

Assessment Plan

M.S. in COMPUTER INFORMATION SYSTEMS
Department of Computer Science
College of Natural, Applied, and Health Sciences
Kean University

Mission:

The M.S. in Computer Information Systems Program at Kean University has goals that are aligned with the University and College Missions. The Computer Science faculty are devoted to instilling in their students advanced computational understanding as a way of designing and developing computational solutions. As such, we are devoted to academic rigor, critical thought, teaching excellence and ethical scholarship.

As a department, we prepare our students to think critically and creatively to succeed in challenging careers in computing or pursue graduate degrees by applying advanced knowledge of computing and mathematics to analyze problems for the identification, design, and implementation of computer-based solutions to adapt to the changing technological and social environments in a global economy.

Assessment Process::

Graduate students in the M.S. program in Computer Information Systems have six (6) required courses to take as part of the requirements for the graduate degree. These six required courses provide a demonstration of subject mastery in the discipline with regard to the applied and theoretical aspects of computer science as well as the various areas of study within related fields. As such, these six required courses are the primary vehicle for assessing the knowledge of our students. Beyond the six required courses, students take four other graduate computer science courses selected from a list of electives. It is unlikely that two graduate students would take exactly same grouping of courses. Therefore, the faculty have agreed to center our assessment on the required knowledge of computer science. Each required course has assessment tools as part of the evaluation process; however, culminating assessment is done in CPS 5995. In this course, assessment data is collected from an assignment that requires students to provide the evidence of meeting program goals. Each year, composite data from scored student assignments in CPS 5950 will be collected and analyzed to address areas of program strengths and weaknesses and to inform our decisions ultimately resulting in program improvements.

Each core course has assessment tools such as exams, research, group work and projects, etc., as part of the evaluation process. The program, established in Fall 2011, will use results of assessment for making improvements to program practices aimed at increasing student learning.

The culminating assignment done in CPS 5995, the Capstone Course, has been identified as a direct measure for assessing attainment of our program Student Learning Outcomes. In this course, assessment data is collected from a final project that requires students to provide the evidence of meeting program goals. Each semester, composite data from scored student assignments are collected and analyzed to address areas of program strengths and weaknesses and to inform our decisions ultimately resulting in program improvements. In addition, a systematic process for gathering data utilizing an indirect measure, the Graduating Student Survey, was established. Data from the student survey will also help inform our decisions regarding program improvement to increase student learning.

Program Student Learning Outcomes (SLOs) – as aligned with KU SLOs derived from the Institutional Mission* and GE SLOs. (Data from Direct and Indirect Measures collected each semester in the Capstone Course or a designated, end-of-program course.)**

Students who graduate with a MS in Computer Information Systems should be able to:

SLO1: Apply adv. knowledge of computing and mathematics appropriate to the discipline. (KU 1, 4)

Direct Measure: CPS 5995: Project report scored with rubric for achievement of program goals.

Direct Measure: CPS 5950: Embedded test questions

Indirect Measure: Graduating Student Survey

SLO2: Analyze a complex problem and identify and define the computing requirements appropriate to its solution. (KU 1, 4)

Direct Measure: CPS 5995: Project report scored with rubric for achievement of program goals.

Direct Measure: CPS 5950: Requirements document

Indirect Measure: Graduating Student Survey

SLO3: Design, implement, test, and evaluate a computer-based system, process, component, or program to meet desired needs. (KU 1, 2, 3)

Direct Measure: CPS 5995: Project demonstration scored with rubric for achievement of program goals.

Direct Measure: CPS 5950: Project demonstration scored with rubric

Indirect Measure: Graduating Student Survey

SLO4: Use advanced techniques and skills for rigorous analysis and presentation of the project necessary for computing practice. (KU 1, 2, 4)

Direct Measure: CPS 5995: Project report and oral presentation scored with rubric to demonstrate achievement of program goals.

Direct Measure: CPS 5950: Project demonstration, report and oral presentation scored with a rubric.

Indirect Measure: Graduating Student Survey

*** KU Student Outcomes: *Kean University graduates should be able to:***

1. Think critically, creatively and globally;
2. Adapt to changing social, economic, and technological environments;
3. Serve as active and contributing members of their communities; and
4. Advance their knowledge in the traditional disciplines (GE) and enhance skills in professional areas (Prof. pgms)

Curriculum Map
Course to Program/Discipline Level Student Learning Outcomes
Computer Science Program/Discipline

The Computer Science curriculum prepares students to achieve the expected student learning outcomes identified by the program or discipline. The following table demonstrates how learning activities in specific courses map to these learning outcomes.

Key: I-Introduced R-Reinforced M-Mastery A-Assessment evidence collected

Program/Discipline Student Learning Outcomes				
Required Courses	SLO1	SLO2	SLO3	SLO4
CPS 5100 Computer Info Systems		R	R	
CPS 5440 Adv. Analysis of Algorithms	R			R
CPS 5920 Database Systems		R	R	
CPS 5950 Software Engineering	R, A	R. A	R. A	R, A
CPS 5981 Software Assurance		R		
CPS 5995 CIS Capstone	M, A	M, A	M, A	M, A