FOREWORD

Welcome back to another academic year. The beginning of a semester is always a time of high activity as both staff and students ensure that everything is on track for achieving their goals. It is also a time for reflection; a time to think about how to build on those strategies that worked in the past as well as an opportunity to evaluate what needs to be changed in order not to repeat disappointing performances.

A major component to success is access to current and relevant information. This student guide seeks to provide this. It outlines:

- How students are expected to conduct themselves,
- How to access the University’s support systems,
- The role and execution of the mentor-protégé system and
- How to access resources needed for academic excellence (such as offsite access to computer software).

Links are provided, where necessary, to more in-depth documentation of the rules, regulations and resources you need to be aware of.

The Department of Mechanical and Manufacturing Engineering is committed to providing an environment which facilitates your success. Please refer to this guide for initial enquiries about any of your concerns. If you still have questions, email either Mechanical.Engineering@sta.uwi.edu or AdminAssistant.MECHENG@sta.uwi.edu for further clarification and we will respond forthwith.

We wish you an enjoyable and productive year.

Jacqueline Bridge, Ph.D.
Head of Department
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Our vision is to be…
“A globally competitive academic engineering department rooted in the Caribbean.”.

Our mission is…
“To provide quality education, advance technology and deliver solutions for regional and global development thereby improving the standard of living”.
1. INTRODUCTION

**Mechanical Engineering** is concerned with the design, manufacture, testing, operation and maintenance of various types of components, machinery, structures and industrial plants as well as the executive management of industries. Mechanical Engineers are employed in a wide range of fields including utilities, processing, robotics/automation, manufacturing, aerospace and automotive.

**Industrial Engineering** is concerned with the identification, analysis and synthesis of the various components (people, machines, materials, management and money) that are necessary for the design, construction and operation of systems and organisations that produce goods and/or services of high quality. Industrial Engineers therefore provide the necessary technological and management inputs for rational and effective decisions, and to control these inputs to ensure objectives are met.

**Biosystems Engineering** (which has replaced Agricultural Engineering) is defined as the application of engineering principles to modern food and fibre production, and to bulk handling, storage and processing systems for biological products. It covers the areas of mechanisation (field, transport and plant), land and water development, infrastructural development, post-harvest technology and food engineering, including food plant machinery.

The Department has several undergraduate and postgraduate programmes. These include:

**BSc programmes in:**
- BSc Mechanical Engineering
- BSc Mechanical Engineering with a Minor in Biosystems
- BSc Industrial Engineering

(See Appendix A for details)

**MSc programmes in:**
- Production Management
- Production Engineering and Management
- Manufacturing Engineering and Management
- Engineering Management
- Engineering Asset Management

MPhil and PhD research programmes are available.

*Please refer to the following link for more information:* [http://sta.uwi.edu/faculty-booklet-archive](http://sta.uwi.edu/faculty-booklet-archive)
2. STUDENT’S RESPONSIBILITIES

It is the responsibility of each student to:

1. **READ THE UNDERGRADUATE STUDENTS’ GUIDE** and **ENGINEERING FACULTY BOOKLET – Undergraduate Regulations & Syllabuses** in addition to other relevant documents (available at the University’s website: [http://sta.uwi.edu/](http://sta.uwi.edu/)) thoroughly. These publications are intended to provide details of University regulations and other useful information for compliance and success at the University.

2. Bring any issues/problems as they arise, to the attention of relevant person – Class Representatives, Mentors, Lecturers, Level Coordinators or the Head of Department.

3. Be aware of and engage the various facilities of the Student Support Services as illustrated in Section 3 (pp 4).

4. Endeavour to attend all classes, tutorials, laboratory sessions and field visits.

5. **READ THE NOTICE BOARDS AND LOG IN TO THE MYELEARNING PORTAL REGULARLY** to access information regarding class and laboratory schedules; in-course examinations; assignment deadlines; examination timetables; consultations with staff and other information, including changes necessary for the proper conduct of the academic programmes.

6. Adhere to appropriate codes of conduct particularly in classrooms and laboratories (a code of conduct is displayed in each lab).

7. Endeavour to be present and on time for all classes, tutorials, laboratories sessions and examinations and submit all assignments by the stipulated deadline.

