools and practices. Design choices and testing procedures must be justified by the literature. The project will be judged by functional requirements that are met and by evidence of appropriate engineering practices.
III	Analytical Study and Investigation	Type III projects entail extensive research of existing or newly developed electrical engineering systems and practices, leading to conclusions on various project aspects such as validity, scope, and proposals for improvement. The evaluation of the system or practice must use a relevant standard or standards. The standard/s must be selected based on stated criteria. All conclusions must be statistically validated and theoretically rigorous. In some cases, there may be use of a pre-existing prototype, simulation, dataset, survey, program, or other statistical/analytical engineering tools to provide evidence. If so, the student must explain limitations of the tool and any mathematical analyses in the context of the conclusions drawn.
IV	Investigation with System Development and/or Design	Type IV projects require more background research than Type II projects, typically drawing on content outside of the curriculum. Students must deliver a working prototype or simulation matching the project objectives. Students will be judged on their requirements identification processes which must be planned, implemented, and documented using standard engineering tools and practices; the functional requirements that are met; and their analysis of the system's performance in stated circumstances.

4. Achieving Success

The ECNG 3020 project is not your supervisor's. You are to take complete ownership of your project. This necessitates a considerable shift in attitude, as the project demands that beyond the exercise of knowledge and skill you must be self-regulating in your time management and self-directed in your work. You are required to:

- maintain a logbook. You should record your work in a logbook, whether electronic or physical (refer to Appendix I). It is your duty to get your logbook signed at the end of each meeting. An unsigned logbook signifies that you have not met your supervisor. The logbook is to be brought to both the progress and final presentations.

- consult with your supervisor regularly. You are to consult your supervisor at least once every week. Set up a mutually agreed upon schedule with your supervisor. If you are unable to have scheduled meetings with your supervisor, please report this immediately to the Coordinator, copying the Head of Department. Frequent consultation is common in industry and is useful for detecting problems before they have an irreversible, deleterious impact. Infrequent consultation has been the most common cause of failure in the ECNG 3020 project. Prepare notes in advance of your meetings. Notes on your progress and difficulties help your meetings to be productive.

- order project materials and components early. If your project requires materials or components that must be ordered, place your order early. It is normal for an order to take two or more months for delivery. See Section 12.4.

The advice provided here is informed by problems students have encountered in the past. We trust that by sharing these, you can avoid these pitfalls.

- Your project should be fun! You must 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. This includes both human (your time and required effort) and material resources (computing resources; 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 can direct the paths that you can take. Keep detailed notes of your reading, including bibliographic details, for easy reference.

- Students who did unsatisfactorily typically deferred the bulk of their work till the second semester. This approach is characteristic of poor project management and is ill-advised. Work steadily throughout the year. Your efforts should be guided by project management tools, such as Gantt Charts, Software/Systems Requirement Documents, Bills of Materials. These are living documents to be reviewed and revised throughout the project.

- Your job will be made easier if the project is decomposed into significant tasks or milestones. Have your supervisor verify these milestones as they are achieved. With this approach, you will have some definite results if you are unfortunate enough to run out of time to complete your project.

5. Academic Honesty

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 (see Appendix II). You must:

- Provide both in-text and bibliographic citation in accordance with the author- date system of the Chicago Manual of Style 17th Edition or later. Failure to do so will be taken as an attempt to plagiarise. Plagiarism is a grave offence and shall be penalised according to the University's regulations.

- Present authentic data. Manipulation of results is regarded as a serious offence, whether it involves falsifying results or distorting them to fit expectations. Data manipulation shall be penalised according to the University's regulations.

- Declare use of generative AI, following the instructions provided in the ECNG 3020 Writing Manual. You are also to capture this in detail in your logbook (refer to Appendix I). Your use generative AI is to be determined by your project supervisor in conjunction with your second examiner. These examiners have the final determination on the tasks for which generative AI use is permissible. Where you have used generative AI without this permission, you will not be rewarded for that work and charges of academic cheating can be laid against you.

6. Ethics Review

All projects involving human and or animal subjects, including inter alia, hardware or software interfaces or interaction with subjects, as well as collection of any personal data (e.g. for requirements specification, system design, or to support system testing) must be submitted for review by the Campus Research Ethics Committee. The same applies to any project work that poses a danger to you, such as, but not limited to, those that involve high voltage, current or radiation sources, or field work in locations with elevated safety requirements. Your project supervisor must apply for the review. For more information on the application process see: https://sta.uwi.edu/research/sites/default/files/research/documents/UWI-Policy-Research-Ethics.pdf.

7. Project Outcomes

7.1. Goals

ECNG 3020 requires you to:
- formulate requirement specifications to solve a stated electrical and or computer engineering problem;
- analyse and select a method or methods to solve the problem;
- devise and implement a solution to the stated problem;
- evaluate and or validate the methodology and solution;

- communicate effectively the problem, methodology and results; and
- apply planning and project management tools to carry out the project.

