# Student Outcomes Assessment Plan

Software Engineering & Information Systems Program  
MUST University  
  
Prepared for ABET CAC Accreditation Readiness

## 1. Purpose and Governance Framework

This document defines the comprehensive Student Outcomes (SO) assessment system for the Software Engineering & Information Systems Program. The plan aligns with ABET Computing Accreditation Commission (CAC) Criterion 3 (Student Outcomes) and Criterion 4 (Continuous Improvement).

The assessment process is formally governed by the Program Committee and approved by the Department Council. Only courses mapped at Mastery (M) level are used for direct SO assessment.

## 2. Student Outcomes and Performance Indicators

### SO1

* PI1.1 – Problem formulation and requirements identification
* PI1.2 – Application of computing principles and analytical methods
* PI1.3 – Evaluation and justification of alternative solutions

### SO2

* PI2.1 – System/software design documentation
* PI2.2 – Functional implementation quality
* PI2.3 – Testing, validation, and evaluation

### SO3

* PI3.1 – Technical written communication
* PI3.2 – Professional oral presentation

### SO4

* PI4.1 – Identification of ethical and legal issues
* PI4.2 – Ethical reasoning and professional judgment

### SO5

* PI5.1 – Effective team contribution
* PI5.2 – Leadership, coordination, and task management

### SO6

* PI6.1 – Application of computing theory
* PI6.2 – Application of software development methodologies

## 3. SO × PI × Course Mastery Assessment Matrix

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| --- | --- | --- |
| Student Outcome | Performance Indicators | Mastery Course & Assessment Tool |
| SO1 | PI1.1, PI1.2 | CS 335 – Analytical Modeling Project |
| SO1 | PI1.3 | ISS 321 – Capstone Architecture Section |
| SO2 | PI2.1, PI2.2 | CS 424 – System Design & Implementation |
| SO2 | PI2.3 | ISS 321 – Testing & Validation |
| SO3 | PI3.1 | MGMT 322 – Written PM Report |
| SO3 | PI3.2 | ISS 321 – Oral Defense |
| SO4 | PI4.1 | PHIL 222 – Ethics Case Study |
| SO4 | PI4.2 | CS 412 – Security Risk Assessment |
| SO5 | PI5.1 | MGMT 322 – Peer Evaluation |
| SO5 | PI5.2 | ISS 321 – Faculty Team Evaluation |
| SO6 | PI6.1 | CS 427 – DevOps Project |
| SO6 | PI6.2 | ISS 321 – Development Methodology Documentation |

## 4. Weighting and Aggregation Methodology

Each SO is assessed using two courses. Aggregation is computed as follows:

* • Primary Course Weight: 60%
* • Secondary Course Weight: 40%

Mastery Definition:

* • Rubric Level ≥ 3 (Meets Expectations)
* • Equivalent to ≥ 70% score threshold

Program Benchmark:

* • ≥ 70% of students must achieve mastery per SO.

Decision Rules:

* • ≥ 70%: Outcome achieved.
* • 60–69%: Monitoring and minor adjustments.
* • < 60%: Formal corrective action required.

## 5. Two-Year Assessment Calendar (Semester-Based)

|  |  |
| --- | --- |
| Semester | SO Assessed |
| Year A – Fall (Sem 5) | SO1 – CS 335 |
| Year A – Fall (Sem 5) | SO2 – CS 424 |
| Year A – Fall (Sem 5) | SO4 – PHIL 222 |
| Year A – Spring (Sem 6) | SO1 – ISS 321 |
| Year A – Spring (Sem 6) | SO2 – ISS 321 |
| Year A – Spring (Sem 6) | SO3 – ISS 321 |
| Year B – Fall (Sem 5) | SO5 – MGMT 322 |
| Year B – Fall (Sem 5) | SO6 – CS 427 |
| Year B – Fall (Sem 5) | SO4 – CS 412 |
| Year B – Spring (Sem 6) | SO5 – ISS 321 |
| Year B – Spring (Sem 6) | SO6 – ISS 321 |
| Year B – Spring (Sem 6) | SO3 – MGMT 322 |

## 6. Continuous Improvement Workflow

Step 1 – Data Collection

* • Instructors record rubric data in Moodle.

Step 2 – Aggregation

* • SO Coordinator aggregates weighted results.

Step 3 – Review Meeting

* • Program Committee reviews data annually.

Step 4 – Action Plan

* • Curriculum or pedagogical changes documented.

Step 5 – Implementation & Follow-Up

* • Actions implemented next academic cycle.

All assessment evidence, meeting minutes, action plans, and reassessment results are archived to support ABET Self-Study documentation.