EAST LOS ANGELES COLLEGE ENGINEERING AND TECHNOLOGIES DEPARTMENT ADVISORY COMMITTEE MEETING

6/8/2018

12:00 PM TO 2:30 PM

Attendance:

University / Industry Representatives Present

1. Mr. Jose Ramirez, Chair, Engineering and Technologies, East Los Angeles College
2. Mr. Kamy Khashayar, Professor, East Los Angeles College
3. Dr. Humberto Gallegos, Associate Professor, East Los Angeles College
4. Mr. Artin Davidian, Associate Professor, East Los Angeles College
5. Mr. Edward Alvarado, Lab Technician, East Los Angeles College
6. Dr. Djuradj Babic, Associate Dean of STEM, East Los Angeles College
7. Mr. Adrian Banuelos, Chair, Auto Technology, East Los Angeles College
8. Mr. Sangbum S. Choi, Adjunct, East Los Angeles College
9. Mr. Saul Garcia, Adjunct, East Los Angeles College
10. Dr. Lou Hughes, Internal Grant Writer, East Los Angeles College
11. Mr. Leo Medina, CAOT, East Los Angeles College
12. Mr. Farid Mesghali, Adjunct, East Los Angeles College
13. Dr. Armando Rivera Dean, Academic Affairs/STEM East Los Angeles College
14. Mr. Juan Rodriguez, Adjunct, East Los Angeles College
15. Mr. Mark K. Swicegood, Adjunct, East Los Angeles College
16. Ms. Robin Jeffers, University Of California, Irvine
17. Dr. Hamid Johari, California State University Northridge
18. Dr. Hen-Geul (Henry) Yeh, California State University, Long Beach
19. Dr. Sam Landsberger, California State University Los Angeles
20. Dr. Omar E. Mora, California Polytechnic Pomona
21. Dr. Rupa Purasinghe, California State University, Los Angeles
22. Dr. Gisele Ragusa, University of Southern California
23. Mr. Paul Jones, Corporate & University Relations Group
24. Dr. Varaz Shahmirian, UCLA Extension
25. Ms. Mareta Zúñiga, Build LACCD Program
26. Ms. Wendy Angel, Emerald Cities Los Angeles
27. Mr. Luis Barrera-Castañon, Goodwill of Southern California
28. Ms. Linda Choy, Los Angeles County Office of Education
29. Ms. Gora Datta, IEEE Region Orange County Section
30. Mr. Rafaela Diaz, Southern California Gas Company
31. Mr. Chris Gura, Klein Educational Systems
32. Mr. Brian Hagerty, IEEE Orange County Section
33. Mr. Josh Larouche, TRAK Machine Tools
34. Mr. Tom Lazear, Archway System Inc.
35. Mr. Ray Lombera, Ray Lombera, PLS
36. Mr. Carlos Lopez, Bureau of Engineering Survey Division
37. Mr. Christian McAuliffe, Haas Industries

38. Mr. Ted Milner, Executive Temps
39. Mr. Sami Nadjmetchi, VACCO Industries Multi-Fab Products
40. Mr. Gary Pangelina, Society of Manufacturing Engineers
41. Mr. Frank Paton, Paton Group
42. Mr. Brent Pedersen, 3D Systems
43. Mr. Cesar Perez, Community Career Development, Inc.
44. Mr. Michael Rendler, E7 Studios
45. Mr. Victor Romero, Southern California Gas Company
46. Mr. David Rosenfield, Romac Industries
47. Ms. Karen Stanton, Western Academy Support & Training Center-WASTC
48. Mr. Gilbert Vasquez, Los Angeles Department of Water and Power
49. Ms. Erika Ramirez, East Los Angeles College
50. Ms. Sandra Jaime, East Los Angeles College
51. Ms. Maria Gonzalez, East Los Angeles College
52. Ms. Ashley Orta, East Los Angeles College

The Meeting was called to order at 12:15 PM

Welcome Speech from Faculty Department Chair/Professor Jose C. Ramirez.

a) Welcome everyone to the East Los Angeles College Engineering & Technologies Advisory meeting 2018.
b) Dean Djuradj Babic welcomes advisory members, and emphasizes the vital role advisory committee members have in attending the Engineering & Technologies advisory meeting.

