

GE 105 INTRODUCTION TO ENGINEERING DESIGN
Timetable Guideline for Lectures and Studios (1st Semester 1437/1438 H)

| <i>wk</i> | <i>Lecture (50mn)</i> | <i>Studio (40mn)</i> | <i>Activity (1 hour)</i> | <i>Teams' Responsibility Next Studio</i> |
|-----------|---|---|---|--|
| 1 | First Contact | | | Forming teams of five each |
| 2 | 1. Course Introduction | Course ground rules and guide to effective meetings | Practicing preparing agendas and meeting minutes (theme: initial topic selection) | Team formation and final projects selection (suggest more than one topic) |
| 3 | 2. An Overview of Engineering Design | Tips for a good presentation | Evaluation of selected projects (peer review) | First presentation (selected topic for final project) |
| 4 | 3. The Engineering Profession | Tips for writing reports (outline for GE105 final report) | First oral presentation | Written proposal for final project topic (one page) |
| 5 | 4. Engineering functional jobs | Project Planning and Literature Review | Make a Plan for Final Project + peer review of topic and plan | |
| 6 | 5. Need Analysis and problem definition | Design cycle, cycle worksheet + need analysis key questions | Perform need analysis for each project | Written need analysis (one page) for each team |
| 7 | 6. Human Factors | Videos (human factors) and Discussion of videos | Identify human factors applicable to each group's project | Written human factors (one page) for each team |
| 8 | 7. Problem Formulation | Practicing on team projects | | 2 nd oral presentation: (formulation: need analysis, constraints, criteria, human factors) 10 mn each group |
| 9 | 8. Creativity : Thinking Outside the box | Second oral presentation (problem formulation) | | Written assessment of progress of the final project (one page) |
| 10 | 9. Creativity in Engineering Design | Creativity real-life examples | Practicing brainstorming to generate creative ideas for each project | Initial creative design of final poster (A0 hard paper) |
| 11 | 10. Concept generation and Design evaluation | How to make posters + Generate concepts for each project and practice weights and rates | | 3 rd presentation (10mn): problem formulation, human factors, concept generation, weights/rates |
| 12 | 11. Intellectual Property – Legal Factors | Third oral presentation | Peer evaluation of presentation + voting for best poster design/content | |
| 13 | 12. Engineering Ethics | Real Eng. ethics case studies + Assessment of cases | | |
| 14 | Course project final preparation | Visit to College Of Engineering Facilities (tentative) | | |
| 15 | Project Presentation (Exam) | | | |
| 16 | Report and portfolio evaluation | | | |
| 17 | Final Exam. | | | |

Grading: Final exam (40%), Classwork (15%), tutorial (10%), Project (report: 10%, presentation: 15%, poster: 5%, logbook: 5%)