EXP2013-01-4146
P2-175

THE FACULTY SENATE

January 28, 2013

MEMORANDUM

TO: Dr. R. Bowen Loftin, President

FROM: John N. Stallone, Speaker

SUBJECT: Approval of Undergraduate Curriculum Committee **(FS.30.098)**

At its regular meeting on January 14, 2013, the Faculty Senate approved the following 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 – December 13, 2012
Dwight Look College of Engineering
Certificate in Engineering Honors - requirement changes

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

Attachment

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

FACULTY SENATE AGENDA ITEM REVIEW

This item has been reviewed by the Office of the Provost (OP). Below are recommended action(s): RE: FS.30.098

Presidential Action:	*OP Recommended Action*
✓ Recommend Approval	__ Hold for Further Review
__ Review Only	Hold Released _____
	__ System Review/Submission
	__ BOR Approval
	__ THECB Approval/Notification
	__ SACSCOC Approval/Notification

__✓__Approved: ____Reviewed:

R. Bowen Loftin, President — Date 2/20/13

TEXAS A&M UNIVERSITY 1225 TAMU COLLEGE STATION, TEXAS 77843-1125 TEL. 979/845-9528 FAX. 979/845-6445
senate@tamu.edu http://facultysenate.tamu.edu

8. Change in Curriculum

Dwight Look College of Engineering
Certificate in Engineering Honors – requirement changes

CHANGE IN CURRICULUM

DWIGHT LOOK COLLEGE OF ENGINEERING

CERTIFICATE IN ENGINEERING HONORS – REQUIREMENT CHANGES

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)*: Certificate in Engineering Honors

4. Brief description of change: Admission criteria changed for current studentsfrom a 3.6 GPR (cumulative) to a 3.5. Students must maintain a 3.5 GPR. Addition of a 1 credit hour freshman engineering honors seminar (ENGR 181). Participate in at least 4 hours of research (485 or 491). Present on research in ENGR 381. Senior thesis or copy of manuscript submitted to journal or conference with student as a co-author (emphasis will be on submission to undergraduate research journal).

5. Rationale for change: The requested changes further improve the program and it is anticipated that they will asssist us in our recruitment efforts of high achieving prospective students for the College of Engineering.

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. N/A *Please make sure the attached proposed curriculum, catalog and Howdy degree evaluation match.*	☐Yes	☒No
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? http://www.thecb.state.tx.us/index.cfm?objectid=A0F9F7FA-9A92-4F11-2756AD3BBFF01D60	☐Yes	☐No
8.	If proposed changes affect other unit(s), are letters of support attached? N/A	☐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:

Kenith Meissner — 11/30/12
Department Head or Program Chair *(Type Name & Sign)* — Date

Robin Autenrieth — 11-29-12
Dean of College — Date

Robin Autenrieth — 11-29-12
Chair, College Review Committee — Date

Chair, GC or UCC — Date

RECEIVED
NOV 30 2012
CURRICULAR SERVICES

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

Current Catalog (135) with edits

Energy Engineering Certificate

The objective of the Energy Engineering Certificate program is to better prepare undergraduate students to face the challenges of world energy supply and demand and how to ensure a sustainable energy future. The program will educate engineering majors and suitably prepared science majors about all energy sources, their development, generation, conversion, transmission, and use; with an emphasis on the importance of improving the standard of living for all people while at the same time preserving and improving the environment. To earn the Energy Engineering Certificate, a student must complete a minimum of 12 semester credit hours which includes one required course and three additional courses to be selected from a specified list. Completion of the certificate will be recorded on the student's University transcript.

For further information, contact the Energy Engineering Certificate coordinator or the Engineering Student Services and Academic Programs Office, Room 204 Zachry Engineering Center, (979) 845-7200.

Engineering Project Management Certificate

The Engineering Project Management Certificate program is intended to help meet the requirements of industry by educating undergraduate engineering students to understand complex engineering projects, project organizations and project management methods. Students completing this program will be able to work effectively in multidisciplinary engineering projects immediately after completion and to advance more rapidly within the project management organization and profession. The management of projects entails technical knowledge, engineering skills and management skills. The certificate program consists of (4) three-hour courses for a total of 12 credit hours. Two of the courses are technical electives, which can count toward the student's BS degree depending on the student's department. Core requirements include CVEN 333 (or departmental equivalent) and MGMT 309 or MGMT 363. The additional six hours are comprised of one or two engineering electives and up to one management elective in the Mays Business School. The certificate will be awarded upon completion of the B.S. degree in the Look College of Engineering.

For further information, contact the Engineering Project Management Certificate coordinator or the Engineering Student Services and Academic Programs Office, Room 204 Zachry Engineering Center, (979) 845-7200.

