Program Change Request

Date Submitted: 06/19/17 12:10 pm

 Viewing: BS-ITDE : Interdisciplinary Engineering - BS
Last approved: 02/02/17 10:38 am
Last edit: 08/02/17 10:22 am
Changes proposed by: tjjacobs

In Workflow
1. CLEN Department Head
2. Curricular Services Review
3. EN Committee Preparer UG
4. EN Committee Chair UG
5. EN College Dean UG
6. Provost
7. UCC Preparer
8. UCC Chair
9. Faculty Senate Preparer
10. Faculty Senate
11. Provost II
12. President
13. External Approval
14. Curricular Services Approval Path
1. 06/19/17 12:15 pm Tim Jacobs (tjjacobs): Approved for CLEN Department Head
2. 06/19/17 1:21 pm Sandra Williams (sandra williams): Approved for Curricular Services Review
3. 06/22/17 11:02 am Eileen Hoy (ehoy): Approved for EN Committee Preparer UG
4. 07/03/17 4:10 pm Prasad Enjeti (enjeti): Approved for EN Committee Chair UG
5. 07/03/17 4:11 pm Prasad Enjeti (enjeti): Approved for EN College Dean UG
6. 08/02/17 10:23 am Deena McConnell (djm): Approved for Provost
7. 08/10/17 9:43 am Sandra Williams (sandra-williams): Approved for UCC Preparer
8. 09/04/17 3:10 pm Sandra Williams (sandra-williams): Approved for UCC Chair

Catalog Pages Using this Program
Interdisciplinary Engineering - BS

Contact(s)

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curricular Services</td>
<td><a href="mailto:cars@tamu.edu">cars@tamu.edu</a></td>
<td>9798458201</td>
</tr>
</tbody>
</table>

Academic level Undergraduate
Effective Term 2018-2019
Department College of Engineering
College Engineering
Program type Degree
Degree designation BS - Bachelor of Science
With a major in Interdisciplinary Engineering (ITDE)

Catalog Program Title
Interdisciplinary Engineering - BS
CIP and Fund code 14010100

Rationale for Proposal

<table>
<thead>
<tr>
<th>Program hours</th>
<th>128</th>
</tr>
</thead>
</table>

Is this program eligible for financial aid? No

Will program hours change (increase/decrease) due to the proposed curriculum changes? No

Program delivery mode
On-campus

Location is In State

Is this an approved SACSCOC location? Yes
SACSCOC Location Texas A&M University Galveston Campus, 200 Seawolf Pkwy, Galveston, TX 77553

Will this program be offered with another institution? No

% of Program a student can take off-campus or through Distance Education 50%

Catalog Program Requirements

---

https://nextcatalog.tamu.edu/courseleaf/courseleaf.cgi?page=/programadmin/812/index.htm... 9/18/2017
Plan of Study Grid

Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 251 Engineering Mathematics III</td>
<td>3</td>
</tr>
<tr>
<td>Technical elective s</td>
<td>7</td>
</tr>
<tr>
<td>COMM 205 Communication for Technical Professions or Technical and Business Writing</td>
<td>3</td>
</tr>
<tr>
<td>University Core Curriculum 3</td>
<td>3</td>
</tr>
<tr>
<td>Semester Credit Hours</td>
<td>16</td>
</tr>
<tr>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td>MATH 308 Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>Technical elective s</td>
<td>9</td>
</tr>
<tr>
<td>University Core Curriculum 3</td>
<td>6</td>
</tr>
<tr>
<td>Semester Credit Hours</td>
<td>18</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 401 Interdisciplinary Design</td>
<td>3</td>
</tr>
<tr>
<td>Select one of the following:</td>
<td>3</td>
</tr>
<tr>
<td>MATH 304 Linear Algebra</td>
<td></td>
</tr>
<tr>
<td>MATH 311 Topics in Applied Mathematics I</td>
<td></td>
</tr>
<tr>
<td>MATH 323 Linear Algebra</td>
<td></td>
</tr>
<tr>
<td>MATH 401 Advanced Engineering Mathematics</td>
<td></td>
</tr>
<tr>
<td>Technical elective s</td>
<td>7</td>
</tr>
<tr>
<td>University Core Curriculum 3</td>
<td>3</td>
</tr>
<tr>
<td>Semester Credit Hours</td>
<td>16</td>
</tr>
<tr>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td>ENGR 402 Interdisciplinary Design II</td>
<td>3</td>
</tr>
<tr>
<td>Technical electives 5</td>
<td>12</td>
</tr>
<tr>
<td>Semester Credit Hours</td>
<td>15</td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 482/PHIL 482 Ethics and Engineering</td>
<td>3</td>
</tr>
<tr>
<td>Technical electives s</td>
<td>12</td>
</tr>
<tr>
<td>Semester Credit Hours</td>
<td>15</td>
</tr>
<tr>
<td>Spring</td>
<td></td>
</tr>
<tr>
<td>Technical electives s</td>
<td>15</td>
</tr>
<tr>
<td>Semester Credit Hours</td>
<td>15</td>
</tr>
<tr>
<td>Total Semester Credit Hours</td>
<td>95</td>
</tr>
</tbody>
</table>

A total of 62 technical electives are required. To be selected with consultation with ITDE advisor.