As the most important stakeholders of the University, students are expected to seek the welfare and advancement of the institution and to protect it from misuse, abuse and all other detrimental activities and influences.
3. ORGANISATIONAL STRUCTURE OF THE DIVISION OF STUDENT SERVICES AND DEVELOPMENT

For more information please visit the following links:

Student Life and Development Department:  
https://sta.uwi.edu/sldd/

Academic Support/Disabilities Liaison Unit (ASDLU):  
https://sta.uwi.edu/sldd/documents/AcademicSupportServicesII.pdf
4. DEPARTMENTAL SUPPORT COMMITTEES & SYSTEMS

Within the Department there are also specific committees and systems to be of benefit to the students. These include:

4.1 Accreditation

All programmes in the Department are accredited by the Institution of Mechanical Engineers (IMechE). Visit www.imeche.org for more information on the IMechE.

Reference: http://www.engc.org.uk/education-skills/course-search/acad/

4.2 Head of Department (HOD)

All students have access to the HOD if they have difficulties in resolving issues within the Department.

4.3 Level Coordinator

Each Level is assigned a Level Coordinator. Level Coordinators are available to provide academic advice on an individual basis. (Please refer to Appendix I for contact information).

4.4 Administrative Support

There are administrative staff assigned to the BSc programmes (Please refer to Appendix I for contact information) who will provide appropriate guidance and support to BSc students as well as coordinate activities between students, lecturers, supervisors and level coordinators.

4.5 Academic Mentor-Protégé System

The Academic Mentor-Protégé System pairs a student (the protégé) with a member of academic staff (mentor) who provides appropriate advice/guidance and assistance on academic and other personal matters where possible. Mechanical/Industrial Engineering Project Supervisors serve as mentors for the students they supervise. (Please refer to Appendix B for listing)

4.6 Orientation

There will be a suite of orientation activities which are designed to assist the student in the transition to University life. It includes several assessment activities and introduction to various aspects of engineering. The agenda for 2019/2020 can be found HERE.
4.7 Help Desk

a. Physical Help Desk

A Physical Help Desk has been created for Levels 1 and 2. The main aim of the Help Desk is to provide academic assistance to students on departmental courses at Level 1 and 2. The desk will be staffed by postgraduate students and students will be informed of the schedule during the 2nd week of the semester. (Please refer to Appendix C for schedule)

b. Virtual Help Desk

The Department has launched a Virtual Help Desk Initiative which took effect from September 2016. The Virtual Help Desk provides a forum for student support with undergraduate Math-based courses. This Virtual Help Desk Initiative aims to provide assistance to students outside of the brick and mortar constraints of the physical campus. Registered students will be sent a link via their UWI-provided email address in order to access the Virtual Help Desk.

4.8 myeLearning

The myeLearning platform is available to all registered students which provides access to:

- Course materials,
- Class announcements and other important information,
- Uploading of assignments,
- Turnitin software,
- Other resources stipulated by individual course lecturers.

4.9 Mechanical Engineering Lab and Systems Lab

- All registered students in the Department have access to computers and software packages located in the Mechanical Engineering Lab and the Systems Lab during the hours of 8:30 a.m. and 4:30 p.m.
- These labs are also used for teaching purposes and are therefore restricted for use during such times (the lab schedule is posted in the lab).
- Two designated computers, equipped with relevant software packages, are available at STARRS for use by Mechanical Engineering students.

Students may access the required software packages for practice or assignment purposes by downloading trial/student licences or purchasing full versions at their own expense, from the developers’ websites. (Please refer to Appendix D for a list of these software packages and download instructions/purchase links)
4.10 Endnote Online Training Videos

There are several online Endnote training videos available via the following link: https://www.youtube.com/user/EndNoteTraining

These are official training videos from Thomson Reuters.

4.11 Turnitin

The University has a strong policy against plagiarism:
https://sta.uwi.edu/resources/documents/Exam_Regulations_Plagiarism.pdf

At the Departmental level, student projects will be processed through Turnitin software and results will be dealt with according to University policy as stipulated on plagiarism.

4.12 Library Services

a. Campus Library

The Campus has a Main Library, the Alma Jordan Library, which not only provides the required teaching books for the various courses in the programmes but also provides reading space, past examination papers, newspapers, databases, journals, e-Journals, as well as West Indiana and other Special Collections of academic materials required by students.

b. Department Library

The Department has a BSc Mechanical/Industrial Engineering Project Library which houses some BSc projects that are made accessible to students by request.

