Master of Science in Software Engineering (MSE) <u>Curriculum Map</u>

[v.2019-02-22]

The MSE Committee

Definitions:
Student Learning Outcomes (SLOs)
Student Learning Outcomes (SLOs) are specific, measurable statements that let you know when you have reached your goals. SLOs describe specific changes in students' knowledge, attitude, and behaviors as a result of learning. SLOs can be accomplished by achieving the program's goals/objectives.

Performance Indicators (PIs)
Performance Indicators (PIs) are measurable effect to explain Student Learning Outcomes (SLOs). A PI is a measurable value that demonstrates how effectively the program is achieving the corresponding SLO.

Student Learning Outcomes (SLOs)

SLO-1: Professional, legal and ethical issues in software engineering
Be aware of professional, legal, and ethical issues in the software engineering area, and social impact. Be a responsible engineer to healthy society.

SLO-2: Software requirements comprehension and communication
Understand requirements clearly, and communicate with stakeholders in an appropriate manner. Be able to communicate properly through oral presentation and in a written form.

SLO-3: Software practices, process, assessment, and improvement
Be able to identify and use the best practices in various parts of software development. Be able to assess the current work process, and to improve continuously.

SLO-4: Collaborative work
Be able to work collaboratively with others. Be a good citizen in a team involved.

Performance Indicators (PIs)

COMM: Able to communicate clearly. Write a clear document with an appropriate tone. Deliver a clear presentation with an appropriate tone.
Satisfactory: Able to write and/or present very clearly
Developing: Able to write and/or present somehow
Unsatisfactory: Not able to write and/or present clearly

COOP: Cooperate effectively on a group project.
Satisfactory: Able to work cooperatively
Developing: Able to work with others somehow
Unsatisfactory: Not able to work with others well

PRAC: Exercise the best practices for design, coding, testing, maintenance, measurement, and management.
Satisfactory: Able to identify and use the known best practices
Developing: Able to identify the best practices and use somehow
Unsatisfactory: Not able to use the best practices

ETH: Demonstrate an understanding of professional ethics appropriate to the use or development of software engineering artifacts.
Satisfactory: Understand most of the ethical issues
Developing: Understand some
Unsatisfactory: Does not understand well

PROC: Demonstrate knowledge of a software engineering process (e.g. sequential, iterative processes).
Satisfactory: Able to understand and apply processes
Developing: Able to apply somewhat
Unsatisfactory: Not able to apply properly

SPEC: Ability to understand and specify the requirements properly
Satisfactory: Able to write a correct specification of the requirements in a proper manner
Developing: Able to write somehow
Unsatisfactory: Not able to write specification correctly

STD: Understand and use standards (e.g., ISO, IEEE, CMMI)
Satisfactory: Able to identify and use standards in appropriate areas
Developing: Able to use standards somehow
Unsatisfactory: Not able to use standard properly

Mapping of SLOs and PIs

SLO-1: Professional, legal and ethical issues in software engineering
ETH

SLO-2: Software requirements comprehension and communication
COMM, SPEC, STD

SLO-3: Software practices, process, assessment, and improvement
PRAC, PROC

SLO-4: Collaborative work
COOP

Curriculum Map (Mapping of Courses to SLOs and PIs)

MSE Course	SLO 1	SLO 2	SLO 3	SLO 4
541		SPEC, STD		
542			PRAC	COOP
543		COMM		COOP
544			PRAC, PROC	COOP
545		SPEC	PRAC	
546		COMM	PRAC	
547		COMM	PRAC	
548	ETH	COMM		
597		SPEC	PROC	
Course Survey (Indirect Evidence Supporting each course)	PIs assigned to the course	PIs assigned to the course	PIs assigned to the course	PIs assigned to the course
Exit Survey, or Alumni Survey (Indirect Evidence Supporting the program)	ETH	COMM, SPEC, STD	PRAC, PROC	COOP

*For the most up-to-date information, please contact the program.