Introduction and review of 2017 Advisory Committee minutes

Call for corrections and noted

a) Professor Artin Davidian calls for correction of the minutes. He informs Department Chair Jose C. Ramirez that his name is not listed in the 2017 minutes.

Motion to approve meeting minutes from 2017 Advisory Committee

a) The first motion to approve the minutes Kamy Khashayar.
b) The second motion to approve the minutes Artin Davidian.
c) Motion Approved by consent

Introduction

a) Advisory members from ELAC, education, and industry introduce themselves.

Presentation on 2017-2018 Department Activities Summary

56 Engineering Transfer Students

CCCCO: Doing What Matters Grants

Proposition 39 Clean Energy Jobs Creation Workforce Grant: EET Skills Certificates $50,000

Proposition 39 Clean Energy Jobs Creation Workforce Grant: Advanced Manufacturing Bootcamp $50,000

Prop 20/Lottery Grant $17,070

One-Time Block Grant $44,422
ELAC 100 Budget $28,969
Perkins Grants $39,000
California Work Opportunity and Responsibility to Kids (CalWORKs)
ELAC School of Continuing Education: AB104
Dual Enrollment: Associate Dean Dueñas
Equity Grants
CTE Strong Workforce (Round 1 Local)
CTE Strong Workforce (Round 1 Regional)
CTE Strong Workforce (Round 2 Local)
CTE Strong Workforce (Round 2 Regional)
NSF Advanced Technological Education (ATE)
Unmanned Aerial Vehicle (UAV) Training Project
Student Enrollment Analysis

Meeting Presentations

Presentation by Engineering Club members

a) Ms. Ashley Orta, President of Engineering Club, presents the various Engineering sub-clubs located at East Los Angeles College, stating the mission and vision goal for engineering clubs. The mission is to support and guide students academically and in their personal life which will help them succeed in their education. The vision is to help students build professional skills and prepare them for the industry.
b) Ms. Maria Gonzalez informs advisory members of the five plus one pillar of SHEP: Academic Excellence, professional development, chapter development, leadership development, outreach opportunities, and technical skills. Ms. Gonzalez also speaks about past events and activities.
c) Ms. Orta speaks about past conference events.
d) Ms. Gonzalez speaks about past outreach events and past SHPE events.
e) Ms. Orta speaks on SHEP Jr. FRC, awards, internships, and scholarships provided to engineering students. Lastly, she speaks on the 2018-2019 upcoming events.

Presentation by General Engineering 212

a) General Engineering class members present their sterling engine RC Car.
b) Presentation on Aeroponics and Hydroponics. The objective is to provide a rapid non-seasonal growth of plants without the use of soil and pesticides.

Round Table discussions:

1. Mr. Ramirez provides explanations on the Engineering Associate Degree and Engineering Transfer Certificates. Mr. Ramirez states that the new funding formula will be based on a 16/2020 allocation model through the chancellor's office. The Engineering Department was working with other colleges to develop a model; however, the model did not fit with the 120 units for the Associate of Science, Transfer Degree (A.S.T) which was done by the state. As a

department, the Engineering Department will generate their own Associate Degrees and their engineering transfer certificates in four areas: Civil Engineering, Computer Engineering, Electrical Engineering, and Mechanical Engineering. With this model each student will be able to acquire a certificate, once they take the General Education. Once the courses are completed student will be eligible to apply for the Associate of Science Degree All students will still be required to take the same math, physics I & II, Chemistry I & II, Calculus I, II, & III, Differentials, Linear Algebra, Engineering courses (area of interest within the four models), plus the General Education which gives you the Associate in Science.

