**Undergraduate Program** **Subject Outline**

**Faculty of Engineering and Information Sciences**

**<http://my.uowdubai.ac.ae>**

## Subject Name: Engineering and Design Management 2

|  |  |  |  |
| --- | --- | --- | --- |
| Course code: | ECTE250 | Section: | Dubai |
| Credit Points: | 6 | Year | 2025 |
| Session | Winter 2025, Spring 2025 | Duration: | 11 weeks (Winter 2025)  11 weeks (Spring 2025) |
| Pre-requisite(s) | ENGG100 or CSCI191 | Co-requisite(s) | ECTE233 and ECTE202 |
| Mode of Delivery: | Face-to-face |
| Project Management Exam Passing Requirement: | 40% |

## Lecture Information

|  |  |
| --- | --- |
| **Day:** | Monday (Winter 2025) \* |
| **Time:** | 08:30 – 10:30 (Winter 2025) \* |
| **Location:** | Room 5.19 Classroom A (Winter 2025) \* |

\* Note: The schedules for Spring 2025 will be announced later.

## Computer Lab Information

|  |  |  |
| --- | --- | --- |
|  | **Computer Lab 1** | **Computer Lab 2** |
| **Day:** | Friday odd weeks (Winter 2025) \* | Friday even weeks (Winter 2025) \* |
| **Time:** | 10:30 – 12:30 (Winter 2025) \* | 10:30 – 12:30 (Winter 2025) \* |
| **Location:** | Room 2.51-Project Lab (Winter 2025) \* | Room 2.51-Project Lab (Winter 2025) \* |

|  |  |  |
| --- | --- | --- |
|  | **Computer Lab 3** | **Computer Lab 4** |
| **Day:** | Tuesday odd weeks (Winter 2025) \* | Tuesday even weeks (Winter 2025) \* |
| **Time:** | 08:30 – 10:30 (Winter 2025) \* | 08:30 – 10:30 (Winter 2025) \* |
| **Location:** | Room 2.51 (Winter 2025) \* | Room 2.51 (Winter 2025) \* |

|  |  |  |
| --- | --- | --- |
|  | **Computer Lab 5** | **Computer Lab 6** |
| **Day:** | Tuesday odd weeks (Winter 2025) \* | Tuesday even weeks (Winter 2025) \* |
| **Time:** | 10:30 – 12:30 (Winter 2025) \* | 10:30 – 12:30 (Winter 2025) \* |
| **Location:** | Room 2.51 (Winter 2025) \* | Room 2.51 (Winter 2025) \* |

\* Note: The schedules for Spring 2025 will be announced later.

|  |  |
| --- | --- |
| **Educator’s Name:** | **Dr. Mohd Fareq Abd Malek** |
| **Building & Office No:** | Block  3rd floor     Office     3.13 |
| **E-mail Address:** | **MOHAMEDFAREQMALEK@UOWDUBAI.AC.AE** |
| **Consultation Days and Time:** | To be announced. |
|  |  |
| **Tutor 1:** | Habiba Ahmed |
| **Building & Office No:** | Block  3rd floor     Office |
| **E-mail Address:** | habibaahmed@uowdubai.ac.ae |
| **Consultation Days and Times:** | To be announced. |
|  |  |
| **Tutor 2:** | Eva Barbulescu |
| **Building & Office No:** | Block  3rd floor     Office |
| **E-mail Address:** | evabarbulescu@uowdubai.ac.ae |
| **Consultation Days and Times:** | To be announced |
|  |  |
| **Tutor 3:** | Ashna Sreejith |
| **Building & Office No:** | Block  3rd floor     Office |
| **E-mail Address:** | ashnasreejith@uowdubai.ac.ae |
| **Consultation Days and Times:** | To be announced |
|  |  |
| **Tutor 4:** | Sana Sahir |
| **Building & Office No:** | Block  3rd floor     Office |
| **E-mail Address:** | sanasahir@uowdubai.ac.ae |
| **Consultation Days and Times:** | To be announced |

## Subject Description

|  |
| --- |
| This subject consists of a structured team design activity covering the first four phases of a product design cycle. The subject will also involve students working on a team project and require a series of assessable deliverables throughout the session concluding in the demonstration of a prototype device by each team at the innovation fair around a determined general theme.  Student teams will undertake the entire project using staff as 'costed' advisors. The task of the team is to design a product from the initial ideas phase, through to prototyping and marketing of the idea (at the innovation fair). Students will have the opportunity to gain a number of skills complementary to their theoretical engineering skills, such as teamwork, project management and marketing techniques, and to effectively manage the design and development aspects of both a project and its associated activities. |

**2 Contribution to Program learning outcomes (PLO)**

The activities in this course contribute to achieving the following program learning outcomes

