수원대학교

친환경 디자인 개론-강의계획서

2019 년 1 학기

얀준

Office Location: Room 309, International College
Email: yanjun0312@sina.com
Office Hours: 1:00～3:00 pm, Tuesday

Course introduction

This course can be an outspread course for students with major of Mechanical Engineering, Material Engineering, and Management Engineering. Through learning of this course, students can systematically understand the concept, theory, method, key technology, and future development trend of green design. And it is necessary for students to grasp the background of creation for green design, evaluation of green products, methods of green design, disassemblage design, recyclability design, and package design.

Course objectives

After completing the course, students will;

- have developed an interest in envionmentally conscious design.
- be able to understand the basic knowledge and contents of green design.
- be able to evaluate the performance and function of green products.
- have developed English-language presentation and writing skills.

Course language

This course is taught completely in English. Students will need to have a good level of English to read and understand the contents and to complete the assignments.

Course format

3 hours are taught online, but midtem and final exam will be offline.

Number of students

≤30

Course guidelines, requirements and expectations

All students must

- use the required text/material and download or prepare any other materials required by the teacher.
- act respectfully and courteously in class at all times.
- be on time and be prepared.
- attend and participate actively in all classes.
- complete all required readings, assignments and exams.

Required texts/materials

Environmentally Conscious Mechanical Design, MYER KUTZ
2007, published online
ISBN: 9780470168202
Other texts are provided online. Students must have access to a reliable computer with internet connection, video, and sound.

Course website

https://canvas.suwon.ac.kr/
https://ic.suwon.ac.kr/

Course policies

To complete a course, students must attend at least 75% of classes. That is, if students miss a course **more than four times**, they will fail the course.

Absences:

- There are NO excused absences

Lateness:

- 3 times late = 1 absence.
- Students who arrive late should tell the teacher if attendance has already been taken.

Assessment:

- Missing any assessments results in an automatic F for the class.
- Assessment will be by class participation, presentation, exam and written essay.
- Makeup exams are allowed but will be docked points.
- Cheating is not tolerated and will result in an automatic F.

Grading:

- Presentations / quizzes: 25%
- Attendance / attitude / participation: 25%
- Midterm assessment: 25%
- Final assessment: 25%

NOTE: Required by the University of Suwon, this course is graded on a curve (relative grading). The curve is as follows: A0/A+ ≤ 25%, B0/B+ ≤ 45%, C0/C+/D0/D+/F ≥ 30%.

Spring 2019 Elective Schedule

Date	Lesson content
Week 01: Mar 04-Mar 08	Orientation 1. Introduction. 2. About me.
Week 02: Mar 11-Mar 15	Green Design 1 1. Background. 2. Structure. 3. Development trend. 4. Compared with traditional design.
Week 03: Mar 18-Mar 22	Green Design 2 1. Materials selection criterion. 2. The need for material selection. 3. Factors in material selection for green design. 4. To read a paper.
Week 04: Mar 25-Mar 29	Green Design 3 1. How to develop green design tools? 2. Main tools for green design. 3. Product design matrix. 4. To read a paper. 5. To see videos.
Week 05: Apr 01-Apr 05	Green Products 1 1. Basic concept, specific character and international certification. 2. Representative green products. 3. To read papers. 4. To see videos.
Week 06: Apr 08-Apr 12	Green Products 2 1. Evaluation method for green products. 2. Fuzzy level evaluation for green products based on life cycle. 3. To read a paper.
Week 07: Apr 15-Apr 19	Review 1 1. Green design. 2. Green product. 3. To see a video.
Week 08: Apr 22-Apr 26	**Midterm assesment** Report 1 submission and offline midterm exam
Week 09: Apr 29-May 03	Life-Cycle Design 1 1. Definition of life-cycle-design. 2. Design for the life-cycle-definitions. 3. Motivations for design for the life-cycle. 4. Principles of design for the life-cycle.
Week 10: May 06-May 10	Life-Cycle Design 2 1. Life-cycle design methods. 2. Design for the life-cycle tools. 3. Implementation of design for the life-cycle. 4. The future of design for te life-cycle.
Week 11: May 13-May 17	Product Design for Sustainability 1 1. Introduction. 2. Product sustainability drivers. 3. Product life cycle stages.
Week 12: May 20-May 24	Product Design for Sustainability 2 1. Product design for sustainability. 2. Case study. 3. Summary and outlook.
Week 13: May 27-May 31	Environmentally Conscious Manufacturing 1. Environmentally benign manufacturing. 2. Supply chain. 3. Manufacturing processes.
Week 14: Jun 03-Jun 07	Review 2 1. Life-cycle design. 2. Product design for sustainability. 3. Environmentally conscious manufacturing.
Week 15: Jun 10-Jun 14	**Final assessment** Report 2 submission and offline final exam
Week 16: Jun 17-Jun 21	Make-up Week

NOTE: The course content listed above is subject to change.