2. Mr. Ramirez speaks on Engineering C-ID. Mr. Ramirez introduces Engineering courses and their transferability to CSU such as Engineering 110, Introduction to Engineering transfers to CSU as General Engineering 101.
3. Mr. Khashayar elaborates on the certificate of achievement in Advance Manufacturing Engineering Technician. He informs committee members that those acquiring the certificate of achievement in advance manufacturing will become Engineering Technicians and not regular technicians or industrial technicians. The programs that follow from Advance Manufacturing Engineering Technicians are programs that are mapped to SOC Department of Labor. In addition, he defines the difference between a technician and technologist, communicating that a technician works alone while a technologist works with engineers, therefore, the knowledge must be in repairman. At the moment a definition has not been defined for technician and technologist, but it is becoming clear that it will become a technician or technologist. Mr. Khashayar then speaks on an Associate Degree in Engineering Technician and states that there will be no math or English placement. Students will come as a QTC program; part of the program will have a combine's course of statics and materials of development for the states. If students do not have the knowledge of loading or basic loading, or do not understand the material they cannot do manufactory or do mechanical engineering. The math is calculus level for technology this will be the mirror calculus for business. The problem they currently have is with chemistry as a requisite.
4. One of the questions that emerged from Mr. Khashayar's introduction of Associate Degree in Engineering Technician was the time it would take for students to complete the course if they attended full time. Mr. Khashayar replies that stackable certificates will be completed in a semester. The first two certificates will be done in two semesters, up to four semesters including G.E. for Associate of Science. However, it is not recommended because it will add at least twenty-one units of extra work.
5. Mr. Luis Barrera-Castañon informs advisory committee members that Goodwill is expanding work-based learning activities. If students and community members are interested in manufacturing they are able to sign-up with companies to do some career exploration. He also informs committee members about their manufacturing summit that will be conducted June 20th.
6. A second question that arose from Mr. Khashayar's introduction of Associate Degree in Engineering Technician was how industry plays a role in doing their pathway. Mr. Khashayar informs committee members that if a company provides internship or sponsors students and there are a total of units and hours involve, they are allowed to be part of that pathway.

7. Mr. Ramirez briefly speaks about Geo-Spatial Engineering and Technologies (GSTE) Program.
8. Dr. Mora elaborates more about the program and conveys to advisory members that the idea of GSTE is to recruit the next generation and to get them qualified to the program, but also to get them licensed as professionals.
9. Mr. Ramirez speaks about IT Technician Pathway located in the third floor, room 306. He goes to explain that the room will be converted into a cisco lab where there will be Net Lab server that speaks back to you. As part of Cisco ELAC has a Cisco Academy. Engineering department will have their virtue hub which will allow the department to do their curriculum offsite. Their Cisco lab will be upstairs where there is also a server room. Mr. Ramirez goes on to say that software will be purchase in order to allow student to apply for different certificates in different areas.
10. In regards to IT Technologies Pathway, it was recommended that the department looks into Cyber Security.
11. Mr. Michael Rendler asks Mr. Ramirez if they have looked into the following: AWS Environment, clouds computing environment, and managing hybrid spaces. Ramirez says that he did in fact apply for AWS as a regional; however, it fell under business under CSIT.
12. Mr. Ramirez speaks about Unmanned Autonomous Systems (UAS) and Engineering Technicians. He goes to differentiate between Engineering Technicians and Mr. Khashayar's focus on Engineering Technicians. Engineering Technicians will focus on EE Technicians. Mr. Ramirez and Saul Garcia are currently developing a program that focuses on coding, DC circuit, digital circuit, LabVIEW, PLC programming, testing circuit orientation, and how to redo dial, reverse dial, and mosfet. In addition to the program students will be taught how to do PWV design, layout, and build it. Once this has been learned students will learn how to do software.
13. Dr. Sam Landsberger informs Mr. Ramirez about the hybrid between the CNC and Advance Manufacturing Engineering Technician.
14. It was also recommended that CCNA and CCNP should add network programmability.
15. Ramirez speaks on the Potential merge of Computer science discipline from the Business Department with the Engineering and Technologies Department. Engineering Instructor Tenure Track for Fall 2019, Engineering Laboratory Technician; replacement of Electronics Department (Joe Kao), Accreditation Board for Engineering and Technology (ABET), E7-106 ELAC Innovation Lab (Advance Manufacturing, GSET, UAV, and Engineering Technicians), and ELAC EMC Instructional hours allocation.
16. Mr. Ramirez provides information on software, equipment, and facilitates.
17. Mr. Michael Rendler asks Mr. Ramirez if he can elaborate on GIS. Mr. Ramirez briefly expands on the subject conveying that the Engineering department has a course that uses GIS for application purposes. Dr. Gallegos is brought into the conversation and goes to explain what GIS is and the preliminary stages which will allow students to do hood mapping, boundaries work, or land side. The course is just developing—once the class is taught it will be trial and error and we will see what work and what is on demand. The course outline is filled up with information that contains skill sets. As time passes we can filter out what is not needed. Dr. Gallegos proceeds to inform the committee on the program and skillset certificate and how they both intertwine.
18. Ms. Gisele Ragusa asks Mr. Ramirez how the department is showcasing and financing new certificates because they are so viable to the community members. Mr. Ramirez explains to Ms.

