

PROPOSAL SCC #01-02- 401

CURRICULUM PROPOSAL FORM 2001-2002

NON-GENERAL EDUCATION PROCESS A

\*DEADLINES: Deadline dates for 2001/2002 submissions: Regular proposals: October 19, 2001 to be implemented in Fall 2002; Short-Term proposals: December 7, 2001 to be implemented in Fall, 2002; Regular proposals February 15, 2002 to be implemented in Spring, 2003; March 22, 2002 for short-term courses to be implemented in Spring 2003.

PROPOSAL TITLE: Course Proposal: Unit Operations Laboratory (0906.403)

SPONSOR(S): Kevin Dahm

DEPARTMENT: Chemical Engineering

COLLEGE: Engineering

IF LAS CHECK ONE:  History/Humanities  Math/Sciences  Social/Behavioral Sciences

Check one:  Undergraduate  Graduate

THE ATTACHED **NON-GEN-ED** PROPOSAL IS BEST DESCRIBED BY THE ITEM(S) CHECKED.

New non-gen-ed course

Short-term non-gen-ed course

Minor curricular changes (fewer than three) to:

existing non-gen-ed course

non-gen-ed degree requirements

major

minor, specialization, concentration, track, certificate program

DEPARTMENT

(Signature indicates approval)

Dept. Curriculum Chair / Date

*[Signature]* 9/28/01

Dept. Chairperson / Date

ACADEMIC DEAN

Approved

Not Approved

Comments:

*Change to be implemented without increases in resources or faculty.*

Dean's Signature/Date

*[Signature]* 4/22/02

**COLLEGE CURRICULUM COMMITTEE**

Date of open hearing (if necessary) 4/26/02 Approved  Not Approved \_\_\_\_\_

Comments: Implement Fall 2003.

Signature of College Chair/Date: Kevin D Dahn

**UNIVERSITY CURRICULUM COMMITTEE**

Date Received/Processed \_\_\_\_\_

Comments:

Curriculum Chair Signature Laurette Reeves Date Announced At Senate 6/5/02

**EXECUTIVE VICE PRESIDENT/PROVOST**

Approved \_\_\_\_\_ Not Approved \_\_\_\_\_ If no, reasons are as follows:

Student Credit Hours \_\_\_\_\_ Faculty Load Hours \_\_\_\_\_ Equalized Credit Hours \_\_\_\_\_

Official Copy & Approval Sheet Filed (Date): \_\_\_\_\_ Executive VP/Provost Signature/Date \_\_\_\_\_

**REGISTRAR**

Date Approved Course Description Received \_\_\_\_\_ Hegis Taxonomy & Course Number Assigned \_\_\_\_\_

Registrar Signature/Date Edwin C Eyzel Jr 7/10/02

**NOTIFICATION FORWARD**

Senate Curriculum Committee Chairperson

Academic Dean(s)

Department Chairpersons

Registrar

CAP  
IRP  
ru 2/23/02  
Sponsor(s)

## Minor Change: Semester-Hours for Unit Operations Laboratory

### 1. Details

A) *Description of Changes:* The following changes to the course Unit Operations Laboratory (0906.403) are proposed:

- 1) The credit level of the course is changed from 3 semester hours to 2.
- 2) The name of the course is changed from Unit Operations Laboratory to Unit Operations Laboratory I.

B) *Sponsor:* This proposal is sponsored by Dr. Kevin Dahm and the Chemical Engineering faculty.

### 2. Rationale

*Implementation: fall 2003*      *Kevin O. Dahm*  
*4/29/02*

A) *Need for Change:*

The Unit Operations Laboratory is currently a 3 semester-hour course taken in the spring of the senior year. The course provides students with hands-on experience with full-scale process equipment. Data analysis, modeling and comparison of experimental results to theory are also major components of the course, and these rely heavily on software applications.

Assessment data collected by the Department of Chemical Engineering over the last two years has revealed:

- Students would like to see more hands-on work with process equipment in the curriculum.
- The Industrial Advisory Board would like to see more hands-on exposure to emerging technologies in the curriculum, but not at the expense of coverage of traditional chemical engineering operations.
- The Industrial Advisory Board has recommended more of a focus on software applications and less emphasis on computer programming in the curriculum, and this is consistent with national trends in chemical engineering.

Increasing the Unit Operations Laboratory from 3 semester-hours to 4, so that a greater breadth of operations and applications can be covered, is a logical way of addressing these points. It allows time to integrate more emerging technologies (such as in the bioengineering area) into the Laboratory and increases student exposure to both real process equipment and software applications. However, simply adding a semester-hour to the spring senior course is unacceptable, as our assessment data indicates that the spring semester of senior year is already particularly demanding one for the students. The proposed solution is to create a Unit Operations sequence of two, 2 semester-hour courses, one taken each semester of the senior year. This will increase the total coverage of Unit Operations in the curriculum while actually reducing the spring senior load.

Note that the chemical engineering department is also proposing a new 3 s.h. computing elective that effectively replaces a 4 s.h. required course (Computer Science and Programming.) This change is detailed in the proposal "Minor Curricular Change: Chemical Engineering Degree Requirements." submitted concurrent with this proposal. The net effect of all these changes is to leave the total number of semester hours required to earn a chemical engineering degree unchanged at 131. However the credits will be distributed in a manner that is more consistent with the expressed recommendations of our faculty, students and advisory board, as well as being consistent with national trends.

*B) Description of Curricular Effect*

This proposal decreases the number of credits for the course Unit Operations Laboratory 0906.403 from 3 semester-hours to 2, and changes the name of the course to Unit Operations Laboratory I, to reflect the fact that it is now the first course in a sequence. Another proposal submitted by the chemical engineering faculty changes the chemical engineering degree requirements to reflect the new sequence, and a third proposal adds the new course (Unit Operations Laboratory II) to the University catalog. The total effect of these changes for chemical engineering seniors is summarized as follows:

**From: Unit Operations Laboratory is a 3 s.h., spring senior required course**  
**15 total s.h. fall of senior year (assuming recommended sequence is followed)**  
**17 total s.h. spring of senior year**

**To: Unit Operations Laboratory I is a 2 s.h., fall senior required course**  
**Unit Operations Laboratory II is a 2 s.h., spring senior required course**  
**17 total s.h. fall of senior year (assuming recommended sequence is followed)**  
**16 total s.h. spring of senior year**

**3. Results of Consultation**

This proposal has no significant impact on students or faculty outside Chemical Engineering.