|  |  |
| --- | --- |
| **Program: Engineering** | |
| PLO1 | Demonstrates the ability to discern, interpret and evaluate information, and apply their learning in order to make decisions and articulate logical responses. |
| PLO2 | Apply the acquired knowledge to practical life problems and adopt a professional approach to decision making. |
| PLO3 | Use all forms of expression to clearly and confidently communicate knowledge to others, appropriate to the context. |
| PLO4 | Acquire the ability to function effectively as part of a team to accomplish a set of common goals and objectives. |
| PLO5 | Initiate research and projects, and apply problem solving and critical thinking strategies to solve problems. |
| PLO6 | Identify the strengths of individuals, societies and cultures that are both similar and dissimilar from one’s own, with a professional view to improving existing relationships between community networks, workplaces and organizations. |
| PLO7 | Demonstrates the ability to effectively gather, critically analyze, evaluate and interpret qualitative and quantitative information using computer technology. |
| PLO8 | Initiates and applies problem solving and critical thinking strategies to research, projects and organizational problems, including ethical dilemmas, and accepts responsibility for the solution delivered. |
| PLO9 | Demonstrates a sense of social commitment, responsibility and concern; feeling empowered to apply learning and show respect for citizens’ rights to everyday situations. |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Course ECTE250  Upon successful completion of this subject, a student should be able to: | PLO1 | PLO2 | PLO3 | PLO4 | PLO5 | PLO6 | PLO7 | PLO8 | PLO9 |
| LO1 | Apply the product design cycle to design an electronic product; |  |  |  |  |  |  |  |  |  |
| LO2 | Undertake problem identification, formulation and solution within the framework of a Product Design Team; |  |  |  |  |  |  |  |  |  |
| LO3 | Function effectively in a multicultural, multidisciplinary team, with the capability to be a team leader/manager as well as a team member; |  |  |  |  |  |  |  |  |  |
| LO4 | Explain and apply project management techniques |  |  |  |  |  |  |  |  |  |
| LO5 | Write structured reports and deliver organized presentations on design activities, to both peers and customers; |  |  |  |  |  |  |  |  |  |
| LO6 | Perform structured, organized, and costed electronic design utilizing skills from core ECTE200-level subjects. |  |  |  |  |  |  |  |  |  |

