



### Course description:

This course provides practical experience in researching, designing, developing and testing a non-trivial Software Engineering project. Projects are generally software-based, although sometimes they may involve hardware development or investigation of theory. Projects cover the whole process of software (or hardware) development, from analysis through design to implementation and testing. Comprehensive written documentation on the project is required. Students are assigned in groups to a project supervisor. There are no lectures in this unit, although students will be expected to attend regular meetings with their project supervisor.

### Aim of the course:

The course objective is to encourage students to apply their accumulated learning, knowledge and experience to produce a high quality solution (a Product) that is applicable in a real life situation.

### Intended Learning Outcomes: (ILOs)

On completion of this unit, students should be able to:

- A. evaluate and select research methods and techniques of data collection and analysis appropriate to a particular project;
- B. search, access, and analyze research literature as part of the process of developing solutions to problems;
- C. develop and test a substantial piece of software or hardware;
- D. explain and reflect upon the purpose, operation, success and value of the developed project in writing and orally;
- E. Write a report explaining methodology, outlining their contributions and the contributions of others, and documenting the developed project from appropriate perspectives, for instance that of a user, researcher or developer.

### Course structures:

Week	Credit Hours	ILOs	Topics	Teaching Procedure	Assessment methods
1	3	A1	Research methods Data collection techniques	Presentation methods and techniques, Sources of information and Instructional Aids	Diagnostic tests to identify the students level and areas of weakness Formal (stage) evaluation a) Class Participation b) Midterm d) Activity file
3,4	4	A1, A3	Data analysis tools <ul style="list-style-type: none"> <li>• SPSS</li> </ul>	Presentation methods and techniques,	Diagnostic tests to identify the students level and

			<ul style="list-style-type: none"> <li>• AMOS</li> </ul>	Sources of information and Instructional Aids	areas of weakness Formal (stage) evaluation a) Class Participation b) Midterm exam d) Activity file
4,5	4	A1,A2, A3	<ul style="list-style-type: none"> <li>• Literature review</li> <li>• Writing skills</li> </ul>	Presentation methods and techniques, Sources of information and Instructional Aids	Diagnostic tests to identify the students level and areas of weakness Formal (stage) evaluation a) Class Participation b) Midterm exam d) Activity file
5,6	3	B1, C1	Software development techniques Requirements analysis Requirements elicitation Software testing	Presentation methods and techniques, Sources of information and Instructional Aids	Diagnostic tests to identify the students level and areas of weakness Formal (stage) evaluation a) Class Participation b) Midterm exam d) Activity file
7,8,9	3	B2, B3	Project Management skill Project evaluation	Presentation methods and techniques, Sources of information and Instructional Aids	Diagnostic tests to identify the students level and areas of weakness Formal (stage) evaluation a) Class Participation b) Midterm exam d) Activity file
10,11	3	B2, B3	explaining methodology  Outlining contributions  Contributions of others.	Presentation methods and techniques, Sources of information and Instructional Aids	Diagnostic tests to identify the students level and areas of weakness Formal (stage) evaluation a) Class Participation final exam d) Activity file
12,13	3	B2, B3	Documentation finalization	Presentation methods and techniques, Sources of information and Instructional Aids	Diagnostic tests to identify the students level and areas of weakness Formal (stage) evaluation a) Class Participation b) Final exam d) Activity file

			<b>FINAL EXAMINATION W EEK</b>		
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**References:**

- 1- *Systems Analysis and Design, 9th Edition*, Gary B. Shelly, Thomas J. Cashman and Harry J. Rosenblatt, ISBN-10: 0538481617 | ISBN-13: 978-0538481618, Course Technology, 2011

Developing Software with UML: Object- Oriented Analysis and Design in Practice, Bernd Oestereich, Addison Wesley, 2002

**Assessment Methods:**

Methods	Grade	Date
Progress Reports	15%	During Semester
Supervisor	20%	Week 15
Charmman of the Committee	30%	Week 16
Committee member	30%	Week 16
Department	5%	Week 16

