**TUP MISSION**

The Technological University of the Philippines shall [a] provide higher and advanced vocational, technical, industrial, technological, and professional education and training in industries and technology and in practical arts leading to applied research, certificates, diplomas, and degrees. It shall [b] provide progressive leadership in developmental studies in technical, industrial, and technological fields and production using indigenous materials, [c] effect technology transfer in the countryside; and [d] assist in the development of small and medium scale industries in identified growth-centers.

**TUP VISION**

The Technological University of the Philippines shall be the premier state university with recognized excellence in engineering and technology education at par with the leading universities in the ASEAN Region.

**TUP CORE VALUES**

T- transparency and participatory governance

U- unity and cooperation in the pursuit of tup mission, goals and objectives

P- professionalism in the discharge

I- integrity and consistent commitment to maintain the good name of the University

A-accountability for individual and organizational quality performance

N- nationalism through tangible contribution to the rapid economic growth of the country

S- shared responsibility, hard work, and resourcefulness in compliance to the national mandates

**COLLEGE GOALS**

1. To produce high quality engineers equipped with proper values, knowledge and skill relevant to the changing needs and conditions.

2. To provide continuing graduate education to engineers who wish to pursue higher and advanced learning in their field of specialization.

3. To produce valuable research outputs and render quality extension services in the various areas of engineering and engineering education.

**PROGRAM DESCRIPTION**

The Bachelor of Science in Electronics Engineering (BSECE) is an interdisciplinary, industry-oriented, more practical and conceptualized to meet the country’s need for competent electronics engineers in education and industry that integrates available emerging technologies with knowledge of mathematics, natural, social and applied sciences to design and implement new, improved or innovate electronics, computer and communication systems, devices, goods, services and processes. In consonance with the field of the Electronics Engineering Profession stipulated in Section 5, article 1 of the RA 9292 also known as Electronics Engineering Law.

**PROGRAM EDUCATIONAL OBJECTIVES**

# After 3-5 years of graduation, the graduates of the program are expected to:

1. Achieve a high level of technical expertise to succeed in electronics engineering profession
2. Engage in lifelong learning actively such as progressive leadership in applied research, development studies in technical, industrial and engineering fields and production.
3. Engage in electronics engineering professional services to effect technology transfer and assist in the development of small and medium scale industries to contribute to national development

**PROGRAM LEARNING OUTCOMES**

|  |  |
| --- | --- |
| (a) | An ability to apply knowledge of mathematics and science to solve engineering problem |
| (b) | An ability to design and conduct experiments, as well as to analyze and interpret data |
| (c) | An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability, in accordance with standards |
| (d) | An ability to function on multi-disciplinary teams |
| (e) | An ability to identify, formulate, and solve engineering problems |
| (f) | An ability to apply professional and ethical responsibility |
| (g) | An ability to communicate effectively |
| (h) | An ability to identify the impact of engineering solutions in a global, economic, environmental and societal context |
| (i) | An ability to recognize the need for, and an ability to engage in lifelong learning |
| (j) | An ability to apply knowledge of contemporary issues |
| (k) | An ability to use techniques, skills, and modern engineering tools necessary for engineering practice |
| (l) | An ability to apply knowledge of engineering management principles as a member and leader in a team, to manage projects and in multidisciplinary environments |
| (m) | An ability to understand at least one specialized field of Electronics Engineering practice |

**COURSE TITLE/NAME:** Differential Calculus

**COURSE CODE/NUMBER:** MATHENG1-M

**PRE-REQUISITE:** Differential Calculus

**CO-REQUISITE:**  Differential Calculus

**NUMBER UNITS/NO. OF HOURS PER WEEK:** 305

**COURSE DESCRIPTION**:

sad123

**COURSE OBJECTIVES:**

**COURSE LEARNING OUTCOMES**

|  |
| --- |
| *After completing the course, the student must be able to:* |
|
| sad1 |

**LEARNING OUTCOMES MAP**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Course Learning Outcomes | | Program Learning Outcomes | | | | | | | | | | | | | |
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|  | Program Learning Outcomes | Program Educational Objectives | | |
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| Program Educational Objectives | TUP Mission | | | |
|  | a | b | c | d |
| 1. Achieve a high level of technical expertise to succeed in electronics engineering profession |  |  |  |  |
| 2. Engage in lifelong learning actively such as progressive leadership in applied research, development studies in technical, industrial and engineering fields and production. |  |  |  |  |
| 3. Engage in electronics engineering professional services to effect technology transfer and assist in the development of small and medium scale industries to contribute to national development |  |  |  |  |

**COURSE LEARNING OUTCOME DIRECT ASSESSMENT PLAN**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CLO | %CLO | Direct Assessments | | | | | | | |
| PE | Exhibit | ME | Exhibit | FE | Exhibit | CE | Exhibit |
| CLO1 |  |  |  |  |  |  |  |  |  |
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| CLO2 |  |  |  |  |  |  |  |  |
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| CLO3 |  |  |  |  |  |  |  |  |
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Exhibit – exams, projects, presentations, or other assignments.