Engineering ~~Scholars Program~~ Honors Certificate

The Engineering ~~Scholars Program (ESP)~~ Honors Certificate offers academically talented students the opportunity to pursue engineering studies of a depth and range that will fully challenge their abilities and meet their interests. Engineering honors students have the opportunity to enroll in honors courses, obtain early involvement in graduate studies and participate in honors contracting and honors independent study. During their second and third year, students take part in special interdisciplinary seminars that focus on the practice of engineering in industry, research and development. These seminars promote student interaction with faculty, industry professionals and graduate student researchers.

first)

The Engineering ~~Scholars Program~~ Honors Certificate is administered through the Office of the Dean of Engineering in close collaboration with each engineering department. A departmental coordinator in each degree program is responsible for setting policy and advising and mentoring the honors students in their department.

For further information, contact the Engineering ~~Scholars Program~~ Honors Certificate coordinator or the Engineering Student Services and Academic Programs Office, Room ~~204~~ 129 Zachry Engineering Center, (979) 845-7200.

International Engineering Certificate

Advances in communications and transportation technologies coupled with a historical trend of nations moving towards market economies have made it possible for companies to function using the best locations and resources no matter where in the world. The resources available are of a wide variety including money, state-of-the-art technologies, know-how and scientific discoveries, raw materials, components, and human resources. An effective engineer in this global environment is one that complements his/her core technical knowledge with excellent cross-cultural competence and international exposure. The certificate program prepares graduates for positions in multinational companies and foreign organizations. The International Engineering Certificate consists of 6 credits from language courses, 6 credits from International and Cultural Diversity courses, 3 credits from Global Engineering Design courses and 3 credits of international experience. Candidates must complete a total of 15 credit hours to earn the certificate.

Polymer Specialty Certificate

The Polymer Specialty Certificate is designed to provide a strong interdisciplinary educational program for undergraduate engineering and suitably prepared science students interested in pursuing a polymer career. The certificate will also provide knowledge to reduce the training time required to turn Texas A&M students into productive members of the industrial workforce. This program is the first of its kind offered in the State of Texas and is administered by the Polymer Technology Center. No schools in the State of Texas offer a formal polymer curriculum, despite the significant role the polymer industry plays in the state's economy. The Polymer Specialty Certificate consists of (4) three-hour courses for a total of 12 credit hours. The required courses are MEEN 458 and CHEM 466 or CHEN 451. In addition, the remaining six hours are to be selected from a list of approved courses of which three hours can be substituted with an approved individual research experience. Completion of the certificate will be recorded on the student's University transcript.

For further information, contact the Polymer Specialty Certificate coordinator or the Engineering Student Services and Academic Programs Office, Room 204 Zachry Engineering Center, (979) 845-7200.

Current Information on Website (135) 1 of 4

Engineering Scholars Program - Honors

The Engineering Scholars Program (ESP) was established for individuals who accept the challenge of an engineering degree, but who recognize that they need extra opportunities and preparation to achieve their goals. ESP is for students who are interested in more than a job - they want to invent, imagine, create, explore, inspire, or heal.

ESP provides a unique perspective to your education. Call it Extra Scholastic Perception, a sixth sense for your college career. We will introduce you to leaders in the worlds of engineering and business who will acquaint you with options you might never have considered. We'll help you look beyond next semester's classes to see the advanced research opportunities at Texas A&M that can lead you to an unforgettable one-on-one project with one of our professors. We will show you the paths other engineers took after college - paths that look less like that of Dilbert and more like that of Henry David Thoreau, a civil engineer who also had a pretty good writing career.

Eligibility

- Incoming freshmen in engineering majors who have 1350 or above on SAT and be ranked in the top 10% of their class. (Students from high schools which don't provide rankings should discuss with Dr. Ken Meissner)
- Currently enrolled engineering students who have a cumulative GPR of 3.60 or above.

Requirements

- Take and complete ENGR 281 (spring semester of the second year)
- Take and complete ENGR 381 (fall semester of the third year)
- Register for and complete a 3-6 hr independent study (485) course directed by the departmental ESP coordinator, which will involve an undergraduate research project planned and completed by the student.
- Complete a total of 18 honors credits, which can include ENGR 281(1), ENGR 381(1), and any of the 485 credits that are taken as honors. Other courses can be any honors courses offered on campus.
- Complete and submit a certificate worksheet showing completion of these requirements. This worksheet should be submitted to 204 Zachry at the time of registration for their final semester.

Course Requirement Summary

Credit	Course
1	ENGR 281 - Engineering Scholars Program Seminar I.
1	ENGR 381 - Engineering Scholars Program Seminar II.
Variable	Departmental 485/491 - Directed Studies / Undergraduate Research
Variable	Additional honors courses are required to meet the total number of required honors hours.
18	**Total Honors Hours Required (Students in catalog 126 or earlier are required to**

2 of 4(13

	complete a total of 11 honors hours.)

