

Course Description for Software Engineering Courses

The Description of the Courses Offered by the Department of the Software Engineering for the study plan 2016

1) Fundamentals of Software Engineering

Course Name	Course Number	Prerequisite	Credit Hours
Fundamentals of Software Engineering	151003260	151001110	3

The course covers the fundamental topics in software engineering. Software production and development models. Software life cycles. Process and system models. Team work models. Software planning, modeling, maintenance, and quality. Requirements specification and management. Software analysis and design. Basics of software testing.

2) Software Design

Course Name	Course Number	Prerequisite	Credit Hours
Software Design	151003332	151003221	3

Fundamental design concepts, design notations, architectural design methods for Large-scale software systems, and design patterns. Several design methods are presented and compared, with examples of their use. We will present a range of effective methods to evaluate and meet professional quality standards.

3) Software Testing

Course Name	Course Number	Prerequisite	Credit Hours
Software Testing	151003410	151003221	3

The course covers in details various aspects, theories, concepts, techniques and tools of software testing during development, maintenance and evolution. Topics include software testing at different levels (the unit, module, and system levels), testing management, inspections and walkthrough, model checking, designing and verifying test hypothesis, details of the verification and validation (V&V) techniques and concepts, bugs tracking, designing test cases and testing paths, generating of testing data. The course will be supported by practical exercises involving the development of appropriate tests and the application of a range of testing tools.

4) Software Project Management

Course Name	Course Number	Prerequisite	Credit Hours
Software Project Management	151003436	151003260	3

This course covers the principles of people management, software process implementation, software tools selection, software measurements implementation, project vision and resources' organization. It also studies, in detail, the topics related to project planning, software estimation and scheduling techniques, and project implementation and control.

5) Object Oriented Software Development

Course Name	Course Number	Prerequisite	Credit Hours
Object Oriented Software Development	151003221	151003260	3

The course provides students with knowledge and practice in object oriented thinking approach in software development process and object oriented modeling using UML. The course aimed to familiarize student with object oriented analysis, design, implementing, and testing.

6) User Interface Design and Implementation

Course Name	Course Number	Prerequisite	Credit Hours
User Interface Design and Implementation	151003437	151001212	3

Principles of user interface design, development and programming, rules of GUI design, user physiology and human computer interaction, adaptive user interfaces, icon and window design, user guidance systems, using MVC model in user interface development.

7) Software Quality Assurance

Course Name	Course Number	Prerequisite	Credit Hours
Software Quality Assurance	151003440	151003332	3

The course explores variety of SQA components, activities, standards, and tools that cover: project life cycle (requirements, design, and implementation), project management, risk management, project budget and cost, documentation, and development team. The course also covers software quality metrics (metrics for the quality of analysis, design and code). Software complexity measures are also covered.

8) Applied project 1

Course Name	Course Number	Prerequisite	Credit Hours
Applied project 1	151003496	Finished 80 credit hours	1

9) Applied Project 2

Course Name	Course Number	Prerequisite	Credit Hours
Applied Project 2	151003499	151003496	2

Students, divided in groups, design and develop a software system using methods and skills acquired throughout their study.

10) Software Requirements Engineering

Course Name	Course Number	Prerequisite	Credit Hours
Software Requirements Engineering	151003323	151003221	3

The course covers methods, techniques and tools for the elicitation, analysis, modeling, specification, documenting reviewing and management of Object Oriented software requirements. The course focuses on large scale software projects. The modeling is done via UML notations. The course focus on Object Oriented methodologies on construct, analyze and validate requirements. The topics also include prototyping, risk analysis and management.

11) Selected Topics in Software Engineering

Course Name	Course Number	Prerequisite	Credit Hours
Selected Topics in Software Engineering	151003495	Finished 80 credit hours	3

This course allows the department to cover one of the recent topics in the field of software engineering.

12) Advanced Software Engineering

Course Name	Course Number	Prerequisite	Credit Hours
Advanced Software Engineering	151003438	151003260	3

The course covers advance topics in software engineering. The topics are software cost estimation, Software Reuse, Component-based Software Engineering, Distributed Software Engineering, Aspect-oriented software engineering, software evolution and maintenance, refactoring, reverse engineering.

13) Software Documentation

Course Name	Course Number	Prerequisite	Credit Hours
Software Documentation	151003320	151003221	3

This course gives an overview about writing methods and practices that software engineers use to create software documentation. It also covers topics related to software documentation process, documenting for the programmer, documenting system tests and online documentation. In addition, this course covers in details topics related to types of online documentation, user documentation and system documentation.

14) Web Applications Engineering

Course Name	Course Number	Prerequisite	Credit Hours
Web Applications Engineering	151003351	151001370	3

The course is an advance topic in Web design and Web programming. The course focuses on methodologies, technologies and tools required for building and developing high quality (reliable, usable, secure, available, and maintainable) and highly interactive large-scale Web sites. The course utilizes and explores the latest technologies in Web programming and development, client-server programming and component based programming.

15) Practical training

Course Name	Course Number	Prerequisite	Credit Hours
Practical training	151003498	Completion of an 80 hour study	3

The requirements for obtaining a bachelor's degree in software engineering include the student's completion of a field training. The duration of field training is eight continuous weeks inside or outside Jordan, at a rate of (40) working hours per week, subject to the approval of the department, and that it takes place in one of the institutions specialized in this, whether in the public or private sector. Therefore, accreditation of the training location requires the approval of the department. Students are allowed to register for the field training subject after successfully completing at least (80) credit hours, and pre-requisite hours are not calculated for this purpose. The student registers field training for 3 credit hours. It is not permissible for a student to combine field training with studying theoretical subjects during any of the first and second semesters except in special cases decided by the College Council, and with no more than (3) credit hours if this leads to his graduation, and the student is not allowed in the summer semester except with registration Field training only. The field training course is not equivalent to an international certificate except with the approval of the department.

16) Cloud Computing Applications

Course Name	Course Number	Prerequisite	Credit Hours
Cloud Computing Applications	15100 3334	15100 2240	3

This course provides a hands-on comprehensive study of Cloud concepts and capabilities across the various Cloud service models including Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Software as a Service (SaaS), and Business Process as a Service (BPaaS).