**COURSE LEARNING PLAN**

| Week | Course Outcomes  (CO) | Course Intended Learning Outcomes  (TOPIC Outcomes) | Topics | Teaching Learning Activities (TLA)\* | Assessment Tasks/Methods\*\* |
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**COURSE REQUIREMENTS/GRADING SYSTEM**

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| **Equivalent Grades** | | | |
| **1.00** | 99-100 | **2.50** | 81-83 |
| **1.25** | 96-98 | **1.75** | 78-80 |
| **1.50** | 93-95 | **3.00** | 75-77 |
| **1.75** | 90-92 | **5.00** | 74 and below |
| **2.00** | 87-89 | **UD** | Unofficially Dropped |
| **2.25** | 84-86 | **OD** | Officially Dropped |

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| Grading System |
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**LEARNING RESOURCES AND SUPPORT STRUCTURE**

**COURSE POLICIES/GUIDELINES**

The following are the general class polices and guidelines in the course:

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| **Homework/Assignments:** | Homework problems are assigned in the schedule. Homework is due to start of class, on the date shown in the schedule. Late homework will not be accepted. Any changes to the schedule will be announced in class.  Problems are to be solved: one per page, front side only, and final answer clearly identified. Disorganized or incomplete work will not be graded, or it may earn reduced grade. You must show all your work, and not just the final answer.  Students should never copy from another source, nor allow their work to be copied. |
| Exams: | Exams dates are to be announced later. Any changes to the schedule will be announced in class. If a student must miss an exam for a good reason (e.g., sickness, family emergency) they must contact the instructor prior to the exam date. There will be no make-up exams, except for documented sickness or family emergencies. |
| Final Answer: | When solving problems, students are encouraged to be neat, well-organized, and logical. The correct final answer is important. The students are encouraged to check their work. |
| Partial Credit & Review of Exams Grades: | If a student believes they deserve more partial credit for an exam problem, they are encouraged to visit the instructor during the office hours and present a case for revising the grade. Students are asked to mark-up their exams using a pen, assuming a pencil was used in the exam. Do not add marks with pencil. Do not erase marks from the exam. Students should clearly show what was correct on the exam and explain the approach taken on the exam to help instructor fairly grade the exam. The instructor must read the work shown on the exam that was performed during the exam time period. It will not help, if the students says, “Now I Know how to solve the problem”. This is not an opportunity to earn extra credit by doing additional work. This is an opportunity to ensure the exam is graded fairly. |
| Class Conduct: | Students are expected to assist in maintaining a classroom environment that is conductive to learning for all students in the class. Please do not come late to class. Please do not leave early. If you must leave early, please inform the instructor before the class starts and sit in the back of the class to minimize the disruption. Please do not use cell phone, messaging, or games in class. If a laptop is open, it needs to be used for this class and never used to check email, play games, or search the internet. |
| Calculators for Exams: | Basic engineering/scientific calculators can be used on exams. Mini-laptop and calculators with communication capabilities; cannot be used on exams. |
| Scholastic Dishonesty: | The university expects each student to maintain a high standard of individual integrity. Scholastic dishonesty is a serious offense that includes, but it is not limited to, cheating on a test, plagiarism, or collusion. |
| Withdrawing from a Course: | Please make yourself aware of dates and policies about withdrawing from a course or withdrawing from the University. If you fall behind, don’t just give-up and quit attending. Contact the College of Engineering Advising Office and explore your options. If you drop a course, double-check to make sure it is done properly. |
| Course Assessment | There will be a course assessment in a form of a survey at the end of the course before the final examination. |

**REFERENCES**

CMO 2 2011 Guidelines for the Formulation of Policies and Standard of Academic Program amendment to CMO 42 2003

CMO 37 2012 Guidelines in the Establishment of an OBE System in HEI Offering Engineering Program

CMO 46 2012 Policy-Standard to Enhance Quality Assurance (QA) in Philippine Higher Education through an OBE and Typology-Based QA

Handbook o Typology OBE and ISA

CHED Administrative Order 1 2014 Revise Guidelines in the Formulation of CHED Policies, Standard and Guidelines (PSGs) of Baccalaureate Level Academic Program

CAO 1 2014 Revised Guideline in the Formulation of CHED Policies Standard and Guidelines (PSGs) of Baccalaureate Level Academic Programs

CMO 04 2020 Guidelines on the Implementation of Flexible Learning

Graduate Attributes and Professional Competencies – International Engineering Alliance

CMO 86 s 2017 PSG on Requirements Common to all BS Engineering Degree and Bachelor of Engineering Technology

CMO PSG – Program Implementation