7.2. Learning Outcomes

To successfully complete ECNG 3020 you need to:

- apply mathematical, scientific, and engineering principles and techniques to describe the characteristics and behaviour of electrical and or computer systems

- analyse the functional and performance characteristics of electrical and or computer engineering systems, sub-systems, and relevant processes

- identify and formally define electrical and computer engineering problems

- develop requirements specifications for electrical and computer engineering solutions

- select appropriate techniques and tools to realize engineering designs

- apply standard analytical tools in the implementation of engineering solutions.

- design engineering solutions to meet functional and performance specifications.

- use technical information, crediting the origins of ideas and other intellectual property.

- demonstrate an understanding of professional and ethical responsibility in the work environment.

- use appropriate project management tools to achieve engineering objectives.

- communicate effectively, conveying technical material through a variety of media, such as written products, graphics, and oral presentations.

8. Project Selection

There are three ways to secure a project:
- Propose a project:
    1. Use the Special Project Portal (see Section 12.1) to submit your proposal. Include as many details as you can.
    2. Inform the Coordinator, via email, that you have posted a proposal.
    3. After you have posted your proposal, seek out a supervisor. Your supervisor will refine your proposal and post to the Portal for approval.
    4. Update the Coordinator that it has been sent for approval.
    5. Once your project has been approved, it will be assigned to you.

The process is somewhat dynamic, so stay in touch with the Coordinator who will guide you through the process.

- <u>Have a project assigned to you</u>: Staff will post projects on the Special Project Portal. Once you have decided on your preferred projects, consult respective supervisors to find out more. Projects will be assigned solely at the discretion of supervisors. Supervisors will assign the project using the Special Project Portal.

- <u>Place a bid</u>: Students can bid for projects, from the list of unassigned proposals. You can bid on a maximum of four (4) projects, using the bidding tool in the Portal. The bidding process is competitive. Projects are awarded at discretion of the supervisor of the project and is based on your preparedness to undertake the project.

The Head of Department or his/her nominee is the final adjudicator in the assignment of projects.

9. Assessment

A panel of three examiners shall evaluate your project. The Project Supervisor shall automatically be appointed as the First Examiner. The Second Examiner and Moderator shall be appointed by the ECNG 3020 Coordinator or nominee. The evaluation of ECNG 3020 is normally based on four student submissions:

1. Progress report and oral presentation;
2. Final written report;
3. Project demonstration (mandatory for Category II and IV projects); and
4. Final oral presentation.

Your examination panel reserves the right to request additional artefacts or submissions beyond those listed above. For example, if your online demonstration was not clear, the panel may ask for an in-person demonstration. You are not to view this as burdensome but rather as an additional opportunity to showcase your work.

9.1. 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.

A written report, no more than 10 pages long, must be submitted via myelearning. This must include:

1. the project title, project category and objectives;
2. the background, describing the significance of the problem, and a well-defined scope;
3. a detailed method of how the problem is being addressed, taking account of solutions by others;
4. preliminary results;
5. plans for the completion of the solution;
6. details of problems encountered; and

7. a Gantt chart or another suitable planning tool which describes the sequence of the solution procedures and accounts for your progress—what has been achieved and what remains to be achieved.

Your oral presentation, typically one week after report submission, is (20) minutes in duration. You will present in the first ten (10) minutes. In the remaining ten (10) minutes, examiners may pose questions. Examiners will provide formative feedback.

9.2. Final Written Report

Guidelines on the writing of the final report are provided in the ECNG 3020 Writing Manual. Details about submission arrangements will be communicated to you in Semester II.

9.2.1. Late Submission Policy

Reports will be accepted with penalty after the deadline up to the close of business at 4.30pm, on the report submission day. Such submissions will be deemed late. The report component, which is one of the six assessed performance categories, shall be awarded zero.

Reports shall not be accepted after the close of business. Such cases shall be treated as non-submissions, earning zero for the entire course. If there were unavoidable circumstances that prevented you from meeting this deadline, write immediately to the Head of Department, providing evidence. The final decision on whether to accept your work for examination lies with the Head of Department.

9.2.2. Electronic Upload of Final Report

You are to upload your report to myelearning:

- Ensure that the file is 40MB or less.

- Use any of the following file types: doc; docx; pdf; zip.

- Use this format for naming your files: ID_3020 Final Report (for example 01200135_3020 Final Report)

Your 3020 report is subject to examination by an electronic plagiarism checker. You must sign a declaration of academic honesty. Reports without signed forms shall not be accepted. Changes or addenda are not allowed after the deadline.

