Saddleback College  
CIM/Certificate/Degree Advisory Committee

Minutes  
August 10th 2021, November 17th 2021, & 12/13/2021

Working IT Professional Members in Attendance

Kyle Kurr UCI Cloud Infrastructure & Enterprise Unix Service Manager

Michael Trujillo Full Stack Developer - Trinet Internet Solutions

Trint Duringer IT Support Specialist  
Claudia Imhoff – Analyst – Business Intelligence

Matthew Berardini Forensic Accountant Danen Haurer  
Paul McGraw Senior Software Developer UPS

Michael DeDonno Associate Professor/Research Psychologist  
Joel Oleson Microsoft MVP

Member not in Attendance

Mike Sapien Network/Cybersecurity Specialist r IT Professional  
George Earl IT Entrepreneur, Bill Me (later purchased by PayPal) Founder Corsairs Ventures – Data Analytics Expert  
VP & Chief US Analyst, Enterprise Services – OVUM  
Renah Wolzinger – GWC regional expert in CCC data analytics  
Dorsie Brooks – GWC database career education  
John Donovan – Web and Corporate IT consultant

Saddleback College Members in Attendance

Tom DeDonno chairman (Computer Information Management/IT) CIM  
Alan Foote CIM Professor/Software Specialists/Data Analytics

Prologue

Due to the diverse nature of an Information Technology (IT) department in the 21st century. It is prudent to have Advisory Committees composed of experts in a specific area. It would be foolish to include a help desk employee in a network/security discussion. As a result, this advisory committee focus was on cloud, IT administration, databases, big data, Computer support and mobile development. We also discussed the following evolving technologies cloud and Cybersecurity.

Action Items Approved:

1. Create a 4-year IT degree
2. **Create a fast pace Data Analytic certificate for working professional**
3. **Reaffirmed need for AS Degree in Business Data Analytics and Database or Data Management**.
4. Add cloud more classes and advance Python class.
5. Consider cloud certificate
6. Consider adding Game Design or Developer Certificate Degree
7. Modify Network Administrator and Cybersecurity with more cloud – looking to add a single cloud security class.

All members voted yes on the above 6 action items.

Advisory Committee General Discussion Points

Chair Report Tom DeDonno – CIM/CCC Certificate Objectives

California Community Colleges (CCC) supply certificates to achieve one of three major goals:

1. Economic Workforce Development (EWD) retraining of working professionals to maintain a competitive workforce and increase an individual's chance of procuring a job.

2. High School to Information Technology (IT) entry-level jobs.

3. Transfer paths to 4 year BS and six-year BS/MS degrees.

4. Recently 11/2021 state has allowed the BS degree pilot program at CCC to be extended indefinitely.

A major constraint of all certificates is that we have to be within a 60 unit max, which means the specific courses in the certificate need to be between 12 and 26 units. The other major constraint is the schools moved toward proficiency. They are dropping courses with less than 18 students. The expert advisory felt this is a severe mistake. You can take online classes anywhere. Dropping skill builder classes will result in working professions looking elsewhere. In high-tech, fields professional development is critical.

General Discussion Points Made By Experts:

Paul McGraw felt that data analytics should include either Python or Java programming. Paul feels the biggest problem with junior-level programmers is they lack the soft skills needed to determine what the customer wants. Recommended adding some class to develop skills on choosing what the customer wants. He felt Java is here to stay. Cloud and databases are becoming more and more critical.

Matthew felt more and more jobs are requiring data analytics. We need to have working professionals in all areas to take data analytics. He also felt that data modeling and reporting had become critical skills like knowing Microsoft PowerPoint years ago.

Mike Truijillo and others felt that a 4-year IT degree would be a great cost-effective way for students to complete a 4-year degree. He and others thought that the strategy of combining the three IT support certificates: Network Administrator, Cybersecurity, E-Commerce into a single BS degree like:   
IT Cloud Cybersecurity Support Specialist  
IT Cloud Cybersecurity System Configuration and Support Specialist

In general, the overall response from both students and the advisory committee was very positive on adding a low-cost 4-year BS degree, especially since many students have already completed two or more similar certificates at Saddleback. Furthermore, finding an online MS degree from a reputable college in fields such as Cybersecurity, would make that an excellent career pathway.

