

Computer Science Assessment Plan

Mission Statement for Academic Unit:

Georgia Perimeter College transforms the lives of our students to thrive in a global society.

As a diverse, multi-campus two-year college, we provide relevant, responsive, learner-centered higher education that facilitates the achievement of academic, professional and personal goals.

We embrace excellence, teamwork, and quality service that link the college's human capital with our communities to enhance economic, social and cultural vitality.

As a key point of entry for students into higher education in Georgia and as the major provider of associate degrees and student transfer opportunities, Georgia Perimeter College supports the Strategic Plan of the University System of Georgia.

Program Goals:

Computer Science majors will exhibit the technical knowledge, the technical skills, and the communication skills necessary for success at transfer institutions.

CSCI 1300

Expected Outcomes for CSCI 1300 Course, Including Student Learning Outcomes:

As a result of completing this course, the student will be able to:

- Be familiar with the history of computing from ancient times to the present.
- Be familiar with the methods by which data is represented and stored in a computer's memory.
- Recognize and understand fundamental hardware components of any computer system.
- Know fundamental software components needed by the computer hardware to communicate with the user.
- Work effectively with a variety of software packages.
- Understand the concepts of, and effectively use, current communications technologies, including electronic mail, on-line databases, search engines, and the World Wide Web.
- Recognize and understand social and ethical issues involved in computer use.
- Analyze a real world problem and solve it with a computer program.
- Write computer programs using the fundamental concepts of input/output, computations, decisions, repetitions, modular programming, and data storage.

Procedures for Assessing Outcomes:

An appropriate assessment instrument will be determined by the CSCI course committee (25 to 35 percentage of the final exam grade will be from the assessment instrument implementation) and will be administered by all instructors teaching the course.

Plans for Use of Assessment Results:

The CSCI committee will analyze the results of the assessment and determine implications for curriculum changes. The committee will prepare a report for the Academic Group summarizing its finding and suggested improvements.

Schedule of Planned Assessment Activities:

Spring semester of every other year starting from spring 2008.

Review of Past Assessment Activities (2003 to Present):

This course was not assessed before. Only the capstone course 1302 was assessed. The assessment data for Spring 2008 is being currently gathered and organized.

CSCI 1301

Expected Outcomes for CSCI 1301 Course, Including Student Learning Outcomes:

As a result of completing this course, the student will be able to:

- Analyze a problem and clearly define the available data, desired results, and appropriate process for obtaining that result.
- Create a structured, top-down design, in algorithmic form, of a solution for said problem.
- Construct a modular, well-structured program in a specified programming language from a top-down design.
- Use sequential statements, including input, output, and assignment statements, in a program.
- Use selection and repetition statements appropriately in a program.
- Understand and demonstrate proper use of specific basic data types in a program.
- Create and use routines, procedures and functions, appropriately in a program.
- Create and use text files for input and output in a program.
- Implement a simple abstract data type using the appropriate data constructs and routines.
- Understand and demonstrate proper use of specific structured data types, including arrays, vectors and structures, in a program.
- Use simple sorting and searching methods.

Procedures for Assessing Outcomes:

An appropriate assessment instrument will be determined by the CSCI course committee (25 to 35 percentage of the final exam will be from the assessment instrument implementation) and will be administered by all instructors teaching the course.

Plans for Use of Assessment Results:

The CSCI committee will analyze the results of the assessment and determine implications for curriculum changes. The committee will prepare a report for the Academic Group summarizing its finding and suggested improvements.

Schedule of Planned Assessment Activities:

Spring semester of every other year starting from spring 2009.

Review of Past Assessment Activities (2003 to Present):

This course was not assessed before. Only the capstone course 1302 was assessed.

CSCI 1302

Expected Outcomes for CSCI 1302 Course, Including Student Learning Outcomes:

As a result of completing this course, the student will be able to do the following:

- construct program code to define, set up, read data from, and write data to a data file of type other than text.
- compare and contrast text files and binary files and describe differences in program code implementation.
- determine output from a segment of code which uses a recursive subprogram.
- compare and contrast static and dynamic memory allocation.
- construct program code to define a reference variable and use it to create, access, and dispose of a dynamic variable.
- choose and manipulate appropriate abstract data structures such as lists, stacks, queues, and trees.
- compare and contrast abstract data types versus objects.
- demonstrate an understanding of polymorphism and inheritance for objects by using them appropriately in a program.
- create and use objects and classes appropriately in a program.
- describe the appropriateness of sorting and searching algorithms in a given context.
- analyze and determine the efficiency of a specific algorithm using Big-O notation.

Procedures for Assessing Outcomes:

An appropriate assessment instrument will be determined by the CSCI course committee (25 to 35 percentage of the final exam grade will be from the assessment instrument implementation) and will be administered by all instructors teaching the course.

Plans for Use of Assessment Results:

The CSCI committee will analyze the results of the assessment and determine implications for curriculum changes. The committee will prepare a report for the Academic Group summarizing its finding and suggested improvements.

Schedule of Planned Assessment Activities:

Spring semester of every other year starting from spring 2009.

Review of Past Assessment Activities (2003 to Present):

The assessments were conducted with a goal of 60% of the students passing with a score of 70% or more. Here are the results:

Year	Final Score mean	Number of Students participated	Percent of Students with 70% or more score
2004	74%	31	45.2%
2005	74.5	22	64.6

After reviewing the 2004 assessment data the following changes were made which resulted in the shown improvement:

- The text book was changed to better accommodate student needs.
- A new discipline policy was introduced avoiding part time instructors from teaching this course.
- Adjunct faculty mentoring was reinforced
- New tutoring initiatives were put in place(through MESA and LRC) even though funding were scarce.