4.13 Student Feedback/Course Evaluation

Student feedback is integral to improving the delivery of the programmes within the Department. In addition to having a voice at the Student-Staff Liaison Committee meetings, each student has the opportunity to provide feedback on the delivery of each course undertaken via a Student Feedback/Course Evaluation Form distributed at the end of each semester. These forms are analysed by the Centre for Excellence in Teaching and Learning (CETL) and results are sent to the HOD and the respective lecturers. Any issues/concerns raised by the students are addressed and measures are taken to resolve these issues.
4.14 **Student – Staff Liaison Committee (SSL)**

The Student – Staff Liaison Committee meets at least once a semester and provides a platform for dialogue on matters/issues of concern toward enhancing the delivery of the programmes within the Department. This committee comprises a group of students (including Student Representatives) and staff (including the HOD and Departmental Level Coordinators). (*Please refer to Appendix H for schedule*)

4.15 **Industry Liaison Committee (ILC)**

The Industry Liaison Committee serves to bridge the gap between the Department and the Industry with the aim of ensuring that our graduates are a credit to the profession and relevant to the society.

4.16 **Engineering Students’ Society (ESS)**

Students in the Department, all belong to the Engineering Students’ Society, which organizes special activities for students and represents their interests in Campus Academic Board, Faculty Boards and other Committees within the Campus and University.

4.17 **Professional Engineering Bodies – Student Chapters**

BSc students are encouraged to join local and international professional engineering bodies as Student Members. These include: The Association of Professional Engineers of Trinidad and Tobago (**APETT**); The American Society of Mechanical Engineers (**ASME**); The Institution of Mechanical Engineers (**IMechE**) and The Society of Manufacturing Engineers (**SME**). The Department currently has two (2) active **Student Chapters** associated with the IMechE and SME. (*Refer to Appendix E for more information*)

4.18 **Departmental Conference and Exhibition**

The Department hosts an annual Conference and Exhibition event which showcases outstanding Mechanical/Industrial Engineering Projects and other major accomplishments and research initiatives of the Department to the public (including industry).

4.19 **Departmental Newsletter**

The Department publishes a Newsletter which is used to disseminate information about the achievements and accomplishments of staff and students as well as news about other significant activities in the Department.
5. REGISTRATION & EXAMINATION GUIDELINES

It is the responsibility of each student seeking to register in the Department of Mechanical and Manufacturing Engineering to ensure that the courses for which he/she is registered, are in accordance with the regulations of the Faculty of Engineering. Where such regulations are not adhered to, the Department will take appropriate action.

In addition, the Department has imposed its own constraints on the registration and examination process. These are listed below along with the more significant Faculty Regulations:

5.1 Orientation and Academic Advising

The Department strongly advises all new students to attend the Orientation Seminar (which takes place before the start of the academic year) while both new and returning students are required to attend the respective Academic Advising sessions (which take place before the start of each semester). The dates of these sessions are posted on the Department’s website and are also circulated via the respective Class Representatives. (Please refer to Appendix F for FAQs and schedules)

5.2 Pre-Requisite Courses

Pre-requisites for a given course must be passed before a student is allowed to enrol for that course. For a list of courses and their associated pre-requisites, please refer to the ENGINEERING FACULTY BOOKLET – Undergraduate Regulations & Syllabuses.

http://sta.uwi.edu/faculty-booklet-archive

5.3 Trailing Courses

Students must register in the first instance, for all courses being carried forward i.e. trailing courses. Students are required to attend Academic Advising and consult the respective Level Coordinators (listed in Appendix G) for details.
5.4 Resit Examinations

There are no Resit Examinations at the undergraduate level in the Faculty of Engineering. A student who fails an examination is required to repeat the module in the following academic year. Courses may be offered during the Summer School period and students who pass these examinations are credited with the marks obtained.

5.5 Students on Grade Boundaries

Examinations at the University of the West Indies are subject to a system of second examination. Thus, scripts of students which fall just short of the passing mark have been scrutinised separately by two examiners.

After this process, there is no further consideration for “grade boundaries”. Students who have not achieved the pass mark in a specific course are deemed to have failed the course and are required to repeat it. However, the University allows students to appeal for review of the examination script with the examiner or re-mark of the examination script by an independent examiner (neither the original first nor second examiner). [As per item 141 of The Examinations Regulations: http://sta.uwi.edu/resources/documents/Exam_and_GPA_regulations.pdf].

