COMSATS University Islamabad
Department of Computer Science
Course Description Form (CDF)

Course Information

Course Code: **CSC498** Course Title: **Senior Design Project I**

Credit Hours: **2(0,2)** Lecture Hours/Week: **0**

Lab Hours/Week: **2** Pre-Requisites: **CSC270, CSC291, HUM102, CSC241**

Catalogue Description:

This course is designed as a capstone project which requires students to demonstrate technical and presentation skills at levels which are commensurate with professional software engineering practices. It is desirable that students apply their knowledge of computing throughout the course such as development of requirements, design, implementation, and quality assurance to develop a software solution to a real-world problem from conception to completion. In this part, students propose a practically useful project (by writing the scope document) and develop software requirement specification document & software design document.

Mapping of CLOs and SOs

Sr.#	Possible Artefacts	Course Learning Outcomes	Blooms Taxonomy Learning Level	SO
CLO-1	Scope and SRS Document	Propose a software project of significant difficulty in a clear and concise manner.	*Creating*	1,2,6,9
CLO-2	Scope and SRS Document	Formulate clearly software requirements of the identified problem. (SRS)	*Creating*	2-6,9
CLO-3	SDD Document	Develop software design using appropriate professional standards based on requirement specification documents. (SDS)	*Creating*	2-6,9
CLO-4	Partial Implementation	Demonstrate partial implementation in a team environment.	*Creating*	2-5
CLO-5	Report	Write quality technical documents using report-writing skills.	*Creating*	1,5,6
CLO-6	Presentation	Present the project in a team environment.	*Creating*	5-9
CLO-7	Presentation & Seminars	Demonstrate the capability to communicate, professionally with computing community, professional disposition, and ethical stance in a team environment.	*Creating*	5-9

Text and Reference Books

Textbook: **None**

Reference Book: As prescribed by the teacher depending on the project's domain

	Evaluation 1: SRS Rubrics for FYP Evaluators				
TotalMarks: 25	**Criteria**	**Marginal**	**Adequate**	**Good**	**Excellent**
		10%-20% Marks	**30%-50% Marks**	**60%-80% Marks**	**90%-100% Marks**
CLO-1: Project Idea / Scope (5)	**Analysis of Existing systems (0.5)**	The presented evidence is of low relevance with questionable accuracy.	The evidence is relevant, accurate and covers several aspects of the project.	Good coverage with relevant and accurate support.	Evidence is with higher degree of relevance and originality.
	Problem Defined (2.5)	Very little understanding regarding problem domain.	Some understanding regarding problem domain. Need clarification about some aspects of the problem domain.	Good understanding regarding problem domain. Need little clarification.	Creative Idea and Excellent understanding regarding problem domain
	Suggested Proposed solution (1.5)	Solution is ambiguous	Solution solves about 50% aspects of problem statement effectively.	Solution solves problem about 75% aspects of problem statement effectively.	Solution solves problem in most effective manner using proper techniques.
	Suggested Tools & Technologies (0.5)	Very little understanding of the suitable tools and technologies applicable to the problem domain.	Some understanding of the suitable tools and technologies applicable to the problem domain.	Good understanding of the suitable tools and technologies applicable to the problem domain.	Excellent understanding of latest tools and technologies applicable to the problem domain.
CLO-2: SRS (11)	**Are FRs mapped to the problem (4)**	Incorrectly defined with low coverage.	Incorrectly defined with high coverage	Correctly defined with low coverage	Correctly defined with high coverage
	Are NFRs mapped to the problem (2)	Incorrectly defined with low coverage	Incorrectly defined with high coverage	Correctly defined with low coverage	Correctly defined with high coverage
	Is requirements analysis correctly performed by applying suitable technique (use case diagram / use case, event response table or story boarding? (3)	Incorrectly defined with low coverage	Incorrectly defined with high coverage	Correctly defined with low coverage	Correctly defined with high coverage
	Are mocks defined according to requirements (2)	No	Somewhat	Mostly	100% followed
CLO-5: SRS Document (5)	**Is SRS Document Template followed? (2)**	No	Somewhat	Mostly	100% followed
	Is technical write-up correct? (3)	The document is poorly formatted with many grammatical mistakes	The document is partially formatted with few grammatical mistakes	The document is well formatted with few grammatical mistakes	The document is well formatted
CLO-6 & 7: Presentation (4)	**Project Domain Knowledge (1)**	No	Somewhat	Mostly	Good
	Q/A Ability (2)	Answer at least one question correctly. Need clarification.	Answer most questions correctly. Need clarification sometimes.	Answer most questions correctly and concisely	Handle difficult questions with ease and confidence. Illustrative explanation.
	Is the student wearing proper attire (1)	Student's attire is barely acceptable	Student's attire is appropriate	Student's attire is good	Student's attire is excellent

