

William Paterson University
College of Science and Health - Department of Computer Science

Fall 2015 – Spring 2017 Assessment Cycle
Analysis of the Course Coverage and Assessment Report Data

Course Number: CS3820

Course Coordination Committee Members: John Najarian, Gilbert Ndjatou (chair)

Date: May 26, 2017

A. Course Prerequisites/Co-requisites

a) Problems/Issues Identified: None

b) Suggestions for Improvement: N/A

B. Course Objectives

a) Problems/Issues Identified: None

b) Suggestions for Improvement: N/A

C. Course Student Learning Outcomes

a) Problems/Issues Identified: None

b) Suggestions for Improvement: N/A

D. Course Content

a) Problems/Issues Identified: None

b) Suggestions for Improvement: N/A

E. Assessment of the CS Program's Student Outcomes

Student Outcome S5: Demonstrate abilities to locate and make effective use of information.

In this course, students are required to learn a new programming language and to produce a report based on a template provided by the instructor. They are also required to write program assignments in their chosen programming language. We then assess how substantial are their reports and the quality of their programming projects. This project necessitates a lot of research over the web and we believe that it allows us to assess the abilities of the students to locate and make effective use of information. We therefore feel that this learning outcome is appropriate and is assessed appropriately.

Student Outcome S7: Demonstrate an understanding of programming language concepts.

A major objective of this course is to introduce the major programming language concepts. A substantial amount of exercises and questions on tests and the final exam are also used to assess students understanding and knowledge of these concepts. We therefore believe that this student outcome is appropriate and is assessed sufficiently well.

Student Outcome S8:

Demonstrate an understanding of the major programming domains and the knowledge of the most appropriate programming language for each domain.

A major objective of this course is to introduce the major programming domains and the most appropriate programming language for each domain. A substantial amount of exercises and questions on tests and the final exam are also used to assess students understanding and knowledge of these concepts. We therefore believe that this student outcome is appropriate and is assessed sufficiently well.

Assessment of Learning Outcomes

Spring 2016

Learning Outcomes	Where Measured?	Percentage of Satisfactory Results?*
1. I am able to describe the major programming domains.	Test1, Final	75%
2. I am able to describe the different programming methodologies.	Test1	73%
3. I am able to describe the major programming language implementation methods.	Test1	74%
4. I am able to use regular expressions to specify the tokens of a programming language.	Test2, Final	78%
5. I am able to specify simple language recognizers of the tokens of programming languages.	Lab. Assignment	68%
6. I am able to use context free grammars to specify the syntactic units of programming languages	Test3, Final	72%
7. I am able to specify language recognizers for simple syntactic	Lab Assignment	70%

units of programming languages.		
8. I am able to specify the attributes of a variable.	Test2, Final	75%
9. I am able to specify the binding and the binding time of attributes to programming language entities.	Test2, Final, Project	73%
10. I am able to evaluate the static and the dynamic scopes of variables.	Test3, Final	85%
11. I am able to specify the referencing environments of statements.	Test3, Final	85%
12. I am able to describe the data types used in most programming languages.	Project	95%
13. I am able to specify the memory layout of a C/C++ program.	Test2, Final	75%
14. I am able to evaluate arithmetic expressions, given the precedence of the operators and the associativity rules.	Test2	100%
15. I am able to evaluate boolean expressions (using short circuit evaluation).	Test2	90%
16. I am able to specify assignments (including compound assignments).	Test2, Final	95%
17. I am able to specify the different control structures in one or more programming languages.	Test1, Project, Final	90%
18. I am able to specify and call subprograms in one or more programming languages.	Test3, Project, Lab assignment, Final	85%

Observation

I started this semester with 20 students and all of them remain in the class until the end of the semester. Three of those students received A for the course, seven received B, five received C, four received a D, and one received an F. The student who received an F did not show up most of the time in class.

*** Notes:**

1. For all the scores, the percentage corresponds to the number of students who receive a score of at least 70% on the question(s) related to the learning outcome.
2. Semester grade consists of composite scores of homework, projects, and exams. The grades were not curved.

