CSIS Advisory Committee Meeting
October 14, 2021 Minutes

Call to order at 1:05 pm in the https://laccd.zoom.us/j/7488326988 online Zoom room.

In attendance were Charlotte Augenstein, Keri Barnett-Howell, Howard Stahl, Ray Toal, Kee Lam, Mojgan Khatoonabadi, Rebecca Herold, Glenn Mudd, Thelma Day, Shawki Dakduk, Munir Samplewala, Mike Yazdanian, Brian Dauzat, Fariba Bolandhemat, Mozhgan Tavakoli, Allan Pratt, Rey Lampano

After approving recording of the Zoom session by attending committee members, meeting started at 1:05 pm by welcoming messages from the LACC's *Computer Science and Information Systems (CSIS)* Department Chair, Shawki Dakduk, and the dean of Academic Affair, Dr. Thelma Day. Both thanked committee members for their time to advise the CSIS department on their programs. Committee members participating in the *Data Science Discussions* introduced themselves later, around 2 pm, as follows.

- Charlotte Augenstein, regional director for ICT Digital Media for Los Angeles and Orange County regions. Ms. Augenstein stated her support for building new curriculum and pathways for students as well as ensuring its align with industry needs and provide training and support from industry and or industry experts when asked.
- Ray Toal, faculty member and Chair at Loyola Marymount University. Mr. Toal has been an advisory board member for LACC for around 10 years.
- Kee Lam, Math Department Chair from LACC.
- Howard Stahl, department chair at SMC. Mr. Stahl has been leading AWS project for a while and is currently getting started on a similar Data Science program at SMC with a plan on offering few classes in the Spring.
- Keri Barnett-Howell, manager of talent development at Mission Cloud Services and an AWS consulting partner. Ms. Barnett-Howell does some AWS Certification Sponsorship for students and is planning on setting up a big internship program to get people into AWS. Mission Cloud also has a Data Analytics and Machine Learning department as well.

Agenda was altered with the approval of attending committee members to start the "*Data Science & Machine Learning*" discussions first in order to accommodate committee members from the mathematics area that needed to leave early due to other engagement.

Group 1 Discussions - Data Science & Machine Learning

The *Data Science and Machine Learning* discussions started at around 1:10 pm with Shawki Dakduk presenting two proposed certificates and four new courses, shown in the attached PowerPoint presentation, for committee discussions. Committee members made the following comments regarding these programs and courses.

- Charlotte Augenstein talked about the importance of targeting industry certifications in the proposed certificates. Munir Samplewala indicated that each of the proposed certificates include two of the four core AWS courses that prepare students for the *Cloud Practitioner* and *Solutions Architect* certifications. He expressed that adding all four courses could extend the timeline for each certificate beyond the one-year target. Shawki Dakduk indicated the availability of a separate Cloud Computing certificate at LACC covering all four core AWS courses that can be staked with the proposed new Certificates to achieve broader preparation for industry AWS certifications.
- Ray Toal indicated that he is not aware of any Industry Certifications related to data science and that while courses 2, 3, and 7 in the proposed (see slide 15 of the attached presentation) *Data Science* certificate are packed with traditional Data Science materials other database & cloud computing courses may not fit in and that it may be better to spread things little bit more. Charlotte Augenstein indicated the importance of including Database and Cloud Computing as foundational courses in the program. Shawki Dakduk pointed out that some contents of the "*Data Science in Python & AWS*" course requires knowledge from the Cloud Computing courses. Munir Samplewala indicated that feature such as *Data Lakes*, *Athena*, *Glue*, and *Redshift* covered in the proposed new course require knowledge from CIS 192 & 193.
- Ray indicated the importance for the courses to have some projects in them.
- Charlotte indicated the importance when preparing a pathway to include the underlying fundamentals such as AWS or Azure for the Cloud and SQL for the Database.
- Munir talked about the broad and fast changing Data Science field and the need to narrow down the scope of the program to target anticipated students.
- Charlotte asked if we are going to offer the courses to dual-enrollment students. Munir indicated offering the four core CIS 192 through CIS 195 courses to high school students but showed reservations regarding offering the new courses to dual-enrollment students. Shawki indicated offering only gateway courses, such as CS 101 & CIS 192, to dual-enrollment and making the follow-up courses available only to college students.
- Howard Stahl indicated concern that a Statistic class with potential several prerequisite courses can be a bottleneck that may impact the program and asked about the prerequisites for the new Math 237 class. Kee Lam indicated that because of AB 705 there is no prerequisite for the course and that a modern hands-on approach that uses Python and R will be used to teach this course.
- Howard Stahl suggested changing the "*Python for Data Science and Machine Learning*" and "*Machine Learning in Python & AWS*" course titles on Slide 16 to names that are clearer to the students. He also indicated that certification path for *Data Analytics* and *Machine Learning* through AWS Specialty Certifications is something worth pursuing. Munir indicated that the new courses should help students with appropriate background and experience pass the Specialty Certification exam for Data Analytics and Machine Learning. Ray pointed out that time is also required for AWS certification even if it's foundational due to the six-month of Cloud and Industry knowledge requirement.
- Charlotte suggested use "Certification as a Final" option to encourage students to get or prepare to get certified. Munir indicated that it is a possibility but is too early to decide

since it depends on the level of experience that students have and require students to pay certification exam fees.