It was also stated that entertainment technology is rapidly growing and courses in Unity game development and/or certificate/degrees in this area should be well received.

Claudia\_Imhoff , similar to Matt's feeling, Claudia felt that the presentation of data is the most crucial area for us to focus on. She felt a data analytics degree should emphasize Microsoft Power BI and Tableau. Data scientists are essential and probably beyond typical CCC training, but having Junior level data technicians that can present data on viewgraphs is a high-demand skill in the industry.

For a Data Analytics Degree or Certificate, Mike DeDonno, individuals need to understand accessing and building data files from large databases and merging data from multiple sources, including aspects of data management. Also necessary to learn a statistical analysis package such as SAS, SPSS, STATA, or R. Also, knowledge of statistical concepts, most likely a merged database course with stats.

Various individuals felt that the cloud should be integrated throughout are the entire curriculum. The future is the cloud. Matt and Mike S felt that a cloud certificate was a plus. But they thought we also need to make sure that Cybersecurity, Data Analytics, and others are aware of cloud services.

Good classes. I believe tableau and python are more data visualization tools that are good for business. Data analysis software such as SAS and SPSS does not have excellent visualization tables but does a better job at an actual analysis of the data. Clinical research and social science research typically uses SPSS and or SAS. Funded clinical research uses SAS. So it depends on the objective. Work in Corporate, then tableau would probably be fine. A career in academics or scientific research, then SAS or SPSS become key tools, and other advisory experts stated this.

Kyle Kurr

Kyle Had problems hiring higher-level cloud solutions and cloud security. It was slow to adopt cloud, but they had to expand quickly once we went to remote. It became a choice between operational versus capital expenditure.

UCI has a centralized security group, slow to get on the cloud

Wanted more secure workloads,

Map into more automated tools,

AWS primary provider, some workloads target towards Azure

Microsoft Office as SaaS – windows team, some desktop employments,

OS configuration, 3rd terraform, puppet (agent communicates to master on how to maintain configuration), chef,

Frameworks for managing Information Systems

Cybersecurity is growing fast and needs to know the difference between traditional security and security in the cloud.   
AWS/Linux Swiss army knife  
Azure more specific hunting knife  
Microsoft OS-specific security tools

For cloud know S3 storage and need more serverless development

For Data Analytics Programs:

Need Data Management how to move and manage large databases, (Peta data (Tera 10^12 or 2^40, Peta 10^15 or 2^50) is starting becoming standard, data lake specialized to smaller data sources is essential.

Data warehousing centralized location pull in data from different sources

Need DevOps people,

Serverless development is the future;

Being able to quickly kill and spin up a new instantaneous with minor changes is an important need for puppet, chef

App – dev-ops – infrastructure

Videos on S3 with buttons to serverless applications (gold solution)

Joel Oleson, who lived in Seattle 7 years; on Microsoft Campus for 10 years, is an active Microsoft MVP

Agreed with most of Kyle comments/insight

Use Dev Ops instead of the cloud for developers – SaaS

He felt cloud certificate should have two courses, Intro to cloud(AZ900, AWS focus) and a single cloud security course.

Certificates should first develop basic skills; a person then determines which IT path do you want to go down. IT Paths have many avenues to support Data Analytics, Cybersecurity, QA, testing cloud infrastructures.

Furthermore, these paths are constantly changing. Cybersecurity in the last ten years has changed. For a successful career, students need to determine which IT niche they should specialize in.

Automation – (Dev Ops Chef, Puppet) need more business processing operations

A B Sin Cloud Architecture could cover both dev ops and cloud infrastructure. Hot employable skills from a BS cloud are in SAS, CRM and AWS . Marketplace has a big shortage of skilled developers and support specialists in workday, saleforce, gSuite, We have a dire need for developers who cn connect Saleforce to Teams, or gSuite, etc.

Need automation around ServiceNow, ServiceNow interface HR, IT Service Manager, need to have the skill to build Virtual Assistants

DevOps is defined as traditional software development with infrastructure management also considered. So it is an Agile/Waterfall expert with knowledge of the hardware infrastructure.