The following will be regarded as attempts to subvert The Department's plagiarism checks and shall be reported to the Head of Department for appropriate action, which may include at minimum, the award of zero for the entire course:

- using images of text where actual text is expected;

- uploading files with content different from your report;

- incorrect naming of files; and or

- using unapproved file types.

If you experience difficulty in uploading your report, contact the Course Coordinator via email – Crista.Mohammed@sta.uwi.edu .

9.3. Demonstration

Demonstrations are mandatory for categories 2 and 4 projects. Other project types may be demonstrated, but this is subject to your supervisor's instructions. Demonstrations are 15 minutes in duration and precede the oral presentation.

9.4. Final Oral Presentation

You are required to present a dissertation of your project. You have 15 minutes to present. This is followed by a question-and-answer segment.

10. Grading

The project is evaluated across six performance categories: Conduct; Understanding and Comprehension; Approach and Methodology; Results; Report; and Oral presentation. Each of these is assessed using one of eight letter grades from Perfect (A++) to Fail (F). From this ranking, final marks are calculated using weights determined by the project category. See Appendix III.

In keeping the UWI's Assessment Regulations, The Department permits re-marks of ECNG 3020 (see Appendix IV).

11. ECNG 3020 Schedule

Table 2 provides the course schedule.

Table 2: 3020 Schedule

Deadline Project Selection	Friday 13 September 2024
Deadline for Progress Report Submission	**2pm**, Friday 10 January 2025
Progress Report and Oral Presentation	Wednesday 15 – Friday 17 January 2025
Final Written Report	**2pm**, Tuesday 01 April 2025
Demonstrations and Oral Presentations	Monday 07 April– Wednesday 09 April 2025

12.   Resources

12.1.   Special Project Portal
The ECNG 3020 Special Project Portal is a dedicated course-management tool. It provides:
- the course manuals and project lists;
- a project proposal facility, which you can use to propose your own project;
- project bidding forms. If you choose to bid for a project, you must use this form;
- various editable course templates, such as the report cover; and
- progress presentation and final presentation schedules.

To receive an account on the Portal, you must first be registered on Banner for ECNG 3020. You can request an account by emailing Crista.Mohammed@sta.uwi.edu . Please provide your:
- first and surname ONLY, as they appear on your UWI Student Identification Card
- UWI Student Number
- local telephone contact (to be used in cases of emergency)
- UWI and personal email addresses (these are used to communicate with you regularly).

When you log into the ECNG 3020 Portal, you agree to the terms and conditions of using The UWI's ICT resources (see [http://sta.uwi.edu/resources/policies/Acceptable_Use_Policy.pdf)](http://sta.uwi.edu/resources/policies/Acceptable_Use_Policy.pdf) .

12.2.   Laboratory Provisions
The Department has reserved laboratory space exclusively for ECNG 3020 project work. The ECNG 3020 laboratory has workstations with the types of equipment usually required by most hardware projects. You can book a workstation in other laboratories as well. Consult with the Chief Technician for bookings. If you do not make adequate use of your assigned space, The Department will reassign that space. You will be notified about the reassignment.

If the project is to be conducted outside of The Department, suitable arrangements must be made. These arrangements are to be communicated to your supervisor and recorded in your logbook.

12.3.   ECNG 3020 Seminars
There are seminars as part of the support provided to you. ALL students are expected to attend (see Tables 3 and 4).

Table 3: ECNG 3020 Semester I Seminar Schedule

Semester I		
Date and Time	**Topic**	**Venue**
Thursday 29, August 2024 **10.00 am – 12.00 noon**	Course Orientation	https://sta-uwi-edu.zoom.us/j/98951729474?pwd=Xv12aZ92yzU5vC7vrJrdgGcOkHJg4Y.1
Thursday 19, September 2024 **1.00 – 2.00 pm**	Generative AI: Responsible Use	Online (link will be sent ahead of seminar)
Not applicable	Time Management	resources posted to myelearning
Not applicable	Project Planning Tools	resources posted to myelearning
Friday 27, September 2024 **2.00 – 3.00 pm**	Accessing Scholarly Resources	Online (link will be sent ahead of seminar)
Not applicable	Using the Chicago Manual of Style	resources posted to myelearning
Not applicable	The Literature Review	resources posted to myelearning
Not applicable	Presenting the Progress Report	resources posted to myelearning

Table 4: ECNG 3020 Semester II Seminar Schedule

Semester II		
Date and Time	**Topic**	**Venue**
Not applicable	Writing the Final Report	resources posted to myelearning
Not applicable	Presenting your Project	resources posted to myelearning

12.4. Components and Software

Components and software will ONLY be purchased in exceptional cases. ALL the following conditions must be met if the Head of Department is to approve purchases:

- The Departments' Stores does not have the component/software licence.

- There is no viable substitute for the component/software, readily available to The Department.

- The project requirements logistically prevent you from creating the software solution /assembling the component that is needed.