	Evaluation 1: SRS Rubrics for Supervisor				
TotalMarks: 25	**Criteria**	**Marginal**	**Adequate**	**Good**	**Excellent**
		10%-20% Marks	**30%-50% Marks**	**60%-80% Marks**	**90%-100% Marks**
CLO-7: Professional Attitude (5)	**Regularity (5)**	Student has a serious problem with keeping agreed to meeting and deadlines. Supervisor has not been able to get a picture of the status of the work during the project.	Student has been late to meetings or in sending deliverables in a way that have hampered the process. The Supervisor had to prompt the students with questions about the status of the work.	Student has mostly sent deliverables on agreed dates. With only a few exceptions, student(s) have been on time to meetings and in reporting their progress.	Student has kept continuous contact during the work and has been on time both to meetings and in sending deliverables.
CLO-2: SRS (10)	**Are FRs defined correctly & complete (4)**	Incorrectly defined with low coverage.	Incorrectly defined with high coverage	Correctly defined with low coverage	Correctly defined with high coverage
	Are the NFRs defined according to problems (1)	Incorrectly defined with low coverage	Incorrectly defined with high coverage	Correctly defined with low coverage	Correctly defined with high coverage
	Is requirements analysis correctly performed by applying suitable technique (use case diagram / use case, event response table or story boarding? (3)	Incorrectly defined with low coverage	Incorrectly defined with high coverage	Correctly defined with low coverage	Correctly defined with high coverage
	Are mocks defined according to requirements (2)	No	Somewhat	Mostly	100% followed
CLO-5: SRS Document (5)	**Is SRS Document Template followed? (2)**	No	Somewhat	Mostly	100% followed
	Is technical write-up correct? (3)	The document is poorly formatted with many grammatical mistakes	The document is partially formatted with few grammatical mistakes	The document is well formatted with few grammatical mistakes	The document is well formatted with few grammatical correct
CLO-7: Seminars (5)	**Student Participation in Seminars (5)**	The student has not attended any seminar throughout the tenure of FYP-I	The student has attended limited seminar throughout the tenure of FYP-I	The student has attended most of the seminar throughout the tenure of FYP-I	The student has attended all seminar throughout the tenure of FYP-I

	Evaluation 2: SDD Rubrics for Evaluators				
TotalMarks: 25	**Criteria**	**Marginal**	**Adequate**	**Good**	**Excellent**
		10%-20% Marks	**30%-50% Marks**	**60%-80% Marks**	**90%-100% Marks**
CLO-3: SDD (11)	**Data representation diagram (ERD, XML schema, JSON schema etc.) with description (2)**	Not suitable without justification	Not suitable with justification	Suitable without justification	Suitable with justification
	Process flow (Activity Diagram) (2)	Incorrect without description	Incorrect with description	Correct without description	Correct with description
	Design Models, the applicable models may include:(5) **-Class Diagram** **-Sequence Diagram** **-State Transition Diagram** **-Data Flow Diagram**	Incorrect without description	Incorrect with description	Correct without description	Correct with description
	Define Algorithm/pseudo-code for major processes including external libraries/APIs. (2)	Algorithms are incorrectly described and do not represent major processes	Most of the algorithms are correctly described but do not represent major processes	Most of the algorithms are correctly described and also represent major processes	All algorithms are correctly described and represent major processes
CLO-4: Partial Implementation (40%) (5)	**Modules Completion status (40 %) (5)**	Major modules completion is at least 20% of the required percentage.	Major modules completion is at least 50% of the required percentage.	Major modules completion is at least 80% of the required percentage.	Major modules completion is at least 100% of the required percentage.
CLO-5: SDD Document (5)	**Is SDD Document Template followed? (2)**	No	Somewhat	Mostly	100% followed
	Is technical write-up correct? (3)	The document is poorly formatted with many grammatical mistakes	The document is partially formatted with few grammatical mistakes	The document is well formatted with few grammatical mistakes	The document is well formatted
CLO-6 & 7: Presentation (4)	**Project Domain Knowledge (1)**	No	Somewhat	Mostly	Good
	Q/A Ability (2)	Answer at least one question correctly. Need clarification.	Answer most questions correctly. Need clarification sometimes.	Answer most questions correctly and concisely	Handle difficult questions with ease and confidence. Illustrative explanation.
	Is the student wearing proper attire (1)	Student's attire is barely acceptable	Student's attire is appropriate	Student's attire is good	Student's attire is excellent

	SDD Rubrics for Supervisor				
TotalMarks: 25	**Criteria**	**Marginal**	**Adequate**	**Good**	**Excellent**
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CLO-6 & 7: Professional Attitude (5)	**Regularity (5)**	Student has a serious problem with keeping agreed to meeting and deadlines. Supervisor has not been able to get a picture of the status of the work during the project.	Student has been late to meetings or in sending deliverables in a way that have hampered the process. The Supervisor had to prompt the students with questions about the status of the work.	Student has mostly sent deliverables on agreed dates. With only a few exceptions, student(s) have been on time to meetings and in reporting their progress.	Student has kept continuous contact during the work and has been on time both to meetings and in sending deliverables.
CLO-3: SDD (10)	**Data representation diagram (ERD, XML schema, JSON schema etc.) with description (2)**	Not suitable without justification	Not suitable with justification	Suitable without justification	Suitable with justification
	Process flow (Activity Diagram) (2)	Incorrect without description	Incorrect with description	Correct without description	Correct with description
	Design Models, the applicable models may include:(5) **-Class Diagram** **-Sequence Diagram** **-State Transition Diagram** **-Data Flow Diagram**	Incorrect without description	Incorrect with description	Correct without description	Correct with description
	Define Algorithm/pseudo code for major processes including external libraries/APIs (2)	Algorithms are incorrectly described and do not represent major processes	Most of the algorithms are correctly described but do not represent major processes	Most of the algorithms are correctly described and also represent major processes	All algorithms are correctly described and represent major processes
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