The Hong Kong University of Science and Technology

UG Course Syllabus Template

Electronic and Information Technology [Spring 2024/25]

ELEC1010

3 credits

Exclusion(s): Any ELEC courses of 2000-level or above

Name: Prof Ross MURCH

Email: eermurch@ust.hk

Office Hours: Mon & Wed 10:30am - 11:30am, Room 2417 (Lift 25/26)

Course Description

This general-education course introduces the basics of electronic and information technology and their applications to daily-life consumer electronics and communication devices. Contents include the representation of signals in the time and frequency domains; digitization of information; coding for data compression and error protection; transmission of signals; cellular mobile phones and wireless communications; and the Internet. It is expected that through studying these technologies and how they address the problems encountered in the information technology area, students will also grasp the skills in solving problems with engineering approach and spirit and appreciate how these technologies impact the society.

Intended Learning Outcomes (ILOs)

By the end of this course, students should be able to:

ILO 1: Recognize the key technological developments of electronic and information technology which have reshaped industries, societies and the world.

ILO 2: Identify the fundamental principles related to electronic and information technology and how the technology changes our life and applies in daily life.

ILO 3: Use MS Excel to solve simple engineering problems.

ILO 4: Acquire engineering knowledge on up-to-date electronic and information technology.

ILO 5: Appreciate and understand the problem solving approach used in engineering discipline, in particular in the electronics and information technology area.

Assessment and Grading

This course will be assessed using criterion-referencing and grades will not be assigned using a curve. Details are provided below.

Assessments:

[List specific assessed tasks, exams, quizzes, their weightage, and due dates; perhaps, add a summary table as below, to precede the details for each assessment.]

Assessment Task	Contribution to Overall Course grade (%)	Due date
Homework	10%	Week 6 to Week 14
Mid-Term	30%	Week 9b
Final examination	50%	Week 14 to Week 16
Class Participation	10%	Week 3 to Week 13

Mapping of Course ILOs to Assessment Tasks

Assessed Task	Mapped ILOs	Explanation
Homework	ILO 2, ILO 3, ILO 5	For students to apply their knowledge of electronic and information technology to solve simple engineering problems (ILO 2, ILO 3, ILO 5)
Mid-Term & Final Examination	ILO 2, ILO 3, ILO 5	For students to apply their knowledge of electronic and information technology to solve simple engineering problems (ILO 2, ILO 3, ILO 5)
Class Participation	ILO 1, ILO 2, ILO 4, ILO 5	To participate in lectures to acquire key concepts (ILO 1, ILO 2, ILO 4, ILO 5). To participate in tutorials to strengthen key concepts through daily examples and worked problems (ILO 1, ILO 2, ILO 4, ILO 5)

Homework Grading Rubrics

Definition of the 5-point Rubric Scale

Level	Definition of the 5-point Rubric Scale
5 Exceptional	Demonstrates exceptional competence by articulating an understanding of subject material or applying a skill effectively and in a novel, creative, deeply analytical manner drawing on robust evidence; provides sophisticated reflection or analysis and applies this analysis to another framework or context.
4 Advanced	Demonstrates advanced competence by articulating an understanding of subject material or applying a skill effectively and providing sophisticated reflection or analysis drawing on robust evidence.
3 Competent	Demonstrates competence by articulating an understanding of subject material or applying a skill accurately or appropriately.
2 Emerging	Demonstrates beginning level competence by articulating an understanding of subject material or skills application somewhat accurately and appropriately.
1 Entering	Does not demonstrate competence; does not articulate an understanding of subject material or application of a skill set.

Final Grade Descriptors:

Grades	Short Description	Elaboration on subject grading description
A	Excellent Performance	Students with excellent performance in the course demonstrate a strong grasp of the lecture & tutorial materials, the key technological developments of electronic and information technology, and the fundamental principles related to electronic and information technology.
B	Good Performance	Students with good performance in the course exhibit a solid understanding of the lecture & tutorial materials, the key technological developments of electronic and information technology, and the fundamental principles related to electronic and information technology.
C	Satisfactory Performance	Students with satisfactory performance demonstrate an adequate understanding of the lecture & tutorial materials, the key technological developments of electronic and information technology, and the fundamental principles related to electronic and information technology.
D	Marginal Pass	Students with marginal pass show limited understanding of the lecture & tutorial materials, the key technological developments of electronic and information technology, and the fundamental principles related to electronic and information technology.
F	Fail	Students who fail the course display a lack of understanding of the lecture & tutorial materials, the key technological developments of electronic and information technology, and the fundamental principles related to electronic and information technology.

Course AI Policy

The use of Generative AI in homework assignments is permitted with proper acknowledgement.

Communication and Feedback

Assessment marks & feedback for individual assessed tasks will be communicated via Canvas within two weeks of submission. Students who have further questions about the feedback including marks should consult the Teaching Associate or PGTAs within one week after the feedback is received.

Resubmission Policy

We will accept resubmission of homework assignments ONLY if they are resubmitted through Canvas BEFORE the announced due date. **We will NOT ACCEPT late submissions**.

Required Texts and Materials

No textbook. Lecture notes and Tutorial notes will be provided.

Academic Integrity

Students are expected to adhere to the university's academic integrity policy. Students are expected to uphold HKUST's Academic Honor Code and to maintain the highest standards of academic integrity. The University has zero tolerance of academic misconduct. Please refer to Academic Integrity | HKUST – Academic Registry for the University's definition of plagiarism and ways to avoid cheating and plagiarism.