

Title: Computational Complexity

Version: 1

APPROVAL STATUS			

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Save Student Learning Outcome

**Outcome Category:**

- Communication Skills
- Critical Thinking Skills
- Content/Discipline Knowledge & Skills

**Define Student Learning Outcome:**

The student will be able to

choose one:

<u>ANALYSIS</u>	<u>APPLICATION</u>	<u>COMPREHENSION</u>	<u>EVALUATION</u>	<u>KNOWLEDGE</u>	<u>SYNTHESIS</u>
<input checked="" type="radio"/> analyze	<input type="radio"/> apply	<input type="radio"/> classify	<input type="radio"/> assess	<input type="radio"/> cite	<input type="radio"/> arrange
<input type="radio"/> appraise	<input type="radio"/> choreograph	<input type="radio"/> depict	<input type="radio"/> choose	<input type="radio"/> define	<input type="radio"/> collect
<input type="radio"/> calculate	<input type="radio"/> compute	<input type="radio"/> describe	<input type="radio"/> decide	<input type="radio"/> identify	<input type="radio"/> combine
<input type="radio"/> categorize	<input type="radio"/> construct	<input type="radio"/> discuss	<input type="radio"/> defend	<input type="radio"/> indicate	<input type="radio"/> compose
<input type="radio"/> compare	<input type="radio"/> demonstrate	<input type="radio"/> explain	<input type="radio"/> estimate	<input type="radio"/> label	<input type="radio"/> create
<input type="radio"/> contrast	<input type="radio"/> dramatize	<input type="radio"/> express	<input type="radio"/> evaluate	<input type="radio"/> list	<input type="radio"/> design
<input type="radio"/> criticize	<input type="radio"/> employ	<input type="radio"/> locate	<input type="radio"/> grade	<input type="radio"/> match	<input type="radio"/> formulate
<input type="radio"/> debate	<input type="radio"/> generate	<input type="radio"/> paraphrase	<input type="radio"/> judge	<input type="radio"/> name	<input type="radio"/> integrate
<input type="radio"/> determine	<input type="radio"/> illustrate	<input type="radio"/> recognize	<input type="radio"/> justify	<input type="radio"/> quote	<input type="radio"/> manage
<input type="radio"/> diagram	<input type="radio"/> interpret	<input type="radio"/> report	<input type="radio"/> measure	<input type="radio"/> recall	<input type="radio"/> organize
<input type="radio"/> differentiate	<input type="radio"/> operate	<input type="radio"/> restate	<input type="radio"/> rate	<input type="radio"/> relate	<input type="radio"/> perform
<input type="radio"/> distinguish	<input type="radio"/> practice	<input type="radio"/> review	<input type="radio"/> revise	<input type="radio"/> repeat	<input type="radio"/> prepare
<input type="radio"/> experiment	<input type="radio"/> schedule	<input type="radio"/> summarize	<input type="radio"/> score	<input type="radio"/> reproduce	<input type="radio"/> produce
<input type="radio"/> inspect	<input type="radio"/> sketch	<input type="radio"/> tell	<input type="radio"/> value	<input type="radio"/> select	<input type="radio"/> propose
<input type="radio"/> solve	<input type="radio"/> use				

the computational complexity of algorithms used in the solution of a programming problem. This will be assessed upon completion of the 3-hour course COP 4531, Complexity and Analysis of Data Structures and Algorithms.

[Preview](#)**Assessment and Evaluation Process:**

Be sure to include the standard(s) and measure(s).

This is an important skill for a computer scientist to have in order to be able to analyze and evaluate the best approach to solving a problem. This skill will be evaluated by the faculty instructor in a course assignment. This will result in 80% of the students enrolled in COP 4531 during 2005-2006 scoring 70% or better as determined by a

Method(s):

choose
one or
more:

- behavioral observation
- capstone course evaluation
- class performance or presentation
- clinical evaluation
- course embedded assignment (often in tandem with exam question bank)
- course report
- department assessment
- departmental exam/comprehensive exam/preliminary exam
- faculty committee evaluation of dissertation, thesis or treatise
- faculty designed comprehensive or capstone examination and assignment
- instructor constructed exam
- internship evaluation of specific activity
- judged exhibition
- judged performance
- national or state standardized exam
- performance on licensing or other external examination
- portfolio of student work
- pre-test/post-test evaluation
- problem-solving exercise
- professional judged performance or demonstration of ability in context
- project evaluation
- public performance or presentation (juried)
- simulation
- videotaped or audio-taped performance
- written report or essay

[Preview](#)**Results**

82% of the students enrolled in COP 4531 during 2005 scored 70% or better on the attached capstone assignment.



Improvements Made or Action Plan Based on Analysis of Results

85% of the students enrolled in COP 4531 during 2006-2007 will score 70% or better on a capstone assignment. In addition, the COP 4531 instructors should provide written qualitative feedback on student performance on this course capstone assignment. This feedback will be used to both adjust the assessment requirements and evaluation procedure. In addition, it can be used by the instructors to refine the assignment, and the instructional material provided to the students that is relevant to the capstone assignment.

Potential
Budget
Impact:



Yes

All budgetary requests will be considered during the Institutional Effectiveness Plan Approval Process.



No

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File Bank



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