## 

## Subject Schedule

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Week** | **Topic(s)** | **Learning Outcomes** | **Session Type** | **Delivery format** | **Related supporting materials** | **Assessment**  **Formative (F) Summative (S)** |
|  | Winter Trimester |  |  |  |  |  |
| **Winter Wk 1** | Lecture: Introduction to Subject, Teamwork, Project, Tools. Workplace, Health and Safety (WHS). Activity: Team Rules, Peer Evaluation (PE). | 1, 2, 6 | Lecture | face-to-face | Lecture notes in Moodle | Workshops (S) |
| **Winter Wk 2** | Lab: Workshop 1: Introduction to Arduino – TinkerCAD. Workshop 2: ADC and LCD – TinkerCAD.  Lecture: Assistance provided during lecturer’s consultation hours. | 1, 2, 6 | Lab | face-to-face | Lab notes in Moodle | Workshops (S) |
| **Winter Wk3** | Lecture: Project Management I (Modern project management)  Activity: Work, Health and Safety (WHS). Project Management II (Organization structure and culture). Activity: Introduction to Project Requirements and Deliverables.  Lab: Assistance provided during tutor’s consultation hours. | 3, 4, 5, 6 | Lecture | face-to-face | Lecture notes in Moodle.  Larson & Gray ch. 1 and 2  Larson & Gray ch. 3 and 4 | Progress Reporting (S), Deliverable 1: Proposal Presentation (S) |
| **Winter Wk4** | Lab: Workshop 3: State Machine Design – Boole Deusto. Workshop 4: Arduino Subsystem Design – TinkerCAD.  Lecture: Assistance provided during lecturer’s consultation hours. | 1,2, 6 | Lab | face-to-face | Lab notes in Moodle | Workshops (S), Online WHS Quiz 1 (S) |
| **Winter Wk5** | Lecture: Project Management III (Estimating project time and cost). Activity: Engineering Design and Prototyping I. Project Management IV (Developing a project plan). Activity: Engineering Design and Prototyping II.  Lab: Assistance provided during tutor’s consultation hours. | 2, 3, 4, 5, 6 | Lecture | face-to-face | Lecture notes in Moodle.  Larson & Gray ch. 5  Larson & Gray ch. 6 | Progress Reporting (S), Online WHS Quiz 2 (S) |
| **Winter Wk6** | Lab: Workshop 5: Groupwork State Machine and Arduino Subsystem Designs. Activity: Deliverable 5 (PCB / Perfoboard prototype) guidelines. Workshop 6: Soldering.  Lecture: Assistance provided during lecturer’s consultation hours | 1,2, 3, 5, 6 | Lab | face-to-face | Lab notes in Moodle | Workshops (S), Deliverable 2: Detailed Design Report (S) |
| **Winter Wk7** | Lecture: Project Management V (Managing risks). Activity: Engineering Design and Prototyping III. Introduction to State Machines. Introduction to Design and Innovation. Activity: Presenting Ideas.  Lab: Assistance provided during tutor’s consultation hours. | 2, 3, 4, 5, 6 | Lecture | face-to-face | Lecture notes in Moodle.  Larson & Gray ch. 7  Lecture notes in Moodle | Progress Reporting (S), Online WHS Quiz 3 (S) |
| **Winter Wk8** | Lab: Multisim Prototyping – Deliverable 3 Information Session. Workshop 7: Arduino Ethernet Shield.  Lecture: Assistance provided during lecturer’s consultation hours | 1, 2, 6 | Lab | face-to-face | Lab notes in Moodle | Workshops (S) |
| **Winter Wk9** | Lecture:  Activity: Reading datasheet, power measurement. Practical Electronics I (Diodes, Zener diodes, limiting circuits, clamping circuits, voltage regulator circuits, PWM). Activity: Deliverable 3 (Design simulation) guidelines.  Lab: Assistance provided during tutor’s consultation hours. | 1, 2, 3, 4, 5, 6 | Lecture | face-to-face | Lecture notes in Moodle | Workshops (S), Progress Reporting (S), Online PM Quiz 1 (S) |
| **Winter Wk10** | Lab: Multisim Prototyping Session. Deliverable 3: Design Simulation Demonstration.  Lecture: Assistance provided during lecturer’s consultation hours | 1, 2, 3, 5, 6 | Lab | face-to-face | Lab notes in Moodle | Workshops (S), Deliverable 3: Design Simulation (S) |
| **Winter Wk11** | Lecture: Feedback review and reflection.  Lab: Assistance provided during tutor’s consultation hours. | 1, 2, 4, 6 | Lecture | face-to-face | Lecture notes in Moodle | Workshops (S), Online PM Quiz 2 (S) |
|  | Spring Trimester |  |  |  |  |  |
| **Spring Wk1** | Lecture: Practical Electronics II (Optoisolators, reed relay, circuit to use Arduino digital output, operational amplifiers, basic operational amplifier blocks for DC, oscillators, clocks, heartbeat circuit design using NE555 timer integrated circuit, oscillators using crystals, sensor circuits). Practical Electronics III (Issues with digital ICs, Schmitt trigger, debouncing circuits, external asynchronous control signal, super diodes, Digital to Analog op-amp converters, analog to digital). | 1, 2, 3, 4, 5, 6 | Lecture | face-to-face | Lecture notes in Moodle | Workshops (S), Progress Reporting (S), Online PM Quiz 3 (S) |
| **Spring Wk2** | Lab: Team Progress Reports based on Deliverable 3 comments. Breadboard prototyping session.  Lecture: Assistance provided during lecturer’s consultation hours. | 1, 2, 4, 6 | Lab | face-to-face | Lab notes in Moodle | Workshops (S), PM Assignment (S) |
| **Spring Wk3** | Project Management Exam.  Lecture: Workshop on Practical Electronics. Activity: Deliverable 4 (Breadboard prototype) guidelines.  Lab: Assistance provided during tutor’s consultation hours. | 1, 2, 3, 4, 5, 6 | Lecture | face-to-face | Lecture notes in Moodle | Workshops (S), Progress Reporting (S), Project Management Exam (S) |
| **Spring Wk4** | Lab: Design of PCB using Fritzing application / Perfoboard prototyping. Deliverable 4: Breadboard prototype demonstration.  Lecture: Assistance provided during lecturer’s consultation hours. | 1, 2, 3, 5, 6 | Lab | face-to-face | Lab notes in Moodle | Workshops (S), Deliverable 4: Breadboard prototype (S) |
| **Spring Wk5** | Lecture:  Workshop on Practical Electronics. Activity: Practical Electronics IV (H bridge, RC servos, stepper motors, motors and Arduino).  Lab: Assistance provided during tutor’s consultation hours. | 1, 2, 3, 5, 6 | Lecture | face-to-face | Lecture notes in Moodle | Workshops (S), Progress Reporting (S) |
| **Spring Wk6** | Lab: Create custom PCB for Arduino project.  Lecture: Assistance provided during lecturer’s consultation hours. | 1, 2, 6 | Lab | face-to-face | Lab notes in Moodle | Workshops (S) |
| **Spring Wk7** | Lecture:  Activity: Assistance and Consultation on Deliverable 5 (Perfoboard prototype). Activity: Deliverables 6 and 7 (Final design report and presentation) guidelines.  Lab: Assistance provided during tutor’s consultation hours. | 1, 2,3,5,6 | Lecture | face-to-face | Lecture notes in Moodle | Deliverable 5: PCB / Perfoboard Prototype (S), Progress Reporting (S), WHS Test (S) |
| **Spring Wk8** | Lab: PCB / Perfoboard prototype demonstration. Feedback session.  Lecture: Assistance provided during lecturer’s consultation hours. | 1, 2, 6 | Lab | face-to-face | Lab notes in Moodle | Workshops (S) |
| **Spring Wk9** | Lecture: Final design report and oral presentation. Activity: Assistance on Deliverable 6 and 7 (Final design report and presentation).  Lab: Assistance provided during tutor’s consultation hours. | 1, 2, 3, 5, 6 | Lecture | face-to-face | Lecture notes in Moodle | Workshops (S), Progress Reporting (S) |
| **Spring Wk10** | Lab: Final design report and oral presentation. Innovation Fair preparation session.  Lecture: Assistance provided during lecturer’s consultation hours. | 1, 2, 3, 5, 6 | Lab | face-to-face | Lab notes in Moodle | Deliverable 6 and 7 (Final Design Report and Presentation) (S) |
| **Spring Wk11** | Lecture: Feedback review and reflection. Activity: Innovation fair guidelines.  Lab: Assistance provided during tutor’s consultation hours. | 1, 2, 3, 5, 6 | Lecture | Face-to-face | Lecture notes in Moodle | Workshops (S). Progress Reporting (S) |

## Supporting Materials

Books, Articles, Videos, Podcasts, etc. will be available on our Learning Management System (LMS)

## *Required text:*

Project Management: The Managerial Process, 8th Edition, by Erik W Larson & Clifford F Gray, McGraw Hill, 2021. ISBN10: 1264151659 / ISBN13: 9781264151653.

## *Recommended text:*

Software Project Management, 5th Ed., by Bob Hughes & Mike Cotterell, McGraw-Hill, 2011. ISBN 13: 9780077122799.

IT Project Management on Track from Start to Finish, 3rd Ed., by Joseph Phillips, McGraw-Hill Professional, 2010. ISBN: 9780071700436.

