

Implementation of the Emporium Model

At this time, due to the limitations of physical space on campus, LCC will not be creating a single large computer lab that will be always available to. However, current classrooms will be converted to computer lab classrooms whose capacities will be added to the one existing math computer lab. The plan for implementation of the emporium model is as follows.

Each student will be required to attend one scheduled hour-long class each week in a computer lab classroom and spend a minimum of one documented hour each week in the math computer lab at the students' convenience working through the ALEKS software. In addition, students will be required to spend at least one additional hour "doing" math in ALEKS each week that does not have to be completed in an on-campus lab. ALEKS tracks the time students spend working through the material and reports the time students spend on task, the number of topics attempted and mastered, the rate of learning, and even projects the time needed to complete the course if similar learning rates are maintained.

Some students will find a total of three hours per week sufficient to keep on or ahead of a required progress schedule while others may need to spend a total of six or more hours working through the ALEKS software in order to maintain a satisfactory rate of progress. The mix of required total and on-campus time on task will be adjusted upward at the first sign that a student is falling behind in the course.

A sequence of cumulative modules created using ALEKS' intermediate objectives feature will be used to measure students' rates of progress. 14 modules will be defined with one module being due at the end of each of the second through fifteenth weeks of the semester. Students who complete a module early earn a score of 100% and can immediately begin working on the next and students who do not complete a weekly module will receive a score based on the portion of the module that the student mastered by the due date. Passing the course will require that students' average of all module scores be at least 85%, which allows some leeway if a student has some trying weeks during the semester but does not encourage or allow a student to fall too far behind.

Two of the three proposed computer rooms will be designated as open labs and will be available on a space-available, walk-in basis into the evening. If every redesigned course student spends more than the three required hours working in ALEKS in one of these two on-campus labs, there will be capacity issues at peak times during the day due to the limited number of computers and space available. However, with the increased number of students with laptops, the math labs and surrounding areas will be designed so students can work on their own computers if required or desired.

The weekly scheduled one-hour class meeting will be scheduled accordingly in the LCC Schedule of Courses so that students will have the greatest flexibility in selecting the class time that best meets their schedule. Students will be actively working on the ALEKS software during this mandatory class meeting. In addition, faculty will also use this time to further explain concepts, provide relevant examples and guide students, as well as speak individually with students in monitoring their progress, assist with individual questions and provide encouragement. The amount of time devoted to each of these activities will vary depending on the course and the progress of the students in each of these cohorts.

Six Principles of Successful Course Redesign

Principle #1: Redesign the whole course

Though departmental syllabi exist for each of the legacy courses, departmental exit exams based on the syllabi and expectations of the next course in the sequence are only in their pilot stages. There has been some measure of resistance to these exit exams and student scores in the pilot project have ranged from unexpectedly good to quite disappointing. This suggests that there is some measure of compliance drift in the coverage and expectations of the legacy courses. This variance has a negative impact on students, some of whom find themselves repeat a course even though they mastered the skills needed for the next course while others receive a passing grade in a course only to find themselves lost from day one in the next course. Emporium redesign provides students with a common set of materials and expectations regardless of the instructor or record of the section the student registers for.

Duplication of faculty efforts is less of a concern since Lead Instructors of legacy courses authored guides for teaching from the textbook and master courses in the accompanying computerized homework management system. Still, each faculty member still must create their own set of lecture notes, classroom activities, quizzes and exams for each course they are assigned to teach. Emporium redesign reduces faculty workload though to a lesser extent than if no Lead Instructors existed.

Rather than redesigning any of the legacy sequence of four, 3-credit courses, the material is being reorganized into three new courses. The three new courses will all be offered only as redesigned Emporium Model courses and will completely replace the legacy sequence starting in fall 2011, when full implementation of the Emporium Model redesign begins.

The 3-credit basic math course is being replaced by a 1-credit course covering whole numbers. The prealgebra, elementary algebra, and intermediate algebra courses are being replaced with two courses that rearrange and replicate the content in modular form so students are allowed to test out of the material that they are already proficient in and

concentrate on only those topics that are new to them. This modularization in the Emporium Model provides a realistic avenue for willing students to meet the prerequisite to transfer-level courses in a single semester even when their initial placement put them into one of the initial developmental courses in the legacy sequence. In addition, the compression of the sequence from four courses to three can shorten the time to college mathematics course readiness by at least one semester even for students who do not take advantage of the acceleration that modularization in the Emporium Model allows.

Principles #2 and #3: Encourage active learning and Provide students with individualized assistance

The Emporium Model, as it is being implemented, requires that students be actively engaged in studying and practicing mathematics for a bare minimum of three hours per week, including a minimum of at least two hours per week on campus in a math computer lab. The role of the instructor will migrate from a demonstrator with the hope that students are ready for, and willing to accept then mimic the demonstrations, faculty will become facilitators of learning. By helping students quickly and on exactly those techniques that they are having trouble with, faculty will enable students to get through the material far more efficiently than in the traditional model, where students might have to wait until minute 40 of a 50 minute presentation to address the particular difficulty they are having.

In addition to having faculty and tutor assistance readily available in the campus computer lab, students will also have ample access to just-in-time assistance from the ALEKS software and tutorial videos. Like most other instructional software, ALEKS will provide assistance upon student request. Publisher-created videos and pdf sections from an appropriate textbook are also available to students at the click of a button. In addition to the publisher-created videos, Leeward CC faculty also produced over 200 tutorial videos that provide “live” explanations of problems and techniques. Unlike publisher-provided videos that cover many learning objectives, these videos were created to address the individual techniques that are included in the redesigned courses so once again, students will receive assistance on exactly the material they might have difficulty with. This encourages them to tackle the material that challenges them and move on, rather than stop in discouragement.

Principle #4: Build in ongoing assessment and prompt (automated) feedback

In the traditional model at Leeward CC, developmental math faculty do not generally collect homework but give quizzes on a daily or weekly basis. These quizzes are graded manually and returned at the next class meeting. Too often, students barely looked at their errors or the comments on the quizzes and focused instead on the score and its potential affect on their course grade. One reason for this apathy toward their work is the two or more day delay between when the students do their work and when they receive

feedback for the work. In contrast, the ALEKS software provides instant feedback. Students know immediately when they master a topic and receive immediate and supportively presented feedback when they have difficulties.

In the traditional model, redundant quizzes are not often used by faculty due to the time involved in correcting duplicate quizzes covering the same material as the prior quiz and because many students will not need the additional incentive to go back and study topics they did not quite “get” the first time. ALEKS will provide such reinforcement in two ways. First, a student who has difficulties with a topic will automatically be asked to work on more of that particular type of problem. In addition, ALEKS will automatically assign assessments covering the material a student has most recently worked on (as well as the prerequisite topics). This prevents a student from moving on unprepared. ALEKS will call for additional practice in any topics that might have been forgotten or not completely mastered the first time through.

Principle #5: Ensure sufficient time on task and monitor student progress.

Principle #6: Modularize the student experience