Certificate Courses Accepted by Major

- Some or all courses may be accepted as technical electives with approval from the respective department.
- The Civil Engineering Department will accept these courses as technical elective for some majors.
- The Aerospace Engineering Department will accept 485/491 courses towards degree plans if they are honors as well as ENGR 281 & 381. Students can petition for a 400-level or 600-level course in AERO or another department to count for an AERO technical elective.
- The Biological and Agricultural Engineering Department has one three-hour technical elective and one three-hour engineering elective which could be fulfilled by appropriate courses used toward a certificate program.
- The Electrical and Computer Engineering Department has several 400 level courses which could be used as technical electives for ELEN. Each is reviewed on a case by case basis.
- Engineering Technology and Industrial Distribution - Most any upper level (3xx or 4xx) engineering courses could be accepted as a technical elective. Students should submit a written request explaining why and how it applies to the program.

Certificate Application and Worksheet

Application

Worksheet

For more information

Dr. Ken Meissner
ESP Program Director
Associate Professor
Department of Biomedical Engineering
3120 - Texas A&M University
College Station, Texas 77843-3120

Email: esp@tamu.edu
Phone: (979) 458-0180

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TEXAS A&M ENGINEERING

Engineering Scholars Program Honors Certificate

Application

Student Name: _____ Date: _____

UIN: _____ TAMU Overall GPR: _____

Major: _____ Expected Graduation Date: _____

Email Address: _____

The Engineering Scholars Program Honors Certificate is open to:

1) Incoming freshmen in engineering majors who have 1350 or above on SAT and be ranked in the top 10% of their class. (Students from high schools which don't provide rankings should discuss with Dr. Ray James, 204 Zachry)
2) Currently enrolled engineering students who have a cumulative GPR of 3.60 or above.

Students who complete the ESP requirements will receive a certificate of completion and a notation on the permanent transcript.

To complete the Engineering Scholars Program Honors Certificate requirements, students must:

1) Take and complete ENGR 281 (spring semester of the second year)
2) Take and complete ENGR 381 (fall semester of the third year)
3) Register for and complete a 3-6 hr independent study (485) course directed by the departmental ESP coordinator, which will involve an undergraduate research project planned and completed by the student.
4) Complete a total of 18 honors credits, which can include ENGR 281(1), ENGR 381(1), and any of the 485 credits that are taken as honors. Other courses can be any honors courses offered on campus.
5) Students must take 6 hours of coursework above his or her degree program requirements to earn the certificate.
6) Complete and submit a worksheet showing completion of these requirements. This worksheet should be submitted to 204 Zachry at the time of registration for their final semester

_____

Student Signature

For Engineering Student Services & Academic Programs (ESSAP) Office

Approved by: _____ Date: _____

TEXAS A&M ENGINEERING

Engineering Scholars Program Honors Certificate

Worksheet

Student Name: _____ Date: _____

Email Address: _____ UIN: _____

Students should complete this worksheet and submit to the Engineering Student Services and Academic Programs office in 204 Zachry after registering for the final semester before receiving the BS degree.

Students must complete a total of 18 honors credit hours, which can include ENGR 281(1), ENGR 381(1), and any of the 485 credits that are taken as honors. Other courses can be any honors courses offered on campus.

Required Courses		Semester Taken	Grade Received	Hours	Honors Hours
ENGR 281	Engineering Scholars Program Seminar I				
ENGR 381	Engineering Scholars Program Seminar II				
_____ 485	Directed Studies				

Other Courses - List all Honors Courses Completed

_____	_____				
_____	_____				
_____	_____				
_____	_____				
_____	_____				
_____	_____				
_____	_____				
_____	_____				

TOTAL HONORS HOURS COMPLETED _____

Note: 1. This form will be verified by the Engineering Student Services and Academic Programs office and approval given upon verification of requirements by the Program Coordinator and the Dean of Academic Programs to earn the certificate.

2. Students must take 6 hours of coursework above his or her degree program requirements to earn the certificate.

For Engineering Student Services and Academic Programs (ESSAP) office staff:

Verified by: _____ Date: _____

Proposed Information for Website (Cat 136) 17-

Engineering Honors Certificate

Vision: Exceptional engineering students will learn within an immersive experience that enables them to realize their tremendous academic potential and transform their profession and society.

Mission Statement: To attract exceptional engineering students, and enable these students to become competitive for national level scholarships/fellowships through sustained, individual faculty mentoring, participation in world-class research and inspiring, challenging courses.