Total Program Hours 128

Additional Information

References

Required Proposal Forms

BS-ITDE DEPProposedOffcampusF2F complete 8-1-17.docx
BS ITDE Distance Education Off Campus Proposal Cover I complete 8-1-17.docx
THECB Off-Campus Face-to-Face and Electronic TAMUG ITDE 8-1-17.docx

Reviewer Comments

Sandra Williams (sandra-williams) (06/19/17 11:38 am): Rollback: Please update as discussed by phone. Also, will this need a support letter or approval from GV? Will that be added later?
Tim Jacobs (tjjacobs) (06/19/17 12:15 pm): Revised per phone call. The one document is a fillable PDF, not emanating from a Word version. Regarding Galveston support letter: I don’t believe this is required since this is an Engineering degree program offered in Engineering at Galveston, which Dean Banks oversees. I’ll confirm, however, and will add later if needed. Thank you.
Sandra Williams (sandra-williams) (06/19/17 1:20 pm): Please update contact information on the form.
Deena McConnell (djm) (08/02/17 10:22 am): Replaced System and THECB documents with updated versions.
Sandra Williams (sandra-williams) (09/04/17 3:10 pm): UCC approved at September 2017 meeting.

Course Reviewer Comments

Sandra Williams (sandra-williams) (08/04/17 11:38 am): Rollback: Please update as discussed by phone. Also, will this need a support letter or approval from GV? Will that be added later?
Sandra Williams (sandra-williams) (06/19/17 1:20 pm): Please update contact information on the form.
Deena McConnell (djm) (08/02/17 10:22 am): Replaced System and THECB documents with updated versions.
Sandra Williams (sandra-williams) (09/04/17 3:10 pm): UCC approved at September 2017 meeting.

Key: 812

https://nextcatalog.tamu.edu/courseleaf/courseleaf.cgi?page=/programadmin/812/index.htm...
Texas Higher Education Coordinating Board

Certification Form for Electronically Delivered and Off-Campus Education Programs
April 2014

Directions: For all new programs that are to be delivered electronic-to-individuals (i.e., online), electronic-to-groups, or off-campus face-to-face, a signed pdf of this form must accompany email notification of the new program to Dr. Andrew B. Lofters (andrew.lofters@thecb.state.tx.us). (Institutions offering distance education programs for the first time – i.e. have never offered a distance education program, such as newly created institutions -- must complete and submit an Institutional Plan for Distance Education).

Please fill out the Administrative Information below and then sign and date on page 4.

## Administrative Information

1. **Institution:** Texas A&M University

2. **Program Name** – Show how the program would appear on the Coordinating Board’s program inventory [e.g., Master of Arts (MA) in English Literature]:
   - Bachelor of Science in Interdisciplinary Engineering

3. **Program CIP Code:** 14.0101.00

4. **Program Delivery** – Describe how the program will be delivered: online, off-campus face-to-face or off-campus electronic-to-groups? If off-campus, include information as to where the program will be delivered and be sure to follow the requirements for area notification as outlined in the Guidelines for Approval of Distance Education.
   
   The Bachelor of Science in Interdisciplinary Engineering program will be delivered off-campus face-to-face at the Texas A&M University at Galveston campus in Galveston, Texas. Some courses may be offered by off-campus electronic to group delivery with the faculty member on main campus in College Station and students at the Galveston campus. Students may also take some courses online if they are not available in Galveston.

5. **Proposed Implementation Date** – Report the first semester and year that students would enter the program at the proposed additional site(s).
   - August 2018

6. **Contact Person** – Provide contact information for the person who can answer specific questions about the program.

   **Name:** Dr. Timothy Jacobs
   **Title:** Director of Interdisciplinary Engineering Programs
   **E-mail:** tjjacobs@tamu.edu
   **Phone:** 979-458-5649
Based on *Principles of Good Practice for Academic Degree and Certificate Programs and Credit Courses Offered Electronically.*

**CURRICULUM AND INSTRUCTION**

- Each program or course results in learning outcomes appropriate to the rigor and breadth of the degree or certificate awarded.
- A degree or certificate program or course offered electronically is coherent and complete.
- The program or course provides for appropriate interaction between faculty and students and among students.
- Qualified faculty provide appropriate oversight of the program or course that is offered electronically.
- Academic standards for all programs or courses offered electronically will be the same as those for programs or courses delivered by other means at the institution where the program or course originates.
- Student learning in programs or courses delivered electronically should be comparable to student learning in programs offered at the campus where the programs or courses originate.

**INSTITUTIONAL CONTEXT AND COMMITMENT**

**Role and Mission**

- The program or course is consistent with the institution's role and mission.
- Review and approval processes ensure the appropriateness of the technology being used to meet the objectives of the program or course.

**Students and Student Services**

- Program or course announcements and electronic catalog entries provide appropriate information.
- Students shall be provided with clear, complete, and timely information on the curriculum, course and degree requirements, nature of faculty/student interaction, assumptions about technological competence and skills, technical equipment requirements, availability of academic support services and financial aid resources, and costs and payment policies.
• Enrolled students have reasonable and adequate access to the range of student services and student rights appropriate to support their learning.