Information Technology Project Management, 9th Ed., by Kathy Schwalbe, Thomson, Cengage, 2018. ISBN 10: 9781337101356 / ISBN 13: 978-1337101356.

Design for Electrical and Computer Engineers, 1st Ed., by Ralph Ford & Chris Coulston, McGraw-Hill, 2007. ISBN 10: [0073380350](https://www.abebooks.com/9780073380353/Design-Electrical-Computer-Engineers-1st-0073380350/plp) / ISBN 13: [9780073380353](https://www.abebooks.com/9780073380353/Design-Electrical-Computer-Engineers-1st-0073380350/plp)

Practical Electronics for Inventors, 4th Ed. by Paul Scherz & Simon Monk, McGraw-Hill, 2016. ISBN 10: 1259587541 / ISBN 13: 978-1259587542

Art of Electronics, 3rd Ed., by Paul Horowitz & Winfield Hill, Cambridge, 2015. ISBN 10: 9780521809269.

Practical Electronics Handbook, 6th Ed, by Ian Sinclair, Elsevier, 2007. ISBN 10: 0750680717 / ISBN 13: 978-0750680714.

Handmade Electronic Music: The Art of Hardware Hacking, 2nd Ed., Nicolas Collins, Routledge, 2009. ISBN 10: 0415998735 / ISBN 13: 978-0415998734.

## Access to Supporting Materials

## The university uses Moodle as a learning management system (lms) to support all coursework subjects. The subject site and supporting materials can be accessed via: <https://moodle.uowplatform.edu.au/> and via the library site

## Assessment

## Assessment Of Learning Outcomes

|  |  |
| --- | --- |
| **Learning Outcome** | **Measures (Elements of Assessment)** |
| LO1: Apply the product design cycle to design an electronic product; | Project Deliverables 2, 3, 4, 5, 6.  Workshops |
| LO2: Undertake problem identification, formulation and solution within the framework of a Product Design Team; | Project Deliverables 2, 3, 4, 5, 6.  Workshops  Workplace, Health and Safety (WHS) |
| LO3: Function effectively in a multicultural, multidisciplinary team, with the capability to be a team leader/manager as well as a team member; | Project Deliverables 1, 2, 3, 4, 5, 6, 7, 8.  Progress Reporting |
| LO4: Describe a project and demonstrate an understanding of the issues affecting project management. | Project Management |
| LO5: Write structured reports and deliver organized presentations on design activities, to both peers and customers; | Project Deliverables 1, 2, 3, 4, 5, 6, 7, 8.  Progress reporting. Innovation fair participation. |
| LO6: Perform structured, organized, and costed electronic design utilizing skills from core ECTE200-level subjects. | Project Deliverables 2, 3, 4, 5, 6.  Workshops.  Progress reporting. |

## Assessment Tasks

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Learning Outcome** | Assessment 1  **Workshops**  **6%** | Assessment 2  **Progress Reporting**  **5.5%** | Assessment3  **Project Deliverable 1**  **Proposal Presentation**  **5%** | Assessment 4  **Project Deliverable 2**  **Detailed Design Report**  **10%** | Assessment 5  **Project Deliverable 3**  **Design Simulation**  **6%** | Assessment 6  **Workplace, Health and Safety (WHS)**  **2.5%** |
| LO 1 | X |  |  | X | X |  |
| LO 2 | X |  |  | X | X | X |
| LO 3 |  | X | X | X | X |  |
| LO 4 |  |  |  |  |  |  |
| LO 5 |  | X | X | X | X |  |
| LO 6 | X | X |  | X | X |  |
| Group (G)/ Individual (I) | G | I | G | G | G |  |
| Total Marks | 100 | 100 | 100 | 100 | 100 |  |
| Due Date | During Winter-Wk1, Wk2, Wk4, Wk6, Wk8, Wk9, Wk10, Wk11.  During Spring-Wk1, Wk2, Wk3, Wk4, Wk5, Wk6, Wk8, Wk9, Wk11. (Group, written and demonstrations) | Winter-Wk3, Winter-Wk5, Winter-Wk7, Winter-Wk9, Spring-Wk1, Spring-Wk3, Spring-Wk5, Spring-Wk7, Spring-Wk9, Spring-Wk11 (individual, online),  Logbooks (individual) | During Winter-Wk3 Lecture (group with Peer Evaluation (PE), oral) | Winter-Wk6 and demonstration during Laboratory (group with  Peer Evaluation, online and demonstration) | During Winter-Wk10 Laboratory (group with Peer Evaluation, demonstration and short technical report) | Online WHS Quiz 1 (Winter Wk-4)  Online WHS Quiz 2 (Winter Wk-5)  Online WHS Quiz 3 (Winter Wk-7)  WHS Test (Spring Wk-7) |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Learning Outcome** | Assessment 7  **Project Management (PM)**  **25%** | Assessment 8  **Project Deliverable 4**  **Breadboard prototype**  **8%** | Assessment 9  **Project Deliverable 5**  **PCB / Perfoboard prototype**  **9%** | Assessment 10  **Project Deliverable 6**  **Final Design Report**  **12%** | Assessment 11  **Project Deliverable 7**  **Final Design Presentation**  **5%** | Assessment 12  **Project Deliverable 8 Innovation**  **Fair Participation**  **3%** | Assessment 13  **Project Deliverable 1 and Project Deliverable 7**  **Presentations**  **3%** |
| LO 1 |  | X | X | X |  |  |  |
| LO 2 |  | X | X | X |  |  |  |
| LO 3 |  | X | X | X | X |  | X |
| LO 4 | X |  |  |  |  |  |  |
| LO 5 |  | X | X | X | X | X | X |
| LO 6 |  | X | X | X |  |  |  |
| Group (G)/ Individual (I) | I | G | G | G | G | G | I |
| Total Marks | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Due Date | Online PM Quiz 1 (Winter Wk 9)  Online PM Quiz 2 (Winter Wk 11)  Online PM Quiz 3 (Spring Wk 1)  PM Assignment (Spring Wk 2)  During Spring-Wk3 Lecture (individual, written) | During Spring-Wk4 Laboratory (group with Peer Evaluation, demonstration and short technical report) | During Spring-Wk7 Lecture (group with Peer Evaluation, demonstration and short technical report) | Spring-Wk10 Laboratory (group with Peer Evaluation, online) | During Spring-Wk9 Lecture (group with Peer Evaluation, oral) | After Spring final examination period (group with Peer Evaluation, demonstration) | During Winter-Wk3 and Spring-Wk9 Lectures (individual, oral) |