5.6 Leave of Absence

In cases where a student needs to leave campus before completing the semester or needs to be away from campus for a period of time, please refer to the following University guidelines: https://sta.uwi.edu/admissions/undergrad/faqs_absence.asp

5.7 Required to Withdraw (RTW) from the programme of study

A student with a GPA of less than 2.00 (for those registered under the SO1 Section) and less than 1.00 (for students registered under the ENC Section) in any given semester, is placed on warning and if his/her GPA does not increase to 2.00 (for SO1 candidates and 1.00 (for ENC candidates) or above in the subsequent semester, the student is automatically required to withdraw from the system for a period of one (1) academic year.
Students who are on “Required to Withdraw” at the end of the first or second semester of any academic year can attend the Summer School, but the results obtained will not affect their status.

It is the responsibility of the student (who is required to withdraw) to re-apply to the Admissions Office, at least three (3) months prior to the time they are supposed to return to the University.

5.8 Grade Point Average

For details of the University’s Grading Scheme and the Department’s Award Classification:

http://sta.uwi.edu/resources/documents/GPAb ooklet.pdf
https://sta.uwi.edu/eng/ugrad/ClassificationofDegree.asp

5.9 Graduation Requirements

The following credit ranges are required for graduation:

(i) Mechanical Engineering - at least 95 credits
    Industrial Engineering - at least 97 credits
    Mechanical with a Minor in Biosystems - at least 96 credits

The requisite number of courses indicated in the schedules for different programmes in the ENGINEERING FACULTY BOOKLET – Undergraduate Regulations & Syllabuses http://sta.uwi.edu/faculty-booklet-archive, must also be passed.

(ii) All the prescribed courses must be passed before graduation. All core/compulsory courses must be completed. Students who have failed an elective course can choose to repeat the failed course or do another elective course instead. Students who, in the first semester, have failed elective courses are encouraged to register for make-up elective courses in the second semester if they have not registered for the maximum number of courses already.
5.10 Level 3 Schedule

The Level 3 schedule of courses for each programme in the Department is specified in the ENGINEERING FACULTY BOOKLET – Undergraduate Regulations & Syllabuses [http://sta.uwi.edu/faculty-booklet-archive](http://sta.uwi.edu/faculty-booklet-archive).

Note that students are allowed course options (electives) at Level 3. Students must attend Academic Advising to ensure that their chosen electives are currently being offered. Note also that students are required to select course options from streams of specialisation for the Mechanical Engineering programme while there are no specialisation streams for the Industrial and Mechanical with a Minor in Biosystems programmes (refer to Appendix E for details). These course options represent what the Department considers to be the minimum requirements for proficiency within the relevant stream for an engineer operating in the regional environment.
6. MENG 3019 / IENG3012
MECHANICAL/INDUSTRIAL ENGINEERING PROJECT

As part of the credit requirements for graduation, each student must complete an individual research, application, or design/design-and-build project in his/her final year. This Mechanical/Industrial Engineering Project carries six (6) credits and is weighted at 20% of the graduate’s final Honours standing. The project is an essential component to the student’s education and training allowing him/her to practically apply and utilise the knowledge and skills developed throughout the programme toward the completion of a specific objective and is designed to bring out the students':

(i) Ability to arrange matters/subjects in proper priority;
(ii) Time management skills;
(iii) Ability to conduct and complete:
   a. Design/fabrication procedures;
   b. Research/analysis procedures;
(iv) Ability to work with technical staff in fabricating prototypes;
(v) Initiative, creativity/imagination and innovativeness;
(vi) Ability to analyse results and properly report the findings (in terms of correct and appropriate language, clarity and presentation) concisely and in a timely manner, both in a written report and orally;
(vii) Ability to identify, analyse and propose solutions to societal needs.

Students who fail the BSc Mechanical/Industrial Engineering Project must undertake a different project in the following academic year and will not be eligible for an Honours degree.

A series of learning outcomes are assessed using a variety of methods as listed:
- Ongoing Log Book
- Preliminary Report and Presentation (Semester 1)
- Final Report and Presentation with Demonstration where appropriate (Semester 2)
- Poster

(Please refer to Appendix H or visit http://sta.uwi.edu/eng/mechanical/student-resources for Presentation dates)
To facilitate students’ workload, a three-hour session has been timetabled for Final Year Project each week. Please note however, that the Final Year Project is mainly self-driven and requires each student to allocate sufficient time and effectively manage that time for the successful completion of his/her project.

As an additional support mechanism, three sessions are scheduled throughout the duration of the year-long project to equip students with requisite skills as follows:

1. Project Management
2. Research Methods
3. Data Analysis and Presentation

The following documents are available to all students registered for the Mechanical/Industrial Engineering Project via myeLearning:

- Guidelines for Preparing and Writing a Final Year Project
- Managing your Final Year Project
- Guidelines for Preparing a Project Log Book