

Program Assessment Plan
Department Of Information and Computer Science
Park University, College of Liberal Arts and Sciences
(updated: 10/3/06)

Park University's Information and Computer Science Department is committed to the ongoing assessment and enhancement of its curriculum to promote student learning. This Program Assessment Plan is used to measure student competence in defined areas as well as provide an assessment of reaching course goals and overall program effectiveness.

Departmental Degrees Background Information:

Park's Information and Computer Science Department has four degrees in: 1) Information and Computer Science (ICS), 2) Computer Science, 3) Computer-Based Information Systems, and 4) Management/Computer Information Systems. The ICS degree is offered in the Parkville daytime format exclusively. It is an umbrella degree with specialty areas that include the content of the other three degrees. We hope to eventually merge the other three degrees into the ICS degree, but due to idiosyncratic general education differences in Parkville daytime degrees and campus center degrees, they must remain separate for the time being.

With the ICS degree being an umbrella degree with five specialty areas, three of the ICS degree's specialty areas correspond to the other three degrees. With this correspondence, there are common program competencies for some of the specialty areas and degrees. For example, the ICS/Computer Science and Software Engineering specialty areas correspond to the Computer Science degree, and they share the same program competencies. Also, the ICS Systems Analysis specialty area corresponds to the Computer-Based Information Systems degree and the Management/Computer Information Systems degree, and they share the same program competencies.

Legend:

ICS = Information and Computer Science
The ICS degree has 5 emphases: SA = systems analysis CS = compute science SE = software engineering NT = networking and security DM = data management
The campus centers have 3 degrees: CS = computer science M/CIS = Management/Computer Information Systems CBIS = Computer Based Information Systems

Program Mission:

Prepare students for a broad range of computer opportunities in industry as well as in graduate studies.

Academic Goals:

ICS/CS, ICS/SE, and CS students:

- Will have skills necessary for entry-level employment in software engineering and IT analyst positions.
- Will have the necessary knowledge to be admitted to Computer Science graduate school programs.

ICS/SA, M/CIS, and CBIS students:

- Will have skills necessary for entry-level employment in systems analysis positions.
- Will have the necessary knowledge to be admitted to Information Systems graduate school programs.

ICS/NT students:

- Will have skills necessary for entry-level employment in networking and security positions.
- Will have the necessary knowledge to be admitted to graduate school programs with a networking and security emphasis.

ICS/DM students:

- Will have skills necessary for entry-level employment in data management positions.
- Will have the necessary knowledge to be admitted to graduate school programs with a data management emphasis.

Program Competencies:

- Apply problem-solving and critical-thinking skills and use popular computer technologies in producing technology solutions.
- Communicate effectively, ethically, and professionally in a team environment.
- ICS/CS, ICS/SE, and CS students: Design and implement elegant programs that utilize data structures and operating systems concepts.
- ICS/SA, M/CIS, and CBIS students: Identify appropriate information technologies for a given organizational context and explain how to incorporate such technologies into the given organizational context.
- ICS/NT students: Explain computer networking and security concepts and demonstrate proficiency in use of popular computer networking and security technologies.
- ICS/DM students: Design and Implement elegant data management solutions.

Program Competency Measurement Tools:

The Information and Computer Science Department will use three different summative tools to assess program competency learning. The primary tool is a comprehensive exam. The secondary tools are the core assessment for CS 300 and an exit survey.

Comprehensive Exam

The ICS Department will create and maintain the comprehensive exam. It will test mastery of concepts, principles, and knowledge expected of students at the conclusion of the various specialty areas in our ICS major. In addition to factual knowledge, the exam will test students' abilities to analyze and solve problems, understand relationships, and interpret material.

The comprehensive exam will group questions into specific areas:

1. The core area questions measure the first program competency (apply problem-solving and critical-thinking skills and use popular computer technologies in producing technology solutions).
2. The computer science area questions measure the ICS/CS, ICS/SE, CS program competency.
3. The systems analysis area questions measure the ICS/SA, M/CIS, CBIS program competency.
4. The networking area questions measure the ICS/NT program competency.
5. The data management area questions measure the ICS/DM program competency.

