

Spring 2018 BPCCEngineering Advisory Committee Minutes

Date: March 23, 2018
9:30 am Bldg L Room 213

Attendees:

Jeffery Anderson	Gideon Mabry
Aygeron Chirino	Megan Martin
Hannah Cook	Lynne McCoy
Wilson, Cory	Ali Mustapha
Daniel Davis	Robert Newberry
Zack Deyoung	Jeff Raley
Lesa Taylor-Dupree	Dave Rambaran
Gayle Flowers	Skylar Robey
Katie Foster	June Schneider
Clifton Frilot	Jasmine Sikand
Russ Gedeon - Chairman	Jeanne Smith
Deanna Hardy	Joey Smith
Mark Harner	Giovanni F. Solitro
Holly French-Hart	Paul Spivey
Miles Hitchcock	Susie Stinson
Thomas Hornbuckle	Heath Tims
Stephanie Jackson	Laura Weego
Charles Reed, Jr.	Cory Wilson
Jennifer Lawrence	John Wilson

Welcome and Introductions

Megan Martin, Dean of Technology, Engineering and Mathematics, welcomed everyone and turned the meeting over to the program director, June Schneider, to begin round table introductions.

Adoption of last meeting minutes

VOTE

Robert Newberry made a motion to approve the minutes from April 2017.
Seconded by John Wilson.
Vote in favor of motion is unanimous.

State of the Department

Dr. Schneider went over the enrollment and graduation numbers showing a consistent trend between 90 – 100 students in the program. Graduation rates are approximately 10% of the enrollment with most students going on to 4-year universities. June would like to do more recruiting to let parents and high schools students know about the 2+2 program.

Student Analysis

More than one half of students attend part time because they have work obligations. The majority of students in the engineering program do not have to take any developmental math classes.

Most of the students self-pay or have loans and only two students had any type of scholarship. June discussed the idea of reaching out to partners to create a scholarship opportunity for engineering students.

95% of the students continue on to a 4-year university to complete their degree.

Dr. Schneider shared success stories of previous BPCC engineering students who transferred to various 4-year universities and are working in the engineering field today.

MATH, PHYS and ENGR Courses Learning Outcomes and Curriculum Update

Calculus Series

Skylar Robey reported on the change requiring the pre-requisite of Pre-calculus (Math 111) prior to taking Calculus (Math 250), the pass rate for the higher-level calculus series is expected to increase because the students will be better prepared.

Dr. Miles Hitchcock said the calculus program is going well and recognized Dr. Clif Frilot, the adjunct instructor who teaches Circuits and Calculus IV. All calculus courses are taught in 8 week sessions except for Calculus I. It is challenging but necessary because the program starts in Calculus I, so there may be several prerequisite math courses needed before they can start in the program. The bottlenecks in the math courses are Calculus II and Differential Equations. We do see a 50% pass rate in these courses that normally indicates which students are serious about completing the program.

Charles Reed, Professor, reported that Physics I and II were recently changed from an 8 week class to a full semester. Early predictions are that students are doing better since many of them are in other engineering and advanced math classes and are bombarded with so much information. Many students were taking physics two or more times to pass in the 8 weeks sessions. Mr. Reed concurred with Dr. Hitchcock that they did not want to compromise the integrity of the program by not giving the students everything needed to be successful. Making the physics classes 16 weeks long gives the students more time to develop the critical thinking skills needed to complete the course.

Engineering

Dr. Schneider reviewed the course learning outcomes for the 2017 year highlighting the number of students enrolled, students passing with a "C" or better, and the number of withdrawals.

LA Tech Webworks has been used at BPCC in conjunction with the textbook; our grant has since expired and BPCC will start using LA Tech's Living with the Lab starting in the spring semester. Dr. Schneider has been in discussion with LA Tech to implement this change to allow students transferring from BPCC to LA Tech to be better prepared since they will have

the knowledge of this program. The additional cost is included in the course fees for various engineering courses.

