
SYLLABUS

Date/ Revision	21 March 2017 / Rev. 01
Faculty	Engineering
Approval	Dean of Engineering Faculty

SUBJECT : Mechatronics System Design 2

1. Identification of Subject:

Name of Subject	: Mechatronics System Design 2
Code of Subject	: MESD-3002
SKS	: 3
Semester	: 6
Study Program	: MTE
Lecturer	: to be announced.

2. Competency

After taking this course, students are expected to be able to:

- Apply product design techniques to the development of mechatronic systems;
- Design and build a simple mechatronic product using the correct method and tools;
- Manage a mechatronic-engineering project, from a scratch into the product;
- write the documentation of the project;
- Demonstrate the presentation skills in front of the class to explain the project-product;

3. Description of Subject:

The Mechatronic System Design 2 is a project base course, where the student will design and build a simple mechatronics system. Included in this course is a formal project proposal, portfolio and GEC requirements for written and oral communication which include a research paper and two oral presentations

4. Learning Approach

Approach	: Combination of Expository - inquiry and collaborative
Method	: Discussion, project work
Student Task	: Writing project proposal, project work, writing project report, presentation
Media	: Workshop, laboratory, LCD projector, film.

5. Evaluation

a) Absence maximum	< 25%
b) Participation in discussion	: 5 points
c) Project result and Report	: 45 Points
d) Presentation, Simulation	: 10 points
e) Final Examination	: 40 points
Total	: 100 points

6. Contents/ Topics of Lecturing:

Week	Content/ Topics of Lecturing	Text Book Chapter	Remark
1	<ul style="list-style-type: none"> • Introduction and Explanation of the course structure • Distributing the task to each student • Project Proposal writing and discussion 		
2	Discussion on Project Design <ul style="list-style-type: none"> • Mechanical system: Technical Drawing (CAD), calculation of forces and torque, review of design • Electrical/electronic circuit design, review and discussion 		
3	Presentation 1: Progress of project design		
4-6	Discussion on Project Design <ul style="list-style-type: none"> • Mechanical system: review and discussion • Electrical/electronic circuit: review and discussion 		
7	Presentation 2: Progress of project design		
8	MIDTERM SEMESTER BREAK		
9-10	Discussion on Project <ul style="list-style-type: none"> • Mechanical system: design implementation and discussion • Electrical/electronic circuit: design implementation and discussion 		
11	Presentation 3: Progress of project design		
12-14	Discussion on Project <ul style="list-style-type: none"> • Mechanical system: design implementation and discussion • Electrical/electronic circuit: design implementation and discussion • Writing project report 		
15	Presentation 4: Progress of project design		
16	FINAL EXAMINATION		

7. Book Reference:

Textbooks:

- Bolton W., „*Mechatronics: Electronic Control Systems in Mechanical and Electrical Engineering - 6th Edition*“, Pearson Education - International Edition, 2015, ISBN: 978129207668-3
- Alciatore, D.G. and Hinand, M.B., „*Introduction to Mechatronics and Measurements Systems*“, McGraw-Hill, 2003
- R. Isermann, „*Mechatronische Systeme – Grundlagen*“, Springer-Verlag, Berlin, 1999

[Subject to Change / MaS /Rev.01]