• The institution has admission/acceptance criteria in place to assess the extent to which a student has the background, knowledge and technical skills required to undertake the program or course.

• Advertising, recruiting, and admissions materials clearly and accurately represent the program or course and the services available.

Faculty Support

• The program or course provides faculty support services specifically related to teaching via an electronic system.

• The institution assures appropriate training for faculty who teach via the use of technology.

• The institution provides adequate equipment, software, and communications access to faculty to support interaction with students, institutions, and other faculty.

Resources for Learning

• The institution ensures that appropriate learning resources are available to students.

• The institution evaluates the adequacy of, and the cost to students for, access to learning resources and documents the use of electronic resources.

Commitment to Support

• Policies for faculty evaluation include appropriate recognition of teaching and scholarly activities related to programs or courses offered electronically.

• The institution demonstrates a commitment to ongoing support, both financial and technical, and to continuation of the program or course for a period of time reasonable and sufficient for students to complete the course or program.

EVALUATION AND ASSESSMENT

• The institution evaluates the program's or course's educational effectiveness, including assessments of student learning outcomes, student retention, and student and faculty satisfaction.

• At the completion of the program or course, the institution provides for assessment and documentation of student achievement in each course.
On behalf of Texas A&M University (Institution), I assert that the preceding Coordinating Board criteria have been met for all courses associated with this program that will be delivered electronically and off-campus face-to-face.

Douglas J. Palmer
Interim Provost and Executive Vice President

THECB 4/2014
Distance Education: Off-Campus (Face-to-Face)/Online Request

List the proposed degree and CIP code:

Degree: BS in Interdisciplinary Engineering
CIP Code: 14.0101.00

When is the effective date of the proposed program? Fall 2018 (AY19)

Notification (Check the one that applies):

☐ MITC administrative council has approved the proposed offering. (Attach this approval to the proposal.)

☒ Area universities were notified of the proposed offering 60 days prior to effective date. (System and CB should be copied on this email notification.)

Degree will be offered at the following location(s):

Texas A&M University at Galveston

<table>
<thead>
<tr>
<th>Galveston</th>
<th>Texas</th>
<th>77553</th>
</tr>
</thead>
<tbody>
<tr>
<td>City</td>
<td>State</td>
<td>Zip</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>State</td>
<td>Zip</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>State</td>
<td>Zip</td>
</tr>
</tbody>
</table>
Summary of Proposal (Include Background Information and Rationale for the change. Include Online delivery)

The Bachelor of Science degree in Interdisciplinary Engineering (BS ITDE) is a 128 credit hour degree program. The educational objectives are to prepare students for careers in emerging, interdisciplinary engineering fields. Emerging fields are those specializations that combine elements of more than one traditional discipline into a new specialization, examples of which include material engineering, autonomous robotic systems, and energy engineering. The BS ITDE degree program intends to seek accreditation from ABET at the appropriate time. The BS ITDE will be delivered on the campus at Texas A&M University at Galveston. The Galveston campus is an approved site and was selected because of the strategic waterfront location and unique resources at the Galveston campus. Recent projections developed by the Bureau of Labor Statistics, U.S. Department of Labor, and surveys of industry professionals, indicate a demand for students with interdisciplinary engineering degrees. Some students may take courses online from the College Station campus, only in the event they are not able to take them in Galveston. Some courses may be offered by electronic to group delivery with the faculty member in College Station and students in Galveston.

Financial Implications:

The BS ITDE uses existing engineering courses, taught by existing tenured, tenure-track, and academic professional faculty, to form a broad and comprehensive area of study. Furthermore, the BS ITDE offering at Texas A&M at Galveston will provide students with the opportunity to learn at a campus with world-class infrastructure and resources at a strategic waterfront location.

University: Request for Authorization

I recommend adoption of the following program:

“Having complied with all of the requirements of the Texas Higher Education Coordinating Board, Texas A&M University is hereby authorized to offer the BS in Interdisciplinary Engineering program by distance education, off campus (face to face)/online/electronic to group delivery effective Fall 2018 (AY19).

The Texas A&M University System Office of Academic Affairs finds that the program offering aforementioned is within the role and scope and capacity of the institution and will benefit students.

Texas A&M University certifies that the proposed distance delivery of the aforementioned program meets the criteria under Texas Administrative Code Chapter 4 Subchapter P regarding quality of the curriculum and courses; delivery of instruction; evaluation, training, supervision, and support of faculty; financial resources; and admission of and support services for students. The program is within the role and mission of the institution and in the Table of Programs. The institution will comply with the standards and criteria of the Commission on Colleges of the Southern Association of Colleges and Schools and will adhere to criteria outlined in Principles of Good Practice for Degree and Certificate Programs and Courses Offered Through Distance Education.”
Approval – University:

______________________________  __________________________
Douglas J. Palmer  
Interim Provost and Executive Vice President

Authorization: System

Approval – Texas A&M University System:

______________________________
James R. Hallmark, Ph.D.
Vice Chancellor for Academic Affairs