For microprocessor-based solutions, The Department recommends the PIC family of microprocessors, which is best suited to small-scale complexity circuits. For more complex projects which require devices such as a DSP, an embedded development board, or a more powerful

microprocessor, you must include a platform choice justification with your purchase request. This is to be approved by your supervisor and one other examiner.

For low-level logic designs, The Department recommends the use of programmable logic devices (PLDs), such as the Cool Runner II CPLD Starter Board, with which most students are familiar. However, if the design requires additional features or a more sophisticated FPGA, you must include a preliminary design justification (gate count) with your purchase request. This is to be approved by your supervisor and at least one other examiner.

For in-house PCB fabrication, designs should be restricted to:
- single-sided designs with primarily through-hole parts (double-sided can be fabricated, but the drill holes cannot be plated with copper)
- a maximum PCB size of 150mm x 110mm
- a track width (including drill hole annular rings) and track spacing greater than 15 mil (N.B. 15 mil == 0.38mm)
- hole sizes measuring 25 mil (small leads), 35 mil (standard) and 45 mil (high wattage parts)
- a maximum clocking frequency of 10 MHz

More sophisticated designs (larger area, higher frequency, other drill hole sizes, thinner tracks, use of surface mount parts which necessitate solder masking, and/or the use of multiple layers) must be ordered. A SysRS-type justification (specifying board area, track resolution, use of surface mount parts, and number of layers) should be included with your purchase order. This is to be approved by your supervisor and one other examiner.

For extensive software development/use, you are to use software tools (development environments, planning tools, compilers, toolboxes, simulation environments) for which The Department has student licences, or that are available for free. Where projects require restricted or limited availability licences you will be required to provide an SRS-type justification which with your purchase order. This is to be approved by your supervisor and one other examiner.

Aim to have in-hand your project components/software licence as soon as possible (see Table 5). In the past, some international orders took very long to arrive. Keep this in mind when scheduling and make contingency plans if your order does not arrive.

Do not assume that resources normally used for teaching and or labs (e.g., PIC microprocessors, programmers, computers) will be made available to you. For resources which are used by many students, it may be necessary to get your own.

The deadline for all orders is the last Friday of the first week of November, in the academic year of your course registration. The total value of orders per student project should not exceed 800.00 TTD.

Table 5: Ordering Processes

Step	Department Order
1.	Review your project requirements with your supervisor
2.	Ascertain that the item/s are NOT available in The Department's Stores
3.	Complete a "Request Form for Credit Card Purchases" (available at the Chief Technician's Office)
4.	Attach any special justifications needed (see 12.4.1 below) to your completed purchase request.
5.	Have your supervisor and another examiner where required (see 12.4.1 below) approve the purchase.
6.	Obtain three quotations from three different suppliers and attach to your purchase request. Quotations should include the cost of the item/s and shipping and handling fees. Quotations are to be addressed to: **The Head of Department** **ATTN: (insert the name of your project supervisor)** **The Department of Electrical and Computer Engineering** **Faculty of Engineering** **The University of the West Indies, St. Augustine.**
7.	Take/email the quotations to the Chief Technician, who will put the order through.
8.	Follow-up with the Chief Technician on the status of your order. **NB: If you encounter undue problems with your order, draw it to the attention of the Coordinator, who will intervene where possible.**

12.5. ICT Use

If your project involves using of the University's ICT resources, please be guided by the UWI's Acceptable Use Policy: http://sta.uwi.edu/resources/policies/Acceptable_Use_Policy.pdf

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

Appendix I – Logbooks

All students must keep a logbook—whether physical or electronic or both. The logbook is testimony of your work. It is your responsibility to keep a careful, complete record of your work and your meetings.

For physical logbooks:
- The logbook must be a bound notebook, typically measuring 8.5" x 11". Binders and clipboards may not be used, as pages can be removed or lost.

- No pages are to be torn out. Draw a single straight line across the page if it contains an error, leaving the contents legible.

- 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.

- You must have the supervisor sign the logbook at face-to-face meetings.

For electronic logbooks:
- Establish with your supervisor the electronic means for sharing and archiving your work. Typically, students use shared folders on a cloud service. The UWI has provided OneDrive. The Department strongly advises that you use this resource.

- Establish naming conventions for your files, for easy tracking of your work. Include in your naming convention document versions—both in the file name and within each file.

- Keep versions of your work. Your designs will change; keep all versions. Do not overwrite any submission. It must be clear, how your work is evolving.

- Take detailed meeting notes per meeting and have your supervisor sign-off on these per meeting. See later in this appendix for a meeting notes template. Meeting notes are to be stored as part of your electronic logbook.

Entries in your logbook, whether electronic or physical, should:
- Be clear to any technical reader, not just you. Before you start working, write a brief statement indicating what you are trying to accomplish. Write a summary describing what went right and what went wrong with the task.