Advisory board's engagement in Freshman Engineering Design Project: Robert Newberry & Ahmed Khattab. Mr. Newberry reported on the various projects students worked on in fall semester. The presentation dates will be in the spring on May 1, 2018 and May 3, 2018 at 11:00 in room L-228.

Embed Solidworks in ENGR Courses presentation made by current BPCC Students:
Thomas Hornbuckle – Angular Kinematics
Jasmine Sikand - Calculating the Centroid of a Shape
Aygeron Chirino – Truss Project
Zachary Deyoung – Heat Transfer in a Pin Fin.

Dr. Schneider asked the board to contact her for ideas for future SolidWorks projects for the upcoming semesters.

Articulation, Transfer Protocol/Requirement, Transfer Student Status and Curriculum Change Recommendation by Partnered Four-Year Universities

Louisiana Tech University: Associate Dean Heath Tims

Heath Tims spoke about BPCC student transfers to LA Tech and explained the recent decision to implement the addition of MathCad and Solidworks to the program. The current articulation agreement matches up well with the LA Tech program. He also suggested that the names of students are sent to him, so his department will be prepared to advise students. Specifically, BPCC teaches a separate Statics and Strength and Materials course where as at LA Tech, the course are combined, so those courses do not map exactly.

Transfer Student's Perspective: Katie Foster- LA Tech CE student

Former BPCC student Katie Foster talked about her goal to finish her Engineering degree at LA Tech, she is currently commuting from Shreveport to Ruston. She made a suggestion that BPCC add another 100 level 3 credit hour engineering class to the curriculum because LA Tech requires 6 hours where as BPCC only requires 3 hours, and students are having to go backwards to complete the other 3 hours when they get to LA Tech.

Dr. Schneider would like to take steps to add an additional 100 level engineering course to the curriculum. Lesa Taylor-Dupree stated they would have to go to the curriculum committee prior to going to the Board of Regents. Dr. Hitchcock suggested putting differential equations in the curriculum, it is currently offered but not a requirement to graduate from BPCC with an engineering degree. June stated that would require requesting an additional 6 hours and thought it would be a challenge and also affect the graduation rate.

State of the Engineering Advisory Board - Chair Russ Gedeon

VOTE:

Action Item 2: Review and Approve the Program Objective and Length

Ali Mustapha made a motion to approve the program objective and length.

Seconded by Jeff Anderson.

Vote in favor of motion is unanimous.

Action Item 3: Review and Approve the Revised Advisory Board Charter

Ali Mustapha made a motion to approve the program objective and length.

Seconded by Jeff Anderson.

Vote in favor of motion is unanimous.

Experience with Semester-based Thermodynamics Field trip: Joey Smith & Russ Gedeon gave a presentation on the field trip to the Arsenal Hill Power Plant in Shreveport.

Experience with Interns: Dave Rambaran – Most of the interns have worked in the field and had hands on in the geotechnical field, it is helpful to have students that can do the lab and field work as well as the paperwork. The average internship tends to be about one year. Most of the interns go on to finish their 4 years engineering degree.

BPCC Foundation & Grants: Jennifer Lawrence & Susie Stinson – would like to partner with industry to write grant(s) for engineering student and asked members of the board to contact her for assistance in this endeavor. Currently there are not any grants for specific engineering degree.

Brainstorm sessions of New Activities to improve (1) curriculum; (2) recruitment & outreach; (3) Industry Partnership

Example Sharing Presentations:

1. Real world problem-Simulation of burner box boiler: Russ Gedeon; -
2. Real world problem-Water pipes stress analysis: Jeffery Anderson
3. Field trip: Construction sites to learn trench technology in water/sewage projects: Jeffery Anderson
4. Explore scholarships with professional engineering societies for outreach & recruitment: Jeffery Anderson
5. Connect ENGR 299-Internship students with LSUHSC Orthopedics Biomechanics lab: Dr. Giovanni Solitro

Meeting adjourned at 11:10 am

Minutes submitted by: Jeanne Smith

Minutes approved by: Dr. June Schneider