Gisele Ragusa that strong workforce hires an individual that promotes internship (one per campus) the promoter will be on a special project, but once the program goes away, so does the person.

19. The following questions arose by a committee member: How much enrollment is offsite? How much of that is industry focus and how much of that is middle school and high school focus? In addition, do they get a roadmap? Ramirez replies that 65% of enrollment is offsite which includes both middle school and high school. A roadmap is provided then a presentation is given out; however, it is done through a different department. CTE/SLO develops the curriculum enrollment map. If you take A-B you get this certificate then you take 1-2-3 you get the ELAC certificate of Achievement. The district currently has two positions: one to place students with industry and the second to bring students in from high school.
20. Mr. Michael Rendler asks the following question: The chancellor put together a huge initiative to put all online learning. Can you speak to what will happen to your program? Mr. Ramirez goes on to explain that all schools already have online courses, so it will only be a duplication of what is already provided. The academic senate has told the chancellor that we do not agree with that because it is a duplicating of what we already have. As a faculty, our Senate is against it, but as an engineering program it will not affect our department because our courses are all done on campus. It will help us because they will place a focus on the ITT pathway. Students will take the entry level courses in the chancellor's office which will feed into out ITT; we might actually benefit from the online.
21. It is suggested that the Engineering Department looks into online since it is the way of life. If the department is communicating that on sight is really important then the department should reevaluate. Mr. Khashayar goes to explain that there are online engineering programs in the district—but how can you provide online courses that require you to do face-to-face? He goes to say, we are not against online courses, but the model that has been designed is not something that can be moved especially when we have so much involvement with it. Online programs have not left a good taste in the faculty in all of California. Mr. Ramirez joins the discussion and states that the department's model can be better if they do a hybrid; lecture online and the lab in person. The lab cannot be conducted online.
22. In regards to Engineering C-ID, how often are the courses taught? Mr. Ramirez informs the questioner when the courses are being taught. Mr. Ramirez goes on to explain that the courses offered are based on allocation and on demands of the number of students. With a new model of the fours degrees coming in we are hoping that the model will change. The current model is based on 100% student enrollment-FTS. The new model is going to be 60% FTS, 20% Financial Aid, and 20% outcome. If students are able to get A.S., certificate of achievement, and get the transfer in engineering then we should get more part of the pie. The only outcome of the model created in the district and on campus will be that it will cause a problem and there is no current solution to this problem.
23. In regards to computer science, Dr. Yeh informs committee members that python is an extensive application to A.I and applied to learn if the mergers become two then python becomes one of the tough choices. Mr. Ramirez explains to Dr. Yeh that the Computer Science Department

created an introduction to python. The Engineering & Technologies Department created a python for networking: ITP.

24. Dr. Sam Landsberger states that it's a great idea to combine the electronic circuits with the lab. Dr. Landsberge recommends that Strength of Materials be combined as well, stating that becomes abstract and difficult for students if they can accompany the lab it would be much stronger. Mr. Khashayar articulates that they have had a hard time with the materials of engineering because of the units. CID was 4 units' combines and it needed to be divided; personally, the course should be the prerequisite for that. Dr. Landsberger responses that it may be difficult—but for the students it is for the best because I get the results of that course in my designed classes and students can't still do the contestations because they never connected the theory with the practice. Mr. Khashayar states that the connection happens in the lab. In reality, it becomes difficult because of the way it is being taught by other people. Mr. Ramirez joins the conversation and conveys that when Morettie was at ELAC they had it as a co-requisite; you take the lab and the materials together. It was brought back and it was said by experts that lecture should be first and the lab after. Dr. Landsberger informs faculty that in their department the idea is just in time learning especially at Cal State LA. He states, I can imagine here where sometimes students don't necessarily have the most continues model of education, they may take something many semesters away and then it's like learning it all over again. You then get students who are never able to connect the theory with the lab.
25. The following statement was made by an advisory member. He states that the department is asking for too less money for hardware. Mr. Ramirez provided an explanation for this reason and goes to state that in the fall they will receive about 1.5 million. The proposal is so big that the Vice President decided to give 50% in round 2 and 50% in round 3. If they would have given us our projects we would have consumed the whole money for round 2.
26. Advisory member states, if you are becoming outcome base do you look at the roadblocks? What keeps students from finishing? Do they change tracks? Do they go to industry? They take all the courses, but skip the English class? What are the roadblocks that keep students from finishing? Mr. Ramirez informs the advisory member that the new model will not be good for the Math and English Department because everything that is not math 125 (College Algebra) and English 101 (English composition) will not be credible. They will have 125, 125s, 134, 101, and 101s with support and no support. This will force students to take college algebra and English composition for credit. Students are tracked by declaring a major and creating an education plan that has to be created before 15 units. We also have the college promise which indicates that any student who was in high school in the area will get the first year of college waved. They have book grants as well as Pell grants. It should not be a financial thing; it's more of a time management thing. In my perspective, students do not focus on their studies because they start making money. They do not focus on the task, they do not come to class, they wait until the end and those are the students that suffer. In addition, we provide academic support by placing SI coaches in the classrooms to increase the retention of success. We have a learning center lab, math lab that does free tutoring, writing center that helps with writing classes—but we cannot force them to go.