- Include calculations; sketches; lists of things to do; designs; data and results; timelines and schedules; accounts and data.

- Include detailed descriptions of your use of generative AI, if you used such technology. Accounts should include at minimum, the purpose of the use; the prompts that were used; the outputs generated per prompt; analysis of the outputs; and statements of use—whether the output was rejected, used unmodified, or modified.

Template for Meeting Notes

Semester:

Date of Meeting:

Start Time of Meeting:

End Time of Meeting:

Mode: ❏ In-person   ❏Online (e.g., Zoom, Skype)

Name of Student:

Name of Supervisor:

Date Submitted:

Tasks accomplished since last meeting:

Measure of Project Progress based on Project Plan [- this is cumulative]

Item	Brief description of what has been completed so far:	Percentage Complete
Report		
Background/Literature Review		
Methodology		
System Requirements Document		
Design		
System Design Document		
System Test Document		
Implementation		
Testing		

Matters discussed in this meeting (e.g., challenges, obstacles, need for clarification) and recommendations:

Tasks to be accomplished for next meeting:

…………………………………………….   …………………………………………….
 <insert name here>   <insert name here>
 Project Student   Project Supervisor

Appendix II – UWI Regulations on Academic Honesty

Every student submission made to The Department of Electrical and Computer Engineering is subject to examination by an electronic plagiarism checker**.**

Cheating and plagiarism are both forms of academic dishonesty. Refer to following excerpts taken from the Undergraduate Regulations & Syllabuses 2022–2023, The Faculty of Engineering:

5.2 GUIDELINES FOR STAFF AND STUDENTS ON PLAGIARISM

Plagiarism is frowned upon in the University and as such penalties will be applied to any person found guilty of plagiarism. The following is an extract from The University of the West Indies Policy on Graduate Student Plagiarism approved by the Board for Graduate Studies and Research at its meeting in October 2010:

DEFINITION OF PLAGIARISM:
> *Plagiarism is defined as the unacknowledged use of the words, ideas or creations of another. The principal categories of unacknowledged use are unacknowledged quotation, which is failure to credit quotations of another person's spoken or written words; and unattributed borrowing, which is failure to credit another person's ideas, opinions, theories, graphs or diagrams. Unattributed borrowing also includes the failure to credit another person's work when paraphrasing from that work. Cosmetic paraphrasing is also plagiarism. This occurs when, even with acknowledgment, the words are so close to the original that what is deemed to have been paraphrased is, in fact a modified quote, but is not presented as such. A more technical form of plagiarism is wrongly attributed borrowing, where one does not acknowledge the work from which one obtained an idea, but quotes, instead, the original source without having read it. This may well convey a broader research effort than that actually expended and may perpetuate misinterpretation.*

It is now a requirement for all students to pass their written assignments, be it coursework, theses, research papers, project reports, through plagiarism detection software. In the case of theses, research papers and project reports, SUPERVISORS ARE REQUIRED TO SIT WITH THEIR STUDENTS AND RUN THE THESIS, RESEARCH PAPER OR PROJECT REPORT THROUGH TURNITIN in order to provide guidance on any revisions that may be required as a result of this process. SUPERVISORS MUST THEN SIGN THE RELEVANT FORMS indicating that the student has indeed run their work through a plagiarism detection software.

Post Graduate Students submitting theses, research papers or project reports for examination **must submit an electronic copy of the Turnitin report to the Office of Graduate Studies and Research**. The similarity index in the Turnitin report should **NOT BE HIGHER THAN 9%. Please note that if it exceeds 9% the thesis, project report or research paper will not be accepted for examination by the Office of Graduate Studies and Research**.

The University has created an account to allow you to check your papers for plagiarism.

Here are some instructions for **creating a new student account**:
  (1)   Please visit Turnitin's website at www.turnitin.com then click on create account.
  (2)   Under **New Students Start Here** click on Create a User Profile
  (3)   Below **Have you Ever Used Turnitin**? Scroll down until you see **Create A New Account** click on Student (Please note the credentials will not work in any other instance).
  (4)   Under **Create A New Student Account**, please insert the credentials (i.e. Class ID and enrolment password), complete the rest of the form and follow the instructions.

In order to obtain the credentials necessary to create your new student account please visit the Office of Graduate Studies and Research to pick up your UWI Grip Card.

USEFUL TURNITIN LINKS
Getting Started: http://www.turnitin.com/en_us/training/getting-started
For further assistance with Turnitin please visit www.turnitin.com/help and submit an e-mail.

5.3 UNIVERSITY REGULATIONS ON PLAGIARISM

Application of these Regulations
1   These Regulations apply to the presentation of work by a student for evaluation, whether or not for credit, but do not apply to invigilated written examinations.

