UNIVERSITY OF CENTRAL ARKANSAS
ACADEMIC ASSESSMENT PLAN
Requirements, Template, and Example

Requirements

1. *Submit with New Program Proposal*
    a. *Programs are encouraged to consult with the Office of University Assessment.*
    b. *Contact information assessment@uca.edu*
2. *Send copy of Assessment Plan to the Office of University Assessment, Wingo 215.*
3. *Update the Program Assessment Plan based upon EAPR or Accreditation Cycles.*

Basic Information

Program Name: MS in Computer Science

College: College of Science and Engineering

Department: Computer Science and Engineering

Program Level (check all that apply)

- ☐ Associate's
- ☐ Bachelor's
- ☐ Undergraduate Certificate
- ✓ Master's
- ☐ Doctoral
- ☐ Graduate Certificate

Date Plan Submitted: January 21, 2025

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Department Curriculum Committee Chairperson & email: Dr. Emre Celebi, ecelebi@uca.edu

1. Introduction

- Purpose Statement

  The purpose of the MS in Computer Science program (of the Department of Computer Science and Engineering under the College of Science and Engineering) is to provide students with an advanced graduate education in Computer Science and prepare them for careers in computing.

- Unit Mission Statement

  The MS in Computer Science program is designed to provide intensive preparation in advanced concepts and techniques of Computer Science.

2. Student Outcomes

- Student Outcomes (SOs)

  Students in the program are expected to know and be able to do the following by the time of graduation:
  - SO1: Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline;
  - SO2: Communicate effectively in a variety of professional contexts; and
  - SO3: Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.

3. Assessment Cycle

- Assessment Cycle: once in two years

4. Curriculum Map

4.1 Regularly Offered Graduate Courses, SOs They Address, and the Faculty Member Responsible for Data Collection (F: Fall, S: Spring)

Course Code	Couse Title	Semester	SO1	SO2	SO3	Collector
CSCI 5300	Operating Systems	F, S	√	√	√	Sun
CSCI 5305	Linux/UNIX Systems	F, S	√			Corkran
CSCI 5315	Information Security	F, S		√		Paruchuri
CSCI 5353	Multimedia Computing	F	√	√	√	Sun
CSCI 5357	Programming Mobile Devices	F	√			Smith
CSCI 5365	Web Technologies	S	√			Smith
CSCI 5370	Data Mining	S	√	√	√	Chen
CSCI 5371	Machine Learning	F, S	√	√	√	Stine
CSCI 5385	Artificial Intelligence	F, S	√	√	√	Stine
CSCI 6371	Applied Data Mining	F	√	√	√	Chen
CSCI 6397	Special Topics: Multimedia	S	√	√		Sun

5. Assessment Methods and Measures (Formative and Summative recommended)

- Record the assessment measure(s) that evaluate each student learning outcome (note: each learning outcome should have an associated assessment measure).
- Direct Methods/Measures Preferred/Used at the Course and Program Levels (examples: writing examples, oral examinations, internships, clinicals, quizzes, test, team/group projects and presentations)
- Indirect Methods/Measures Preferred/Used at the Course and Program Levels (examples: surveys, quantitative data, course grades, alumni surveys, student evaluation of instruction

5.1 Performance Indicators, Assessment Methods, and Expected Level of Attainment for SO1

Performance Indicator	Courses & Assessment Methods	Expected Level of Attainment
Develop a feasible design that complies with requirements	5353 (Proj.), 5357 (Assign.), 5365 (Assign.), 5371 (Proj.), 5385 (Proj.), 6371 (Proj.), 6397 (Proj.)	At least 80% of the students achieve satisfactory (≥80%) or exemplary (≥90%) on the relevant performance indicators
Implement an appropriate solution for the design	5300 (Proj.), 5305 (Proj.), 5353 (Proj.), 5357 (Assign.), 5365 (Assign.), 5370 (Proj.), 5371 (Proj.), 5385 (Proj.), 6371 (Proj.), 6397 (Proj.)	
Evaluate if the solution meets the given set of requirements	5300 (Proj.), 5305 (Proj.), 5353 (Proj.), 5357 (Assign.), 5365 (Assign.), 5370 (Proj.), 5371 (Proj.), 5385 (Proj.), 6371 (Proj.), 6397 (Proj.)	