Admission

Incoming Freshmen	1350 SAT or 31ACT, AND top 10% of HS class or National Merit Finalist
Current Students	3.5/4.0 GPR

Retention: Students must maintain a 3.5/4.0 GPR to remain in the program. The student may be granted one probationary semester if the GPR dips below a 3.5. To earn the probationary semester, it must be mathematically possible for the student to achieve a GPR above 3.5 by the end of the probationary semester.

Graduation Requirements

1. 18 hours of honors credits
2. Three 1 hour EH seminars (ENGR 181H, 281H & 381H). These count towards the honors credits.
    a. 181H will be the seminar series including presentations by student research organizations (similar to current 281H).
    b. 281H requires the students to explore areas of research and present oral/written summaries.
    c. 381H will consist of senior EH students giving seminars on their research and the junior students writing a research proposal.
3. Research experience: at least **four (4)** 485 or 491 credits and, thus, provide true participation in the research process.
4. Research presentation to 381H course.
5. Senior thesis or copy of manuscript submitted to journal or conference with EH student as a co-author (emphasis will be on submission to undergraduate research journal). Note the thesis should include sections such as: introduction, literature review, methods, results and discussion, and conclusion. The thesis may be written in a manuscript format familiar to the student's field of research and must be approved by the research advisor.

Certificate Application and Worksheet

Application

Worksheet

For more information

Dr. Ken Meissner

ESP Program Director

Associate Professor

Department of Biomedical Engineering

3120 - Texas A&M University

College Station, Texas 77843-3120

Email: esp@tamu.edu
Phone: (979) 458-0180

TEXAS A&M ENGINEERING

Certificate in Engineering Honors

Application

Student Name: _____ Date: _____

UIN: _____ TAMU Overall GPR: _____

Major: _____ Expected Graduation Date: _____

Email Address: _____

The Certificate in Engineering Honors is open to:

1) Incoming freshmen in engineering majors who have 1350 or above on SAT or 31 or above on ACT and be ranked in the top 10% of their class. (Students from high schools which don't provide rankings should discuss with the Program Director.
2) Currently enrolled engineering students who have a cumulative GPR of 3.50 or above.
3) Students must maintain a 3.5/4.0 GPR to remain in the program. The student may be granted one probationary semester if the GPR dips below a 3.5. To earn the probationary semester, it must be mathematically possible for the student to achieve a GPR above 3.5 by the end of the probationary semester.

Students who complete the Engineering Honors requirements will receive a certificate of completion and a notation on the permanent transcript.

To complete the Engineering Honors Certificate requirements, students must:

1. 18 hours of honors credits
2. Three 1 hour EH seminars (ENGR 181H, 281H & 381H). These count towards the honors credits.
   a. 181H will be the seminar series including presentations by student research organizations (similar to current 281H).
   b. 281H requires the students to explore areas of research and present oral/written summaries.
   c. 381H will consist of senior EH students giving seminars on their research and the junior students writing a research proposal.
3. Research experience: at least **four (4)** 485 or 491 credits and, thus, provide true participation in the research process.
4. Research presentation to 381H course.
5. Senior thesis or copy of manuscript submitted to journal or conference with EH student as a co-author (emphasis will be on submission to undergraduate research journal). Note the thesis should include sections such as: introduction, literature review, methods, results and discussion, and conclusion. The thesis may be written in a manuscript format familiar to the student's field of research and must be approved by the research advisor.

_____
Student Signature

For Engineering Student Services & Academic Programs (ESSAP) Office

Approved by: _____ Date: _____

TEXAS A&M ENGINEERING

Certificate in Engineering Honors

Worksheet

Student Name: _____ Date: _____

Email Address: _____ UIN: _____

Students should complete this worksheet and submit to the Engineering Student Services and Academic Programs office in 129 Zachry after registering for the final semester before receiving the BS degree.

Students must complete a total of 18 honors credit hours, which can include ENGR 181 (1), ENGR 281(1), ENGR 381(1), and any of the 485/491 credits that are taken as honors. Other courses can be any honors courses offered on campus.

Required Courses	Semester Taken	Grade Received	Hours	Honors Hours
ENGR 181 Engineering Honors Seminar I				
ENGR 281 Engineering Honors Seminar II				
ENGR 381 Engineering Honors Seminar III				
_____ 485/491 Directed Studies/Research				

Other Courses - List all Honors Courses Completed

_____	_____				
_____	_____				
_____	_____				
_____	_____				
_____	_____				
_____	_____				
_____	_____				
_____	_____				

TOTAL HONORS HOURS COMPLETED _____

Note: 1. This form will be verified by the Engineering Student Services and Academic Programs office and approval given upon verification of requirements by the Program Coordinator and the Senior Associate Dean of Academic Programs to earn the certificate.

For Engineering Student Services and Academic Programs (ESSAP) office staff:

Verified by: _____ Date: _____