Definition of plagiarism
2   In these Regulations, "plagiarism" means the unacknowledged and unjustified use of the words, ideas or creations of another, including unjustified unacknowledged quotation and unjustified unattributed borrowing;

"Level 1 plagiarism" means plagiarism which does not meet the definition of Level 2 plagiarism;

"Level 2 plagiarism" means plagiarism undertaken with the intention of passing off as original work by the plagiariser work done by another person or persons.

3   What may otherwise meet the definition of plagiarism may be justified for the purposes of Regulation 2 where the particular unacknowledged use of the words, ideas and creations of another is by the standards of the relevant academic discipline a function of part or all of the object of the work for evaluation whether or not for credit, for example:
   a.   The unacknowledged use is required for conformity with presentation standards;
   b.   The task set or undertaken is one of translation of the work of another into a different language or format;
   c.   The task set or undertaken requires producing a result by teamwork for joint credit regardless of the level of individual contribution;
   d.   The task set or undertaken requires extensive adaptation of models within a time period of such brevity as to exclude extensive attribution;
   e.   The task set or undertaken requires the use of an artificial language, such as is the case with computer programming, where the use of unoriginal verbal formulae is essential.

4   It is not a justification under Regulations 2 and 3 for the unacknowledged use of the words, ideas and creations of another that the user enjoys the right of use of those words, ideas and creations as a matter of intellectual property.

Other definitions
5   In these Regulations,
"Chairman" means the Chairman of the relevant Campus Committee on Examinations;
"Examination Regulations" means the Examination and other forms of Assessment Regulations for First   Degrees Associate Degrees Diplomas and Certificates of the University;
"set of facts" means a fact or combination of facts.

Evidence of plagiarism
6   In order to constitute evidence of plagiarism under these Regulations, there shall be identified as a minimum the passage or passages in the student's work which are considered to have been plagiarised and the passage or passages from which the passages in the student's work are considered to have been taken.

Student Statement on Plagiarism
7   When a student submits for examination work under Regulation 1, the student shall sign a statement, in such form as the Campus Registrar may prescribe, that as far as possible the work submitted is free of plagiarism including unattributed quotation or paraphrase of the work of another except where justified under Regulation 3.

8   Quotation or paraphrase is attributed for the purpose of Regulation 7 if the writer has indicated using conventions appropriate to the discipline that the work is not the writer's own.

9   The University is not prohibited from proceeding with a charge of plagiarism where there is no statement as prescribed under Regulation 7.

Electronic vetting for plagiarism
10   The results of any electronic vetting although capable, where the requirements of Regulation 7 are satisfied, of constituting evidence under these Regulations, are not thereby conclusive of any question as to whether or not plagiarism exists.

Level 1 plagiarism

11   In work submitted for examination where the Examiner is satisfied that Level 1 plagiarism has been committed, he/she shall penalise the student by reducing the mark which would have otherwise been awarded taking into account any relevant Faculty regulations.

Level 2 plagiarism

12   Where an examiner has evidence of Level 2 plagiarism in the material being examined, that examiner shall report it to the Head of Department or the Dean and may at any time provide the Registrar with a copy of that report. In cases where the examiner and the Dean are one and the same, the report shall be referred to the Head of the Department and also to the Campus Registrar.

13   Where any other person who in the course of duty sees material being examined which he or she believes is evidence of Level 2 plagiarism that other person may report it to the Head of Department or the Dean and may at any time report it to the Campus Registrar who shall take such action as may be appropriate.

14   Where a Dean or Head of Department receives a report either under Regulation 12 or 13, the Dean or Head of Department, as the case may be, shall
    a.   where in concurrence with the report's identification of evidence of Level 2 plagiarism, report the matter to the Campus Registrar; or
    b.   where not concurring in the identification of evidence of plagiarism, reply to the examiner declining to proceed further on the report; or
    c.   where concluding that there is evidence of Level 1 plagiarism, reply to the examiner indicating that conclusion and the Examiner shall proceed as under Regulation 11.

15   Where a report is made to the Campus Registrar under Regulation 14a or 16, the Campus Registrar shall lay a charge and refer the matter to the Campus Committee on Examinations.

16   Where the Campus Registrar receives a report alleging Level 2 plagiarism from the Examiner or any other person except the Dean or Head of Department, the Campus Registrar shall refer the matter to a senior academic to determine whether there is sufficient evidence to ground a charge of plagiarism and where such evidence is found, the Campus Registrar shall proceed as under Regulation 15.

17   Where the matter has been referred to the Campus Committee on Examinations pursuant to Regulation 15, the proceedings under these Regulations prevail, over any other disciplinary proceedings within the University initiated against the student based on the same facts and, without prejudice to Regulation 21, any other such disciplinary proceedings shall be stayed, subject to being reopened.