|  |  |
| --- | --- |
| **Assessment Task:** | Workplace, Health and Safety (WHS) |
| **Type:** | Individual |
| **Learning Outcome Measured:** | 2 |
| **Total Marks:** | 100 |
| **Weighting:** | 2.5  Online WHS Quiz 1 (0.5)  Online WHS Quiz 2 (0.5)  Online WHS Quiz 3 (0.5)  WHS Test (1) |
| **Date, Time and Location:** | Online WHS Quiz 1- During Winter-Wk4 (individual)  Online WHS Quiz 2- During Winter-Wk5 (individual)  Online WHS Quiz 3- During Winter-Wk7 (individual)  WHS Test- During Spring-Wk7 (Individual) |

## Outline and Requirements

Online WHS Quizzes: Submissions are opened on Moodle during selected time durations. Please refer to Moodle for more details.

WHS Test: Written test. Scheduling will be informed in Moodle.

## Marking Criteria

Online WHS Quizzes: Multiple choice questions, online via Moodle. Please refer to Moodle for more details.

WHS Test: Written type and case study type of questions.

|  |  |
| --- | --- |
| **Assessment Task:** | Workshops |
| **Type:** | Individual |
| **Learning Outcome Measured:** | 1, 2, 6 |
| **Total Marks:** | 100 |
| **Weighting:** | 6 |
| **Date, Time, Location:** | During Winter-Wk1, Wk2, Wk4, Wk6, Wk8, Wk9, Wk10, Wk11. During Spring-Wk1, Wk2, Wk3, Wk4, Wk5, Wk6, Wk8, Wk9, Wk11  (Group, written and demonstrations) |

## Outline and Requirements

Performing individual and group tasks in laboratories and lectures. Logbook writing with results printed and pasted.

## Marking Criteria

Efficient demonstrations of teamwork and proactivity in laboratory group activities (including prototyping with the ECTE250 kits) and lecture activities throughout Winter and Spring trimesters. Via demonstration and marked in the laboratory by demonstrator.

|  |  |
| --- | --- |
|  | |
| **Assessment Task:** | Progress Reporting |
| **Type:** | Individual |
| **Description:** | Online, softcopy and logbook |
| **Learning Outcome Measured:** | 3, 5, 6 |
| **Total Marks:** | 100 |
| **Weighting:** | 5.5 |
| **Due Date:** | Winter-Wk3, Winter-Wk5, Winter-Wk7, Winter-Wk9, Spring-Wk1, Spring-Wk3, Spring-Wk5, Spring-Wk7, Spring-Wk9, Spring-Wk11 |
| **Word Length (if applicable):** | N/A |
| **Hand in to:** | Tutors |
| **TurnItIn submission required by:** | N/A |

## Outline and Requirements

Winter-Wk3, Winter-Wk5, Winter-Wk7, Winter-Wk9, Spring-Wk1, Spring-Wk3, Spring-Wk5, Spring-Wk7, Spring-Wk9, Spring Wk-11 (individual, online), Logbooks (individual).

## Marking Criteria

Individual, team progress reports posted online (Moodle) on Winter-Wk3, Winter-Wk5, Winter-Wk7, Winter-Wk9, Spring-Wk1, Spring-Wk3, Spring-Wk5, Spring-Wk7, Spring-Wk9. Reports must be posted before 5pm Sunday of that particular week. These will be assessed based on student contribution to project and reflection on progress of the project as well as roles undertaken in the team over the previous week. It is expected that team roles will be changed every five weeks so each student should have 4 different roles over the course of the session. The report should be a summary of the logbook every team member should maintain on a weekly basis so writing the report can be briefly compiled. The report should outline: Your current role in the team; Your agreed activities/duties; Progress in the last two weeks (even if no progress) i.e. what has been done by you with respect to the team agreed project; Any issues that concern you (so other team members and coordinator can read this, if you think something is unfair, you must log it in this area); Your specific contribution to the design (not budgeting, management, marketing or any of the non- core project activities); An honest but polite reflection on your progress thus far and your teams progress. Logbooks (personal on design and team’s roles) inspections at the end of each trimester will contribute to the mark.

A two-page individual reflection report must be submitted on Moodle on Spring-Wk11.

This MUST reference the weekly posts on the discussion board for your team and any other relevant project material. It must be a two-page type written report on the project, your contribution and a reflection on your contribution and what you could have done better.

