



THE FACULTY SENATE

June 23, 2013

MEMORANDUM

TO: Dr. R. Bowen Loftin, President

FROM: Walter Daugherty, Speaker *W.C.D.*

SUBJECT: Approval of Undergraduate Curriculum Committee Items (**FS.31.04**)

At its regular meeting on June 10, 2013, the Faculty Senate approved the following items from the Undergraduate Curriculum Committee. The Faculty Senate submits for your approval. Attached is a copy of the material sent to our Senators.

Undergraduate Curriculum Committee
Change in Curriculum – May 9, 2013
Dwight Look College of Engineering
 Certificate in Engineering Therapeutics Manufacturing

Thank you for your time and consideration. Please inform me of your action in this matter.

Attachment

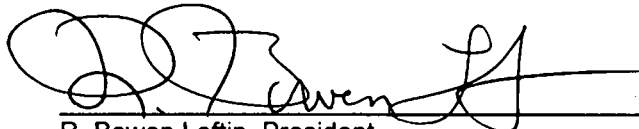
FACULTY SENATE AGENDA ITEM REVIEW

This item has been reviewed by the Office of the Provost (OP). Below are recommended action(s): RE: FS.31.04

cc: Karan Watson
 Pamela Matthews
 Michael Benedik
 Sandra Williams
 M. Katherine Banks

<i>Presidential Action:</i> <input type="checkbox"/> Recommend Approval <input type="checkbox"/> Review Only	<i>OP Recommended Action</i> <input type="checkbox"/> Hold for Further Review <input type="checkbox"/> Hold Released _____ <input type="checkbox"/> System Review/Submission <input type="checkbox"/> BOR Approval <input type="checkbox"/> THECB Approval/Notification <input type="checkbox"/> SACSCOC Approval/Notification
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Approved: Reviewed:


 R. Bowen Loftin, President

7/18/13
 Date

3. Change in Curriculum

Dwight Look College of Engineering
Certificate in Engineering Therapeutics Manufacturing

CHANGE IN CURRICULUM

CHANGE IN CURRICULUM

DWIGHT LOOK COLLEGE OF ENGINEERING

ENGINEERING THERAPEUTICS MANUFACTURING CERTIFICATE

Texas A&M University Request for a Change in Curriculum

1. Request change for: Degree Program Minor Certificate
2. Request submitted by (*Department or Program Name*): College of Engineering
3. Program Designation and Name
(*e.g., B.A. in History, Minor in History, Certificate in European Union*): Engineering Therapeutics Manufacturing Certificate
4. **Brief** description of change: Add 4 BMEN Undergraduate Courses to the list of "Approved Additional Courses" from which the students can choose..


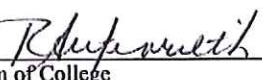
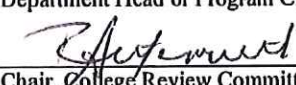
5. Rationale for change: Increased participation in program from Biomedical Engineering students.

Use the checkboxes below to make sure that all information is included.

6. a. Proposed curriculum attached. Yes No
- b. Current catalog curriculum with handwritten edits attached. Yes No
- c. Current Howdy degree evaluation with handwritten edits attached. Yes No
- Please make sure the attached proposed curriculum, catalog and Howdy degree evaluation match.*
7. a. Will degree program hours change (increase/decrease) due to the proposed curriculum changes? Yes No
- b. If yes, degree program hours will change from: _____ to: _____
- c. If yes, is the Texas Higher Education Coordinating Board form attached? Yes No
<http://www.theccb.state.tx.us/index.cfm?objectid=A0F9F7FA-9A92-4F11-2756AD3BBFF01D60>
8. If proposed changes affect other unit(s), are letters of support attached? Yes No

IMPORTANT NOTE: Curriculum changes submitted through the approval process and fully approved by February (*December-UCC/GC, January-Faculty Senate, February-President*) will be effective in the next academic year. Changes requiring approval beyond the University should complete the internal approval process early in the fall semester whenever possible in order to ensure timely implementation.