18   If the Campus Committee on Examinations is satisfied, after holding a hearing, that the student has committed Level 2 plagiarism, it shall in making a determination on the severity of the penalty take into consideration:
    a.   the circumstances of the particular case;
    b.   the seniority of the student; and
    c.   whether this is the first or a repeated incidence of Level 2 plagiarism.

19   Where the Campus Committee is of the view that the appropriate penalty for an offence of Level 2 plagiarism is for the student to be:
    1.   awarded a fail mark;
    2.   excluded from some or all further examinations of the University for such period as it may determine;
    3.   be dismissed from the University,
    it shall make such recommendation to the Academic Board.

Clearance on a charge of Level 2 plagiarism

20   A determination of the Campus Committee on Examinations that Level 2 plagiarism has not been found will be reported to the Campus Registrar who shall refer it to the Examiner and notify the student. Where the Committee has not identified Level 2 but has identified Level 1, it shall be reported to the Campus Registrar who shall refer it to the examiner.

Level 2 plagiarism: Appeal to the Senate

21   A student may appeal to the Senate from any decision against him or her on a charge of plagiarism made by Academic Board.

Delegation by Dean or Head of Department

22   The Dean or Head of Department, as the case may be, may generally or in a particular instance delegate that officer's functions under these Regulations.

Conflict of interest disqualification

23   Any person who has at any time been an examiner of work or been involved in procedures for laying charges in relation to which an issue of plagiarism is being considered under these Regulations shall withdraw from performing any functions under these Regulations other than those of supervisor and examiner.

Appendix III - ECNG 3020 Project Grading Scheme

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

1. Projects are divided into four types, each with different weightings per assessment area (see Table 6). 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 strong emphasis on the comprehension of background theory and the approach taken to reach stated conclusions. The distribution of marks all sum to 100.

2. The grade assignments are fairly evenly spaced as shown in marking rubric (Table 7). 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 7.

4. 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 informed by candidate responses.

Table 6: Project Category Weightings

	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: ECNG 3020 Marking Rubric

Academic Year: **Student ID:**

Student: **First Examiner:**

Project Title:

Performance levels	Exceptional A+ = 1.0	Excellent A = 0.85	Very Good B+ =0.75	Good B = 0.65	Satisfactory C = 0.55	Unsatisfactory D+=0.45	Poor D = 0..2	No Effort F = 0
Conduct: – *Attendance* – *Preparedness* – *Management of resources* – *Taking initiative* – *Motivation*	*All of the following:* – *Regular and punctual at meetings* – *Prepared at meetings* – *Managed time and resources* – *Self-directed and motivated*	*All of the following, with very few exceptions:* – *Regular and punctual at meetings* – *Prepared at meetings.* – *Managed time and resources* – *Self-directed and motivated*	*All of the following, with occasional exceptions:* – *Regular and punctual at meetings* – *Prepared at meetings.* – *Managed time and resources* – *Self-directed and motivated*	*All, except one:* – *Regular and punctual at meetings* – *Prepared at meetings.* – *Managed time and resources* – *Self-directed and motivated*	*Clear attempt to:* – *Be regular and punctual at meetings* – *Be prepared at meetings.* – *Manage time and resources* – *Be self-directed and motivated*	*Any one of the following:* – *Irregular at and late to meetings* – *Generally unprepared at meetings* – *Weak time and resource management* – *Needed motivating*	*Any two of the following:* – *Irregular at and late to meetings* – *Generally unprepared at meetings* – *Little effort to manage time and resources* – *Needed motivating*	*Any one of the following:* – *Did not attend meetings* – *No attempt to manage time and resources* – *Unmotivated*
Understanding: – *Knowledge of background theory*	*Understanding of theory, its applications and limitations, beyond that required to execute project*	*Understanding of theory, its applications and limitations, as related to all objectives*	*Understanding of theory, its applications and limitations as related to core objectives*	*Understanding of theory for core objectives with minor deficiencies*	*Understanding of theory , sufficient to achieve core objectives*	*Insufficient understanding of background theory leading to an inability to achieve core objectives*	*Weak understanding of background theory, its applications and limitations*	*No understanding of background theory, its applications and limitations*
Methodology: – *Selection of methods and tools* – *Use of methods and tools*	– *Meticulous justification of methods and approaches* – *Sophisticated use of methods and tools*	– *Comprehensive justification, with a minor omission, of methods and approaches* – *Advanced use of methods and tools*	– *Comprehensive justification, with minor omissions, of methods and approaches* – *Sound use of methods and tools*	– *Comprehensive justification, with a significant omission, of methods and approaches* – *Appropriate use of methods and tools*	– *Adequate justification of methods and approaches* – *Appropriate use of methods and tools*	*Either of the following:* – *Inadequate justification of methods and approaches* – *Inappropriate use of methods and tools*	*Both of the following:* – *Inadequate justification of methods and approaches* – *Inappropriate use of methods and tools*	*Either of the following:* – *No justification of methods and approaches* – *No identified methods and tools*
Results – *Account for objectives* – *Trustworthiness of results* – *Support of conclusions*	*All of the following:* – *Exceeds anticipated objectives* – *Extensive verification of results* – *Strong support of conclusions*	*All of the following:* – *Supplies all objectives* – *Sound verification of results* – *Well-supported conclusions*	*All of the following:* – *Supplies all objectives* – *Results are verified, with minor exceptions* – *Conclusions are supported*	*All the of following:* – *Supplies only core objectives* – *Main results are verified* – *Some support of main conclusions*	*All the of following:* – *Supplies core objectives, save one* – *Some verification of main results* – *Some support of main conclusions*	*Any one of the following:* – *Does not supply two or more core objectives* – *Inadequate verification of results* – *Inadequate support of main conclusions*	*Any two of the following:* – *Does not supply two or more core objectives* – *Inadequate verification of results* – *Inadequate support of main conclusions*	*Any one of the following:* – *Does not supply any core objective* – *No verification of results* – *No support of main conclusions*
Report – *Grammar* – *Clarity and concision* – *Adherence to conventions* – *Organisation (content sequence; typography)*	*Command of engineering discourse that is:* – *Free from grammatical error* – *Clear and concise* – *Appropriate style and obeys writing conventions* – *Well-organised*	*All of the following:* – *Free from grammatical error* – *Clear and concise* – *Obeys writing conventions* – *Well-organised*	*All of the following, with minor exceptions:* – *Free from grammatical error* – *Clear and concise* – *Obeys writing conventions* – *Organised*	*Generally:* – *Free from grammatical error* – *Clear and concise* – *Obeys writing conventions* – *Organised*	*With several exceptions:* – *Free from grammatical error* – *Obeys to writing conventions* – *Organised*	*Any of the following:* – *Intrusive grammar errors* – *Disobeys writing conventions* – *Weakly organised*	*Two or more of the following:* – *Intrusive grammar errors* – *Disobeys writing conventions* – *Weakly organised*	*All of the following:* – *Intrusive grammar errors* – *Disobeys writing conventions* – *Weakly organised*
Presentation – *Content*	*All of the following:* – *Salient content*	*All of the following:* – *Salient content*	*All of the following:* – *Relevant content*	*All, with minor exceptions:* – *Relevant content*	*All, with some exceptions:*	*One of the following:* – *Irrelevant content*	*Two or more of the following:*	*All of the following:* – *Irrelevant content*

