

Course Outcomes Guide

Directions: Please complete this form to document your progress toward improving student learning. For each item, indicate your progress and your anticipated next steps. Thank you!

Course/Program Title: Math 208, Linear Algebra

Date: Fall 2011

Course/Program Team: Christopher Lewis

Expected Learning Outcomes: Units, Topics and Learning Objectives are on the attached syllabus. The Learning Objectives are matched to the Student Learning Outcomes, which are on item 6 of the syllabus

Assessment (How do or will students demonstrate achievement of each outcome? Please attach a copy of your assessment electronically.)

The students demonstrate achievement of each outcome by completion of 4 exams, 3 quizzes, and 8 graded assignments, which include projects and problems. I prepare the assessments. I base them on the learning objectives which in turn are aligned with the Student Learning Outcomes. Approximately 75% of the student's grade is based on exams and quizzes. The remaining 25% is based on graded assignments, which include projects and problems.

Validation (What methods have you used or will you use to validate your assessment?)

The assessments test student achievement of the learning objectives. Validity to a large part is then determined by the appropriateness of the topics and the learning objectives. This is discussed in **My basis for determining the appropriate topics and units for the course** and discussed in **My basis for creating the objectives**, which is appended to the syllabus. I have also applied the AAAS Categories for Evaluating Instructional Materials to review the curriculum's effectiveness. The analysis is also appended to the syllabus.

Results (What do your assessment data show? If you have not yet assessed student achievement of your learning outcomes, when is assessment planned?)

After applying the AAAs Categories for Evaluating Instructional Materials I rate the curriculum effectiveness of Linear Algebra as taught at HCC using David Lay's *Linear Algebra* as exceptional.

The exams, quizzes and graded assignments directly assess student achievement of the learning objectives. I have not analyzed the grades in general. However, I have modified my teaching to improve scores on questions linked to particular learning objectives. I have not quantified the effectiveness of my modifications.

Follow-up (How have you used or how will you use the data to improve student learning?)

(see **Results** section)

Budget Justification (What resources are necessary to improve student learning?)

No current budget needs.