Fall 2016

Learning Outcomes	Where Measured?	Percentage of Satisfactory Results?*
19. I am able to describe the major programming domains.	Test1, Final	70%
20. I am able to describe the different programming methodologies.	Test1	68%
21. I am able to describe the major programming language	Test1	71%

implementation methods.		
22. I am able to use regular expressions to specify the tokens of a programming language.	Test2, Final	67%
23. I am able to specify simple language recognizers of the tokens of programming languages.	Lab. Assignment	65%
24. I am able to use context free grammars to specify the syntactic units of programming languages	Test3, Final	68%
25. I am able to specify language recognizers for simple syntactic units of programming languages.	Lab Assignment	70%
26. I am able to specify the attributes of a variable.	Test2, Final	72%
27. I am able to specify the binding and the binding time of attributes to programming language entities.	Test2, Final, Project	71%
28. I am able to evaluate the static and the dynamic scopes of variables.	Test3, Final	75%
29. I am able to specify the referencing environments of statements.	Test3, Final	79%
30. I am able to describe the data types used in most programming languages.	Project	85%
31. I am able to specify the memory layout of a C/C++ program.	Test2, Final	72%
32. I am able to evaluate arithmetic expressions, given the precedence of the operators and the associativity rules.	Test2	95%
33. I am able to evaluate boolean expressions (using short circuit evaluation).	Test2	80%
34. I am able to specify assignments (including compound assignments).	Test2, Final	90%
35. I am able to specify the different control structures in one or more programming languages.	Test1, Project, Final	85%
36. I am able to specify and call subprograms in one or more programming languages.	Test3, Project, Lab assignment, Final	75%

Observation

I started this semester with 11 students and all of them remain in the class until the end of the semester. One of those students received A for the course, three received B, six received C, and one received a D.

* Notes:

- For all the scores, the percentage corresponds to the number of students who receive a score of at least 70% on the question(s) related to the learning outcome.
- Semester grade consists of composite scores of homework, projects, and exams. The grades were not curved.

Learning Outcomes	Where Measured?	Percentage of Satisfactory Results?*
37. I am able to describe the major programming domains.	Test1, Final	77%
38. I am able to describe the different programming methodologies.	Test1	71%
39. I am able to describe the major programming language implementation methods.	Test1	76%
40. I am able to use regular expressions to specify the tokens of a programming language.	Test3, Final	72%
41. I am able to specify simple language recognizers of the tokens of programming languages.	Lab. Assignment	73%
42. I am able to use context free grammars to specify the syntactic units of programming languages	Test3, Final	74%
43. I am able to specify language recognizers for simple syntactic units of programming languages.	Lab Assignment	74%
44. I am able to specify the attributes of a variable.	Test2, Final	75%
45. I am able to specify the binding and the binding time of attributes to programming language entities.	Test2, Final, Project	73%
46. I am able to evaluate the static and the dynamic scopes of variables.	Test2, Final	85%
47. I am able to specify the referencing environments of statements.	Test2, Final	85%
48. I am able to describe the data types used in most programming languages.	Project	97%
49. I am able to specify the memory layout of a C/C++ program.	Test2, Final	74%
50. I am able to evaluate arithmetic expressions, given the precedence of the operators and the associativity rules.	Test2	100%
51. I am able to evaluate boolean expressions (using short circuit evaluation).	Test2	89%
52. I am able to specify assignments (including compound assignments).	Test2, Final	95%
53. I am able to specify the different control structures in one or more programming languages.	Test1, Project, Final	87%
54. I am able to specify and call subprograms in one or more programming languages.	Test3, Project, Lab assignment, Final	82%

Observation

I started this semester with 24 students and 22 of them remain in the class until the end of the semester. Three of those students received A for the course, seven received B, six received C, and six received a D. In general, this was a group of hard working students who did their best to succeed in this class.

* **Notes:**

5. For all the scores, the percentage corresponds to the number of students who receive a score of at least 70% on the question(s) related to the learning outcome.
6. Semester grade consists of composite scores of homework, projects, and exams. The grades were not curved.