− *Data representation* − *Delivery*	− *Accurate and appropriate data representation* − *Compelling, confident delivery*	− *Accurate data representation* − *Effective delivery*	− *Accurate data representation* − *Effective delivery*	− *Organised content* − *Accurate data representation* − *Fair delivery*	− *Relevant content* − *Accurate data representation* − *Fair delivery*	− *Inaccurate data representation* − *Weak delivery*	− *Irrelevant content* − *Inaccurate data representation* − *Weak delivery*	− *Inaccurate data representation* − *Weak delivery*

Grade Calculation

The final grade is determined as follows:

1. Select the project category
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

Department of Electrical and Computer Engineering
ECNG 3020 Special Project: Final Mark Sheet

Academic Year: 2019/2020 — Student ID:807004591 — Project Type: I

Student: Jeremy Smith

Moderator: Dr Stephen Mohammed

Project Title: Provably Efficient Scheduling Algorithms

Student Evaluation I

Assessment Category	Grade (A++ - F)	Performance Level (1.0 - 0)	Weightings (per assessment category)	Totals
Conduct	A	0.85	10	8.5
Understanding	B+	0.75	30	22.5
Methodology	A	0.85	20	17
Results	B	0.65	15	9.5
Report:	B	0.65	15	9.5
Presentation	C	0.55	10	5.5
			Final Mark	73

Grading Agreement

Comments:			
First Examiner		Third Examiner	
Second Examiner			

Plagiarism Verification

As it relates to the plagiarism:		
I confirm that I have checked the Turnitin plagiarism report for this student's report.	Signature of 1st Examiner:	
Did you find evidence of plagiarism?	☐ Yes ☐ No	If yes, how did you address the matter:

Appendix IV - ECNG 3020 Project Re-mark Policy

In keeping with UWI's Assessment Regulations, The Department permits re-marks of ECNG 3020.

In a re-mark of your project:

- The "conduct" mark earned from the initial evaluation of the project is retained in the re-mark.

- The independent marker will be supplied with the project proposal, so that he or she may determine the extent to which you have met the project objectives.

- The performance categories of "understanding & comprehension"; "approach & methodology"; "report"; and "results" will be evaluated based on the report and the recording of your demonstration and oral presentation

You are encouraged to produce a well-written report that accurately and comprehensively captures your work.

Students who have produced weak reports have little chance of earning a higher grade.