Courses for Semester #3

Ident. No. (Code)	Course Name	Status	Note
MT1	Master Thesis (Part 1)	Done	Proposal by Rolf, revised by Harald and Martin.
MT2	Master Thesis (Part 2)	Done	Proposal by Tarek, revised by Nabil.

Master Thesis (Part 1), Final

Identification number	Workload	Credits	Semester	Frequency of offer	Duration
MT1	900 h	30 (25+5) ECTS CH	3	Winter semester	1 Semester

1	Courses	Contact time	Self-study	Planed group size
	MT1: Masterthesis KO: Kolloquium	0 h	900 h	1 Student

2 Learning outcomes) / competencies

MT1: The Master thesis and subsequent colloquium form the final part of the Master's examination. The main examiner of the Master thesis should be a professor of the university handing out the topic.The Master's thesis consists of the independent processing of a relevant engineering-based task from the field of mechatronics and the written representation of applied scientific methods and results. It should demonstrate that the candidate is able to work within a given period to such a task independently and that he or she can present the results clearly and understandably. The candidate may make suggestions for the topic of the master thesis. The processing time for the thesis after the award of the subject is limited to a minimum of 3 months and a maximum of 5 months.

KO: Directly adjacent to the master's thesis is to be the Master colloquium. In the colloquium the candidate defenses the thesis in form of a presentation, about 15-30 min for the examiners of the Master thesis. This presentation may also be public university wide. Followed by a maximum of 30 non-public minute oral examination on the content of the thesis and on the technical or scientific field, in which the master thesis should be.

3 Contents

Project topics are assigned respectively to the research foci of the hosting university institutes or will be chosen by the students from the industrial environment.

4 Teaching Method

Single or small groups

5 Requirements

The student has successfully completed a BSc or BEng course in Egypt or Jordan; he/she student studies in the accredited JIM2L Mechatronics Masters Course in Egypt or Jordan; he/she has successfully completed the first two theory semesters of the JIM2L Master Course correspond to a credit equivalent of 60 ECTS (equivalence must be given) at his/her home university

6 Examination

Master thesis, presentation and oral exam

7 Requirements for awarding credit points

	Passed Module examinations
8	**Significance of the mark for the final score**
9	**Representative module and full-time teachers**
10	**Other Information**

Master Thesis II

Identification number	Workload	Credits	Semester	Frequency of offer	Duration
MT4	900 h	30 (25+5) ECTS CH	4	Spring semester	One Semester

1	Courses	Contact time	Self-study	Planed group size
	Thesis Report Thesis Defense	0 h	900 h	One Student

2 Course Description

This is a research-oriented work that builds on Thesis I: The candidate is required to extend his Thesis I work (that was carried at a partner institution) and continue at his original institution. The type of research extension will be setup by the department and agreed upon at the end of Thesis I. This extension might include further analysis of results, modified algorithms with new simulation runs, and/or laboratory/industry application of developed work.

The candidate will present his Thesis work to an examination committee selected by the department. The presentation should explain the research work and analyze its results. The candidate will then go through an oral examination regarding his work.

3 Learning Outcomes

On completing the course, students will be able to have to following skills:

- Knowledge and understanding
  - A1. Understand detailed and advanced research concepts
  - A2. Review and analyse related literature
- Intellectual skills
  - B1. Improve the students' research and innovative ability
  - B2. Derive, design, and apply advanced concepts
- Professional and practical skills
  - C1. Write technical reports and research papers
  - C2. Communicate effectively by presenting and defending ones work
- General and transferrable skills
  - D1. Transfer technology between institutions
  - D2. Build teamwork for research work

4 Contents

Thesis topics will be based on: research directions of the institution and local industrial needs. The work will be deal with advanced mechatronics concepts

5 Teaching Method

Single or small groups

6 Requirements

	Passing Thesis I
7	**Examination** Master's Thesis Report Presentation and Oral Exam
8	**Requirements for awarding credit points** Passing the module examinations Submitting research work for publication
9	**Significance of the mark for the final score**
10	**Representative module and full-time teachers**
11	**Other Information**