- At around 2:16 PM, a motion was placed by Charlotte Augenstein and seconded by Ray Toal to "Approve the proposed curriculum" shown on slides 14 through 20 of the attached PowerPoint presentation and was approved without any objections.

Group 2 Discussions - Cybersecurity

At around 2 pm, the Cybersecurity group broke out of the main Zoom room to join professor Mike Yazdanian Zoom discussions at https://laccd.zoom.us/j/99002450097. The results of the Cybersecurity discussions as summarized by professor Yazdanian are as follows.

- M. Yazdanian Introduced the Cybersecurity program that was approved about 2 years ago and is being offered successfully. He explained the new idea of creating a new **Cybersecurity Analyst Certificate**. The students may receive their first certificate in 2 semesters. Then they can start to work at an entry level Cybersecurity job, continue their education to get the next certificate or degree, and get promoted to a higher position carrying higher level responsibilities, or find better jobs. There will be a total of 6 required courses totaling 18 units to earn the **Cybersecurity Analyst Certificate**. We need to create two new courses. One of them will be the **Cybersecurity I**, to prepare the students for the **CompTIA Cybersecurity Analyst Certification** exam. The second course will be the **CompTIA Cloud+ Certification Preparation**, covering various aspects of different cloud services offered by AWS, Azure, and Google Cloud Platform.
- M. Yazdanian presented slides 23 through 27 of the attached presentation showing the descriptions and contents of the new proposed program and courses.
- Rebecca Herold, CEO, Privacy & Security Brainiacs talked about considering App security, which is becoming so important. She anticipates some of these classes have App security content or curriculum built within them. It's not getting into the programming, but maybe having an understanding of the controls that still need to be in. In the Apps they need to look for authentication and security procedures.
- M. Yazdanian said that is partially considered in the **Security+** class that we have already and that will be also in the **Cyber Security+** that we will create.
- Allan Pratt said he wished there was a course that was just an APP security. It is also important to include penetration testing in our courses.
- Rebecca Herold said it is good to consider at least vulnerability testing.
- Allan Pratt said he is working with United LA, which is an offshoot of the Los Angeles Chamber of Commerce. They offer internships, job shadowing, and field trips to major corporations. So we're going to start working on that for Job shadowing program so that the students also have the opportunity to go out into the field and work besides taking these classes.

- Rebecca Herold suggested to include ransomware attacks and current threats prevention teaching in one of those courses.
- M. Yazdanian said that could be included in the course topics or in the description of the course, to give the students and potential employers a better idea about the skills taught in that course.
- Allan Pratt said another malware called Killerware can also be added and bundled into a short four-week course.
- Ray Lampano suggested creating a special topics course that includes emerging technologies that might change according to the security trends of the time.
- M. Yazdanian thought Ray's suggestion was very good and feasible but probably cannot be a part of this certificate because that would make the certificate too large to be manageable to complete in two semesters.
- After further discussions, the Cybersecurity group unanimously approved the proposed curriculum shown on slides 23 through 27 of the attached presentation.

Current Programs Revisions

At around 2:20 PM, the first Group discussed revisions to current Computer Science programs and approved the proposed modifications shown on Slides 5 through 10 of the attached PowerPoint presentation.

These modifications are summarized below.

1. Revise the Computer Science degree to match ADT requirements
2. Replace Visual Basic with Python or JavaScript in the CS 101 course
3. Add CIS 112 (Linux) as an Operating System option or possibly as a replacement of CIS 111 (Windows)
4. Replace CS 211 (Advanced Visual Basic)
    a. with CS 119 (Python) in the *Application Software* certificate
    b. with CS 213 (OOP with Java) or CS 216 (OOP with C++) in the *Programming Languages* certificate
5. Replace CIS 122 (MS. Access) with CIS 148 (HTML/CSS) in all certificates.
6. Replace Oracle DBA (137, 220A, and 220B) courses with Cloud Computing courses (CIS 192, 193, and 194) in all certificates.

Adjournments

The "Data Science & Machine Learning" group meeting adjourned at 2:37 pm and the Cybersecurity group meeting at 3:06 pm.