All of Park's computer students will be graded on the core area questions. Additionally, ICS/CS, ICS/SE, and CS students will be graded on the computer science area questions. ICS/SA, M/CIS, and CBIS students will be graded on the systems analysis area questions. ICS/NT students will be graded on the networking area questions. And ICS/DM students will be graded on the data management questions.

The comprehensive exam will be given as part of CS 300. CS 300 is currently a required course for students in the daytime ICS program, and it is not a required course for students in the online and campus center M/CIS, CBIS, and CS programs. Pending approval of this proposal, the ICS Department will propose the following catalog copy changes:

1. Make CS 300 a required course for M/CIS, CBIS, and CS students. More specifically, within the M/CIS, CBIS, and CS majors, replace the current CS/IS elective with CS 300 (there will be no net change in the total number of required computer courses).
2. Add verbiage to the CS 300 course description that requires computer students to wait until their last term to take it. That ensures that they will be properly prepared to take the comprehensive exam.

Note that CS 300 will be a comprehensive exam "gatekeeper" course; it will not be a capstone course. CS 300 teachers will not teach comprehensive exam content. CS 300 will simply serve as a platform for giving the comprehensive exam.

To encourage proper student effort, CS 300 teachers will be required to count a computer student's comprehensive exam score for 3% of the student's grade in CS 300. Note that CS 300 teachers will have non-computer students in their classes, and those students will not take the comprehensive exam, and they will not have it count for any part of their grade.

The comprehensive exam will be given in a proctored setting outside of the normal lecture period for CS 300. It will be given some time during the last quarter of the term.

According to SOL and SEL, paying proctors for ICS's comprehensive exam will cost a total of between \$300 to \$350 per year.

Secondary Measurement Tools:

The “Communicate effectively, ethically, and professionally in a team environment” program competency will be assessed in the CS 300 core assessment. See the CS 300 core assessment artifact and scoring rubric for details.

As part of CS 300, during the last quarter of the course's term, computer students will be required to fill out and submit an exit survey. The survey will ask students to describe their plans for job prospects and/or graduate school. It will also ask students to describe how well they learned the program competencies that apply to their major. Additionally, it will ask students for contact information so that the Department can track their progress in terms of jobs and/or graduate school.

Evaluation of Competencies:

The following table shows how the measurement tools will be evaluated relative to the Department's program competencies.

Program competency	Exceeds expectations	Meets expectations	Does not meet expectations
Apply problem-solving and critical-thinking skills and use popular computer technologies in producing technology solutions.	85% - 100%	65% - 84%	0% - 64%
Communicate effectively, ethically, and professionally in a team environment.	85% - 100%	65% - 84%	0% - 64%
ICS/CS, ICS/SE, and CS students: Design and implement elegant programs that utilize data structures and operating systems concepts.	85% - 100%	65% - 84%	0% - 64%
ICS/SA, M/CIS, and CBIS students: Identify appropriate information technologies for a given organizational context and explain how to incorporate such technologies into the given organizational context.	85% - 100%	65% - 84%	0% - 64%

ICS/NW students: Explain computer networking and security concepts and demonstrate proficiency in use of popular computer networking and security technologies.	85% - 100%	65% - 84%	0% - 64%
ICS/DM students: Design and Implement elegant data management solutions.	85% - 100%	65% - 84%	0% - 64%

Annually, the ICS Department will compile the results from the comprehensive exam and the CS 300 core assessment and analyze the results. These results will give the department direct measurements of the mastery of specific skills and knowledge. In addition, there will also be an exit survey of graduating seniors as an indirect measure of the program to assess quality control. If the Department finds trends that indicate a deficiency in a particular mode of learning (e.g., online), then the Department will consider possible remedies (e.g., try 16-week instead of 8-week formats). If the Department finds trends that indicate a deficiency in a particular program competency area (e.g., problem solving), then the Department will consider possible remedies (e.g., adding more problem-solving to courses).

Review of Materials

Program review will occur annually and will be reported as according to the University Assessment Committee guidelines.