You should address directly the following questions in your two-page report, using technical English as expected from a professional engineer:

1. How successful was the project / prototype in achieving its desired outcomes?

2. How you worked with your other team members and what was your direct and indirect contribution

to the team's project referred to your final team’s submitted report?

3. What project related difficulties did you encounter as a member of the team and how were these

eventually overcome or why they were never resolved?

4. If you were starting the project again, what would you do differently to improve the projects

outcomes?

In other words, this should be a Final written individual report on the team project – This is a type written report (uses headings) electronically submitted on subject Moodle site of no more than two (2) A4 pages not including front and back matter answering the four reflective individual questions (see above) in a report format which is referenced including using weekly blogs on discussion group for you and the team.

Not having weekly blogs referenced (because there were none or otherwise) will result in loss of marks (in the form of penalty marks).

|  |  |
| --- | --- |
| **Assessment Task:** | Project Deliverable 1 Proposal Presentation and  Project Deliverable 7 Final Design Presentation |
| **Type:** | Group and Individual |
| **Learning Outcome Measured:** | 3, 5 |
| **Total Marks:** | 100 |
| **Weighting:** | Project Deliverable 1 Proposal Presentation: 5% Group, 1.5% Individual  Project Deliverable 7 Final Design Presentation: 5% Group, 1.5% Individual |
| **Date, Time and Location:** | Project Deliverable 1: During Winter-Wk3 Lecture (group with PE, individual, oral)  Project Deliverable 7: During Spring-Wk9 Lecture (group with PE, individual, oral) |

## Outline and Requirements

|  |
| --- |
| These will occur in Winter – Week 3 and Spring - Week 9 during lecture sessions. |

## Marking Criteria

|  |
| --- |
| Each team will have 12 minutes presentation and 3 minutes questions from the panel and other students. Softcopies of the presentation must be submitted online by one student from the team on the day of the presentation. Each team member will present during each session. Presentations will be assessed on the basis of group and individual contributions. It is expected that the whole team contributes to the development of the content for these deliverables, which contributes to the group mark weighted by the peer evaluation (PE). See Project Information Booklet for further details. |

|  |  |
| --- | --- |
| **Assessment Task:** | Project Deliverable 2 Detailed Design Report |
| **Type:** | Group |
| **Description:** | Online. Soft Copy. |
| **Learning Outcome Measured:** | 1, 2, 3, 5, 6 |
| **Total Marks:** | 100 |
| **Weighting:** | 10 |
| **Due Date:** | Winter-Wk6 and demonstration during Laboratory (group with  PE, online and demonstration) |
| **Word Length (if applicable):** | Please refer to Subject Information Booklet |
| **Hand in to:** | Lecturer and Tutors |
| **TurnItIn submission required by:** | Winter-Wk6 |

## Outline and Requirements

|  |
| --- |
| Online submission during Winter – Week 6 and demonstration during laboratory session. |

## Marking Criteria

|  |
| --- |
| Reports should respect the given word limit and include tables, figures and appendices. The team mark will be based on the overall written design report and marks will be also given based on the criteria outlined in the Project Information Booklet. The team mark for each student will be weighted by their peer evaluation (PE) for the deliverable. |

|  |  |
| --- | --- |
| **Assessment Task:** | Project Deliverable 3 Design Simulation |
| **Type:** | Group |
| **Description:** | Online. Soft Copy. |
| **Learning Outcome Measured:** | 1, 2, 3, 5, 6 |
| **Total Marks:** | 100 |
| **Weighting:** | 6 |
| **Due Date:** | During Winter-Wk10 Laboratory (group with peer evaluation (PE), demonstration and short technical report) |
| **Word Length (if applicable):** | Please refer to Subject Information Booklet |
| **Hand in to:** | Lecturer |
| **TurnItIn submission required by:** | N/A |

## Outline and Requirements

|  |
| --- |
| Working simulation of the detailed design, demonstrated during the laboratory session in Winter – Week 10. |

## Marking Criteria

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| All associated files (simulation and report soft copy) must be submitted to the laboratory tutor. Teams will demonstrate their completed electronic simulation of the system based on the detailed design submitted for Deliverable 2. Teams will also submit the simulator files with a report soft copy of comments from their demonstrator and their reflections on the results of the simulation. The team mark for each student will be weighted by their peer evaluation (PE) for the deliverable.   |  |  | | --- | --- | | **Assessment Task:** | Project Management (PM) | | **Type:** | Individual | | **Learning Outcome Measured:** | 4 | | **Total Marks:** | Online PM Quiz 1 (3),  Online PM Quiz 2 (3),  Online PM Quiz 3 (3),  PM Assignment (4),  PM Exam (12) | | **Weighting:** | 25 | | **Date, Time and Location:** | Online PM Quiz 1- During Winter-Wk9 (individual)  Online PM Quiz 2- During Winter-Wk11 (individual)  Online PM Quiz 3- During Spring-Wk1 (individual)  PM assignment- During Spring-Wk 2 (individual, written)  PM exam- During Spring-Wk3 Lecture (individual, written) |  Outline and Requirements Online PM Quizzes: Submissions are opened on Moodle during selected time durations. Please refer to Moodle for more details.  PM assignment: Management planning assignment on network design. Assignment will be submitted into Moodle  PM Exam: Hardcopy or workout and answers will be handed to the lecturer or invigilator. The questions will be short answer, problems and /or multiple-choice questions. Marking Criteria Online PM Quizzes: Multiple choice questions, online via Moodle. Please refer to Moodle for more details.  PM assignment: This assignment will assess the students’ ability to develop Management Networks given a time and resource allocation and the ability to convert this to a Gantt chart.  PM Exam: Marks are given for steps and answers. Please refer to Moodle for more details. In-class written exam related to the lectures on Project Management during the lecture of Spring – Week 3. Students scoring less than 40% will be invited to sit for a supplementary before the end of Spring. |