5.2 Performance Indicators, Assessment Methods, and Expected Level of Attainment for SO2

Performance Indicator	Courses & Assessment Methods	Expected Level of Attainment
Present context in written format to demonstrate comprehension	5300 (Assign.), 5315 (Proj.), 5370 (Proj.), 5371 (Proj.), 5385 (Proj.), 6371 (Proj.), 6397 (Proj.)	At least 80% of the students achieve satisfactory (≥80%) or exemplary (≥90%) on the relevant performance indicators
Deliver an oral presentation with verbal and non-verbal techniques	5300 (Proj.), 5315 (Proj.), 5353 (Proj.), 5370 (Proj.), 5371 (Proj.), 5385 (Proj.), 6371 (Proj.), 6397 (Proj.)	
Organize an oral presentation/written report to present the content of the problem and the solutions	5300 (Proj.), 5315 (Proj.), 5353 (Proj.), 5370 (Proj.), 5371 (Proj.), 5385 (Proj.), 6371 (Proj.), 6397 (Proj.)	

5.3 Performance Indicators, Assessment Methods, and Expected Level of Attainment for SO3

Performance Indicator	Courses & Assessment Methods	Expected Level of Attainment
Share workload as a member of a team	5300 (Proj.), 5353 (Proj.), 5370 (Proj.), 5371 (Proj.), 5385 (Proj.), 6371 (Proj.)	At least 80% of the students achieve satisfactory (≥80%) or exemplary (≥90%) on the relevant performance indicators
Contribute to a collaborative and inclusive environment	5300 (Proj.), 5353 (Proj.), 5370 (Proj.), 5371 (Proj.), 5385 (Proj.), 6371 (Proj.)	
Demonstrate ability to meet deadlines and achieve project goals	5300 (Proj.), 5353 (Proj.), 5370 (Proj.), 5371 (Proj.), 5385 (Proj.), 6371 (Proj.)	

6. Data Collection and Review

- When will data be collected for each outcome? Every semester (due to low enrollment)
- How will data be collected for each outcome? See Tables 5.1–5.3 in #5 above
- What will be the benchmark/target for each outcome? See Tables 5.1–5.3 in #5 above
- What individuals/groups will be responsible for data collection? See Table 4.1 in #4 above

7. Participation in Assessment Process

The chair of the department assessment and accreditation committee will oversee the assessment/evaluation activities. The committee chair will work with the other members of the committee and the department graduate faculty to ensure assessment data is identified and collected regularly (based on the assessment cycle), the collected data is evaluated to determine how well the SOs are being attained, and the findings of the assessment process are used to improve the program. For each graduate course, the instructor will document the assessment results in an assessment report.

8. Data Analysis

- How will the data and findings be shared with faculty? The assessment reports for each SO will be uploaded to a shared Google Drive folder to which the graduate faculty have access.
- Who was involved in analyzing the results? Members of the department assessment and accreditation committee and the graduate faculty will meet on a study day once every two years. In this event, the assessment reports for each SO will be evaluated to identify potential changes in the program. The committee chair will prepare a report detailing the outcomes of this event.
- How are results aligned to outcomes and benchmarks?
  In all of our undergraduate/graduate programs, we employ ABET's continuous improvement model, which is defined as "regular use of appropriate, documented processes for assessing and evaluating the extent to which the student outcomes are being attained, and the systematic use of the evaluation results as input for the program's continuous improvement actions." (source: https://www.abet.org/wp-content/uploads/2023/05/2024-2025_CAC_Criteria.pdf). For example, consider a graduate course that uses part of a project to assess SO1. If, historically, 100% of the students

exhibited an *exemplary* performance on that project, this may mean that the project is not challenging enough for our students. In this case, the instructor will modify the project to make it more challenging or replace it with a more challenging one.

9. Plan for Using Assessment Results to Improve Program

- How will you use the results to improve your program?
  The assessment results will be used for program improvement through changes in courses such as addition/removal/modification of course content as well as coursework (*e.g.*, quizzes, assignments, reports, presentations, exams, and projects.)

10. What are the plans to evaluate students' post-graduate success?

We will evaluate our students' post-graduate success (*i.e.*, their success in the job market) by tracking their employment status through LinkedIn and obtaining feedback through alumni and employer surveys.

11. What are the plans to evaluate teaching effectiveness?

The department chair reviews the SCES (Student Course Experience Survey) reports shortly after the end of each semester. Every spring semester, the chair meets with each tenure-track faculty member to discuss their performance in three categories: teaching, research, and service. In addition, the chair prepares an annual evaluation report for each faculty member in the spring semester and schedules one-on-one meetings to discuss the contents of these reports, if necessary.

12. Appendices-Required….Curriculum Maps by Program, Assessment Tools (examples: Rubrics, Surveys, Tests, etc.), any other important materials/documentation

Attached.

13. Submit Assessment Plan

- Send completed form electronically to assessment@uca.edu

For questions or concerns please contact:
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