Motion to approved Department Request

a) First motion Dr. Hen-Geul Yeh
b) Second motion
c) Motion Approved

Department Request:

a. **Skill Certificates**
    - Intro to Engineering Technician
    - Engineering Technician Level 1

Certificate of Achievement

- Advance Manufacturing Engineering Technician
    - Additive Manufacturing
    - CNC Operation (HAAS/Fanuc)
    - CNC Programming with MasterCAM
- Mechanical Engineering Technician
- Industrial Engineering Technician
- Quality Control Engineering Technician

Associate Degree in Engineering Technician

b. **Filling Skill Gaps through the Geo-Spatial Engineering and Technologies (GSET) Program: Deliverables**
    - Trains 100 land surveying and or geospatial engineering technicians on how or pass the State of CA PLS and FS examination
    - Graduate 50% of the first high school cohort of students enrolled in GSTE with skill set certificates in geospatial engineering
    - Transfer 25% of ELAC's first cohort of GSET students to a college or university program with an emphasis in geospatial engineering
    - Place 25% of ELAC's first cohort of GSET students to entry-level land surveying and or geospatial engineering technician jobs
    - Deliver four land surveying and computer-aided design (CAD) bash events at secondary school institutions
    - Train 80 students from 4 different high schools in geospatial engineering field activities
    - Develop career technical education and academic transfer pathway in land surveying and geospatial engineering for high school and community college students.
    - Produce a teaching/training manual on how to successfully pass the State of CA and FS examination,

c. **IT Technician Pathway**
    - Certificate of Achievement

- CCNA
- CCNP
- VMware
- Red Hat
- Palo Alto Networks
- EMC Academic Alliance

Unmanned Autonomous Systems (UAS) & Unmanned Aerial Vehicle (UAV)

- Certificate of Achievement & Associate of Science

Electrical Engineering Technicians

- Certificate of Achievement & Associate of Science

d. **The Potential merger of Computer Science discipline from Business Department with Engineering and Technologies Department**
e. **Engineering Instructor Tenure Track for Fall 2019**
f. **Engineering Laboratory Technician**
   - Replacement of Electronics Department (Joe Kao)
g. **Accreditation Board for Engineering and Technology (ABET)**
   - Engineering Technology Accreditation Commission
h. **E7-106 ELAC Innovation Lab**
   - Advanced Manufacturing, GSET, UAV and Engineering Technicians
i. **ELAC EMC Instructional Hours Allocation**

- **Software/Equipment/Facilities**
  - Bentley Suite, SolidWorks, CREO PTC, Mathworks, CAD Plotter, Canon Copier, GIS, 3D Printers Maintenance $30K
  - Reverse Engineering Arms $3K
  - Data Collectors for all Total Stations x7 $25K
  - Reflectorless Total Station x5 $30K
  - GPS-RTK unit x2each $80K
  - Tooling-U $10K
  - Accreditation Board for Engineering and Technology (ABET) $20K
  - Chairs: E7-101 and E7-302 $15K
  - Engineering Computers: E7-101 $120K

Meeting called to adjourn at 2:40 PM