|  |  |
| --- | --- |
| **Assessment Task:** | Project Deliverable 4 Breadboard Prototype |
| **Type:** | Group |
| **Learning Outcome Measured:** | 1, 2, 3, 5, 6 |
| **Total Marks:** | 100 |
| **Weighting:** | 8 |
| **Date, Time and Location:** | During Spring-Wk4 Laboratory (group with peer evaluation (PE), demonstration and short technical report) |

## Outline and Requirements

|  |
| --- |
| Working breadboard prototype of the accepted detailed design, demonstrated in the laboratory session of Spring - Week 4. |

## Marking Criteria

|  |
| --- |
| Teams must also submit to the laboratory tutor an associated report including observations along with a photo of their final breadboard circuit. The team mark for each student will be weighted by their PE mark for the deliverable. |

|  |  |
| --- | --- |
| **Assessment Task:** | Project Deliverable 5 PCB / Perfoboard Prototype |
| **Type:** | Group |
| **Learning Outcome Measured:** | 1, 2, 3, 5, 6 |
| **Total Marks:** | 100 |
| **Weighting:** | 9 |
| **Date, Time and Location:** | During Spring-Wk7 Lecture (group with peer evaluation (PE), demonstration and short technical report) |

## Outline and Requirements

|  |
| --- |
| Working Perfoboard / PCB prototype of the accepted detailed design accepted, demonstrated in the lecture session of Spring – Week 7. |

## Marking Criteria

|  |
| --- |
| Teams must also submit to the tutors associated soft copy report including observations along with a digital photo of their final Perfoboard / PCB prototype taken in the laboratory. The team mark for each student will be weighted by their peer evaluation (PE) mark for the deliverable. |

|  |  |
| --- | --- |
| **Assessment Task:** | Project Deliverable 6 Final Design Report |
| **Type:** | Group |
| **Description:** | Online. Soft Copy. |
| **Learning Outcome Measured:** | 1, 2, 3, 5, 6 |
| **Total Marks:** | 100 |
| **Weighting:** | 12 |
| **Due Date:** | Spring-Wk9 (group with peer evaluation (PE), online) |
| **Word Length (if applicable):** | Please refer to Project Information Booklet |
| **Hand in to:** | Lecturer |
| **TurnItIn submission required by:** | Spring-Wk10 |

## Outline and Requirements

|  |
| --- |
| Soft-copy of the final report of the team project due at the end of Spring - Week 10 via online submission on Moodle. |

## Marking Criteria

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| The team mark will be based on the overall report and based on the criteria outlined in the Project Information Booklet. The team mark for each student will be weighted by their peer evaluation (PE) mark for the deliverable. Reports should respect the given word limit and include tables, figures and appendices. The report has to cover design, design calculations, a description of the breadboard and final breadboard prototypes of the design, testing procedures developed in the laboratory, results measured in the laboratory, power analysis, discussion, any consequential changes to the originally designed circuitry/programming, a description of any problems encountered, individual solutions to those problems and who in the team was the original member who suggested the successful solution. This should include a photo of the finished breadboard working system, the final stages of preparation for the trade fair, the problems encountered and solved during session. The discussion should include an assessment of the results measured in final product against how close this final product is to the original functional specifications. See Project Information Booklet for other details. The team mark for each student will be weighted by their peer evaluation (PE) mark for the deliverable.   |  |  | | --- | --- | | **Assessment Task:** | Project Deliverable 8 Innovation Fair Participation | | **Type:** | Group | | **Learning Outcome Measured:** | 5 | | **Total Marks:** | 100 | | **Weighting:** | 3 | | **Date, Time and Location:** | After the university exam week period in Spring (group with peer evaluation (PE), demonstration) | |

## Outline and Requirements

|  |
| --- |
| Each team is required to produce a 'professional looking' stand for the Innovation Fair. All students enrolled in ECTE250 are exhibitors, and as such are required to attend. |

## Marking Criteria

|  |
| --- |
| The mark for the Innovation Fair will be based on the stand poster, marketing material, as well as the degree of success in achieving a working prototype of the team's product and will be weighted by the peer evaluation (PE) mark for the deliverable. See Project Information Booklet for further details. |

Late submissions:

Please note that late submissions will incur a penalty of 20% per day, including weekends.

A Peer Evaluation (PE) online session must be compiled for each group assessments by the assignment due date. Individual penalty for late submission is 50% of the mark for each working day after the due date. The peer evaluation (PE), information on marks distribution and guidelines are included in the Project Information Booklet.

