Assessment Methods for PLO's

Assessment Methods for program learning outcomes.
Describe assessment methods (Direct and Indirect) that can be used to measure achievement of program learning outcomes in every domain of learning.

Direct Assessment1:

Exams (final and Mid term)
Classroom discussions.
Research projects
Field Training.
Graduation projects.
Teamwork.
student Portfolio
external reviewers

Indirect Assessment2:

Ratio of participation student in active learning
The number of hours the student spends in teaching and class participation.
Questionnaires of the students currently registered in the program.
Questionnaires of students' opinions expected to graduate.
Questionnaires of the opinions of the graduates' students of the previous program.
Questionnaires of the opinions of the academic staff members
Questionnaires of the opinions of partners in the relevant institutions both during the period of student training in it or after joining it.
Student's grades upon graduation.
Statistical data.
Reviewer's comments.

The Program also provides certain indirect assessment methods such as survey of Graduates, Program Evaluation by students and Faculty members and external stake holders where the students undertake field training.

No.	Learning outcome	Assessment methods	Data source	Measuring tool
K1	Define the fundamentals concepts in computer science.	Direct	Course (x)	The midterm exam and final exam(midterm exam and final exam questions connected with the learning outcomes of the course based on the K1 outcome)
		Indirect	Students	Survey of students' opinions about the quality of the program (related themes)

No.	Learning outcome	Assessment methods	Data source	Measuring tool
K2	Identify a given real problem in the field of computer science by using current techniques and tools.	Direct	Course (x)	Final exam connected with the learning outcomes of the course based on the K2 outcome
				Final exam connected with the learning outcomes of the course based on the K2 outcome
		Indirect	Students	Survey of students' opinions about the quality of the program (related themes)

No.	Learning outcome	Assessment methods	Data source	Measuring tool
K3	Outlines and understand the professional, ethical, legal, security and social issues and responsibilities	Direct	Course (x)	The midterm exam, assignment and final exam(midterm exam, assignment and final exam questions connected with the learning outcomes of the course based on the K3 outcome)
		Indirect	Students	Survey of students' opinions about the quality of the program (related themes)

No.	Learning outcome	Assessment methods	Data source	Measuring tool
K4	Acquire the computational and mathematical knowledge required for discipline	Direct	Course (x)	Classroom Discussion connected with the learning outcomes of the course based on the K4 outcome
		Indirect	Students	Survey of students' opinions about the quality of the program (related themes)

No.	Learning outcome	Assessment methods	Data source	Measuring tool
S1	Design, implement and evaluate a computer-based system, process, component, or program to meet desired needs	Direct	Course (x)	The midterm exam, assignment and final exam(midterm exam, assignment and final exam questions connected with the learning outcomes of the course based on the S1 outcome)
		Indirect	Students	Survey of students' opinions about the quality of the program (related themes)

No.	Learning outcome	Assessment methods	Data source	Measuring tool
S2	Develop team working skills and time management through case studies.	Direct	Course (x)	The midterm exam, assignment and final exam(midterm exam, assignment and final exam questions connected with the learning outcomes of the course based on the S2 outcome)
				Classroom Discussion connected with the learning outcomes of the course based on the S2 outcome
		Indirect	Students	Survey of students' opinions about the quality of the program (related themes)

No.	Learning outcome	Assessment methods	Data source	Measuring tool
S3	Discover the properties, new concepts, new laws and theorems	Direct	Course (x)	The midterm exam, assignment and final exam(midterm exam, assignment and final exam questions connected with the learning outcomes of the course based on the S3 outcome)
				Assignment connected with the learning outcomes of the course based on the S3 outcome)
		Indirect	Students	Survey of students' opinions about the quality of the program (related themes)

No.	Learning outcome	Assessment methods	Data source	Measuring tool
V1	Demonstrate the ability to work with colleagues in spirit of teamwork.	Direct	Course (x)	Students' presentations and group work connected with the learning outcomes of the course based on the V1 outcome)
				Rating scales for the activity related to the learning outcomes of the course related to the outcome (V1).

No.	Learning outcome	Assessment methods	Data source	Measuring tool
V2	Demonstrate the ability to work with colleagues in spirit of teamwork.	Direct	Course (x)	Assignment connected with the learning outcomes of the course based on the V2 outcome.
				Assignment connected with the learning outcomes of the course based on the V2 outcome.
		Indirect	Students	Survey of students' opinions about the quality of the program (related themes)