

Courses Description

1503270 Introduction to Software Engineering 1501112

Topics covered include: introduction to software engineering, software processes, software processes models, software requirements: functional and non-functional requirements, system models, and architectural design. Also contains a lab to applying modeling by using UML.

1503271 Software Engineering System Requirements 1503270

Software development models, The requirements Engineering Process, Elicitation of requirement , Functional and non functional requirements, System services and constraints, Quality of Requirements, Requirements traceability matrix, Metrics for non-functional requirements, Use case description, Use case and context diagrams, Software Requirements Specification, IEEE Standard, Requirements for agile developments, Requirements for various systems: embedded systems, web-based systems, business systems, Requirements management.

1503272 Software System Modeling 1503271

This course aims to introduce the students to fundamental concepts of object oriented approach to development based on modeling objects from the real world and then using the model to build the language independent design organized around objects.

1503273 Human Computer Interaction 1503270

Tools and techniques for designing, implementation, deploying and evaluation of user interfaces and interactive systems; Dialogue Styles, Theories of interaction and component integration, Human-Computer Interaction frameworks.

1503370 Software Design and Architecture 1503271

Design concepts: Role of design activity, design as problem solving process, building models, design pattern, constraints upon the design process, object-oriented design, aspect-oriented design, component based, and architectural design: styles, hardware issues, requirements traceability, domain-specific, architectural notations.

1503371 Software Engineering Tools 1503272

This course offers the latest tools used in software engineering where students are trained to use them through the design of different software systems as well as applies these tools on all phases of the system development life cycle.

1503374 Software Documentations**1502372**

This course aims to introduce the student to fundamental concepts of software documentation, the task orientation process and how you break the project to small tasks and how to construct a task list from a project. This course also explain the forms of software documentation such Tutorials, procedures and references. Finally the course introduces the student to the process of software documentation, from user analysis thru editing and fine tuning.

1503390 Project 1**1502360**

In this course the student will be completed his/her first part of the graduation project that includes scheduling time, planning, analysis, design, software selection and also and the selection of the project team work project. It requires that the student has successfully completed 90 hours of study plan.

1503391 Internship for SE**Must be approved by the department**

In this course, the students are trained in one of the relevant institutions majoring in software engineering, whether in the private or public sector. The duration of the training is eight weeks and the student requires submitting a detailed report on his/her training at the end of the training period . It requires that the student has successfully completed 90 hours of study plan.

1503470 Software Project Management**1503270**

Issues involved in software project management. Techniques to develop software project plans, supporting software quality plans and risk management plans. Topics also covered include project management issues: client management; management of technical teams, project planning, and scheduling, risk management, configuration management, quality assurance and accreditation, legal issues. Practical work for three hours weekly is also included.

1503471 Large Scale Systems Design**1503370**

The course provides a description of the life cycle of large computer systems, and explains how it can be identified, their design and implementation. Systems Analysis is offered as a means to gather and organize information so that the required specifications closely correspond to the requirements of users. Then the course provides an explanation of design and converts requirements specification to the form that can be implemented. This is done through the use of tools that are available to manage and develop projects and large commercial software.

1503472 Software Testing and Quality Assurance**1503370**

Software Testing is a survey course on concepts, principles, and techniques related to software testing and formal program verification. Students will become acquainted with both the strengths and limitations of various functional and structural testing methods, as well as techniques for proving the functional correctness of sequential programs. Topics include: black-box and white-box test case design strategies, incremental integration testing techniques, inspections and reviews. Students will have the opportunity to practice the techniques presented in lectures via optional exercises. As well as this course focuses on techniques for ensuring software quality. Here, quality assurance is viewed as an activity that runs through the entire development process: understanding the needs of clients and users; analyzing and documenting requirements; verifying and validating solutions through testing

1503474 Component-based Development**1503370**

Definition of components, components interface communication, the link between components interface and useful of use components, design components and assembled, relationship basic techniques between server models and client, basic techniques and their relationship varieties, an architectural components, mainstream components, treatment conversations, media, responsiveness, middleware, object-oriented idea, brokers and object-oriented applications, cases studies.

1503475 Maintenance and Evolution**1503370**

Complementary, preventive maintenance as well as this course focus on economic impact of maintenance, Administrative matters relating to the maintenance of the system such as the organizational structure of the maintenance unit, quality measurement, operations of multiple systems and management of copies. This course also includes role of CASE tools, reverse-engineering and re-design and programming in software maintenance. Students will learn different models for the process of maintenance, such as: Boehm, Osborne, iterative optimization, systems and software reuse.

1503490 Project 2**1503390**

Students are required to develop graduation projects in one of the information technology fields. Students are required to strictly follow standards during the analysis, design and implementation of their projects. Comprehensive documentation of the project stages is to be submitted.

1503491 Special Topics in Software Engineering Must be approved by the department

This course aims to provide an explanation of selected topics trends, developments and research areas of modern and current field of software engineering. This course is determined to change the topics and content base on the selection of department board.