## Grades Awarded

|  |  |
| --- | --- |
| The approved grades of performance and associated ranges of marks for undergraduatesubjects are: | |
| High Distinction (HD)  Distinction (D)  Credit (C)  Pass (P)  Pass Supplementary (PS)  Fail (F)  Technical Fail (TF) | 85 – 100%  75 – 84%  65 – 74%  50 – 64%  50%  0 – 49% (and not meeting the attendance requirements)  Not meeting the project management exam passing requirements – see the Assessment Policy PP-REG-DB-2.1 |

## Satisfactory Completion Requirements

|  |
| --- |
| ECTE250 assessment has a 25% project management component and a 75% engineering design and prototyping component. Each component is equally important. In order to be considered for a grade of Pass (P) or better in this subject, students must pass the both components with a mark of at least 40%; students who obtain a composite mark greater than or equal to 50% but do not satisfy the minimum pass requirements in both components will be awarded a Technical Fail (TF) grade.  Students must ‘reasonably’ complete all assessment tasks (including the required score for the Project Management Examination,) and submit these as specified in the subject outline. ‘Reasonable’ completion of an assessment task will be determined based on the instructions given to the student including: word length, demonstration of research and analysis where required, adherence to the Plagiarism Policy guidelines, and completion of each section/component of the assessment. Failure to ‘reasonably’ complete any assessment tasks to the standard specified above may result in a Fail grade awarded for the subject. |

## Relevant Policies and Documents

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| All students must read and be familiar with the following UOWD policies and documents, which are available on the Student Online Resources (my.uowdubai.ac.ae) website by following the Policies link:   |  | | --- | | * Academic Grievance Policy | | * Academic Integrity Policy | | * Campus Access and Order Rules | | * Code of Conduct – Library Users | | * Code of Practice – Students | | * Copyright Policy | | * Intellectual Property Policy | | * Library Regulations | | * Minimum Rate of Progress | | * Music, Video and Software Piracy | | * Non-Discriminatory Language and Practice & Presentation Policy and Guidelines | | * Special Consideration Policy & Procedure | | * Student Attendance Policy | | * Student Conduct Rules | | * Rules for use of UOWD ITTS Facilities | | * Teaching and Assessment: Code of Practice – Teaching | | * Teaching and Assessment: Assessment and Feedback Policy | | * Teaching and Assessment: Subject Delivery Policy | |

## SSP & Studiosity

|  |
| --- |
| SSP (Student Support Program) is a program committed to assisting students in developing their academic skills and getting the most out of their studies. As part of their services, SSP provides Peer Tutoring Program and Academic Workshops (<https://my.uowdubai.ac.ae/ssd/index.php>).  Studiosity is an online study tool that students can access 24 hours, 7 days a week!   Students can receive feedback on submitted writing in less than 24 hours and receive one-to-one, personal help in real time with a subject specialists. The service can be accessed through the subject’s Moodle site.  For further information, please contact:  SSP Coordinator  Room 020, Block 5. [ssp@uowdubai.ac.ae](mailto:ssp@uowdubai.ac.ae)  Phone Number: +971 4 278 1756 |

## Academic Integrity

|  |
| --- |
| Plagiarism and cheating are serious offences that can lead to expulsion from the university. Students must be familiar with the *Academic Integrity* policy which outlines the procedure that will be followed in case of academic misconduct including cheating and plagiarism. Please refer to *How to Avoid Plagiarism* available on the Student Online Resources website (<http://my.uowdubai.ac.ae>). |

## Turnitin

|  |
| --- |
| Students are required to submit all written assignments in soft copy through the TurnItIn system which is available online at www.turnitin.com. Every student must have a TurnItIn account. Failure to submit an assignment through TurnItIn will result in marks for that assignment being withheld. **Students do NOT need to hand in a printed copy of the TurnItIn Originality Report.** More information about TurnItIn (including how to create an account and add a class) will be provided in the first lecture. Students can download Frequently Asked Questions (FAQs) about TurnItIn from the SSP section of UOWD website (https://www.uowdubai.ac.ae/academic-resources/student-support-programs). |

**TurnItIn information required to add this subject:**

|  |  |
| --- | --- |
| **Class ID:** | Moodle Link |
| **Password:** | Moodle Link |

## Reference & In-Text Citation

For information about referencing and in-text citation please review the *Academic Writing Presentation* available on the Student Online Resources website (<http://my.uowdubai.ac.ae>).

## UOWD Rules & Policies

|  |
| --- |
| For information about UOWD Rules and Policies, please go to the Student Online Resources website (<http://my.uowdubai.ac.ae>) and click on the POLICIES link. |

## Attendance Requirements

Attendance in this subject is compulsory. Failure to attend all computer labs as per the Student Attendance Policy may result in a FAIL grade. Students are strongly encouraged to become familiar with this policy (which can be found on the Online Resources website at my.uowdubai.ac.ae).

## Computer Lab Enrolments

|  |
| --- |
| All students must sign up for one computer lab in Week 1. Admission to a computer lab will not be possible unless the student’s name is on the Attendance List for that class. No changes will be allowed once a student has enrolled in a computer lab. |

## Lecture Capture

UOWD supports the recording of lectures as a supplemental study tool, to provide students with equity of access, and as a technology-enriched learning strategy to enhance the student experience.

To make your own recording of a lecture you **must** receive theexplicit permission of the Educator and those people who are also being recorded.

You may only use recorded lectures, whether they are your own or recorded by the university, for your own educational purposes. Recordings cannot be altered, shared or published on another platform, without permission of the University. UOWD’s Lecture Capture policy is underdevelopment.

## Supplementary Assessments

A supplementary assessment may be offered to students whose performance in this subject is close (45-49 in the project management examination and 48-49 in the composite score) to that required to pass the subject, and are otherwise identified as meriting an offer of a supplementary assessment. The precise form of a supplementary assessment will be determined at the time the offer of a supplementary is made.