Approval recommended by:

	03/13/2013		3-16-13
Department Head or Program Chair (<i>Type Name & Sign</i>)	Date	Dean of College	Date
	3-17-13		
Chair, College Review Committee	Date	Chair, GC or UCC	Date

RECEIVED

By Curricular Services at 11:05 am, Apr 05, 2013

Questions regarding this form should be directed to Curricular Services at 845-8201 or sandra-williams@tamu.edu.
Curricular Services - 07/12

Current Program with Changes *

B. **Curriculum** – Use these tables to identify the required courses and prescribed electives of the program, and curriculum as it will appear in the undergraduate and graduate catalog. Note with an asterisk (*) courses that would be added if the program is approved. (Add and delete rows as needed. If applicable, replicate the tables for different tracks/options as shown in the undergraduate catalog.)

Choose
1

Prefix and Number	Required Courses	SCH
BAEN 302	Biological and Ag Engineering Fundamentals II	3
	OR	
CHEN 382	Bioprocess Engineering	3
	OR	
BMEN 282	Engineering Biology	3
ISEN 360	Lean Thinking and Lean Engineering in Process Industries	3

Prefix and Number	* Prescribed Elective Courses. Choose 2 courses	SCH
CHEN 440	Introduction to Transport Phenomena	3
CHEN 463	Systems Biology	3
CHEN 471/BAEN 471	Introduction to Biochemical Engineering	3
CHEN 489	Safety in Pharmaceutical and Biotechnology Industries	3
ISEN 303	Engineering Economic Analysis	3
CHEN 489/BAEN 489	Introduction to Bioseparations	3
CHEN 489/BAEN 489	Bioreactor Design	3
CHEN 489	Bioprocess Control	3
CHEN 489	Designing for Flexibility	3

	TOTAL SCH	12
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* Add

BMEN 430 - Medical Device Regulation
 BMEN 440 - Design of Medical Devices
 BMEN 486 - Biomedical Nanotechnology
 BMEN 489 - Drug Delivery

Updated 06.07.2010

* Remove
CHEN 440 - Intro to Transport Phenomena

Proposed Changes

Engineering Therapeutics Manufacturing Certificate Worksheet

(Please type all information. Handwritten worksheets may not be accepted.)

Student Name: _____ Date: _____ UIN: _____
Email: _____

To earn the Therapeutics Manufacturing Certificate, a student must complete a minimum of 12 semester credit hours selected from the list below:

Required Courses (2)*	Semester Taken	Grade Received
I. ISEN 360* - Lean Thinking and Lean Engineering in Process Industries	_____	_____
II. Choose One of the Following:		
a) BAEN 302 Biological and Ag Engineering Fundamentals II	_____	_____
or		
b) CHEN 382 Bioprocess Engineering	_____	_____
or		
c) BMEN 282 - Engineering Biology	_____	_____
Approved Additional Courses (Choose 2):		
BMEN 430: Medical Device Regulation	_____	_____
BMEN 440: Design of Medical Devices	_____	_____
BMEN 486: Biomedical Nanotechnology	_____	_____
BMEN 489: Drug Delivery	_____	_____
CHEN 463: Systems Biology	_____	_____
CHEN 471/BAEN471: Introduction to Biochemical Engineering	_____	_____
CHEN 489: Safety in Pharmaceutical and Biotechnology Industries	_____	_____
ISEN 303: Engineering Economic Analysis	_____	_____
CHEN 489/BAEN 489: Introduction to Bioseparations	_____	_____
CHEN 489/BAEN 489: Bioreactor Design	_____	_____
CHEN 489: Bioprocess Control	_____	_____
CHEN 489: Designing for Flexibility	_____	_____

*Note: CHEM 222 Organic and Biological Chemistry/or CHEM 227 is a prerequisite for BAEN 302, CHEN 382 and BMEN 282.

Notes: This form will be verified and approval given upon verification of requirements by the Program Coordinator.

For Engineering Therapeutics Manufacturing Administrators:
Verified by:

*New Courses