

Santa Ana College

Computer Science (CS/CIS) Dept.

Advisory Meeting Minutes

Friday, April 5th, 2024

6 pm – 8:17 pm

Meeting Purpose: Business professionals, faculty, administrators, and students provide guidance and feedback as industry partners to improve curriculum development, delivery, and promotion of academic programs for the departments to achieve quality and relevance.

I. **Introductions**

- a) Jason Sim, CS Dept. Co-Chair
- b) Hugh Nguyen, CIS Dept, Co-Chair
- c) Attendance list included at the end of the minutes.

II. **Advisory Committee Member Introductions**

- a) All attendees introduced themselves with their names and the nature of their professional careers.
 - i) Please include your **job title** and the **name** of the **company** you are working for.

III. CIS – Courses & Programs (Jason Sim)

a) **JAVA PROGRAMMING - Certificate of Achievement**

Description

The Java Certificate with a specialized focus on Database Management and Server Operating Systems. This comprehensive program equips you with the skills and knowledge to master Java programming, database administration, and server management. Dive into the intricacies of Java, learning its syntax, data structures, and object-oriented programming principles.

- i) CMPR112 Java Programming
 - ii) CMPR113 Advanced Java Programming
 - iii) CMPR168 Advanced Access Database
 - iv) CMPR169 SQL
 - v) CMPR247 WINDOWS SERVER OPERATING SYSTEMS. – more emphasis on VMS.
- b) ANY FEEDBACK/RECOMMENDATIONS?
- i) Add cloud class?
 - ii) Oracle Academy?
 - iii) Project management class? Documentation. Git hub tech, automated built tools, validation updates, getrit, GIT.

- iv) NoSql (contained within Java), Apache, Spark, and JIRA?
- v) Java Maven
- vi) NODE JS. Front end and back end.
- vii) Serverless containers in Java.
- viii) Enterprise cloud developer – new cert in project management and tech?
- ix) Project dev class.

- c) Motion to approve: Alex Koster
- d) Second: Hugh Nguyen
- e) Approved unanimously.

IV. CIS – Courses & Programs (Jason Sim)

a) **PYTHON PROGRAMMING– Certificate of Achievement**

Description

The Python Certificate with a specialized focus on Database Management and Server Operating Systems. This comprehensive program equips you with the skills and knowledge to master Python programming, database administration, and server management. Dive into the intricacies of Python, learning its syntax, data structures, and object-oriented programming principles.

- i) CMPR114 Python Programming
- ii) CMPR168 MS SQL Database Development
- iii) CMPR169 SQL
- iv) CMPR213 C# PROGRAMMING
- v) CMPR215 ADVANCED PYTHON PROGRAMMING
- vi) CMPR247 WINDOWS SERVER OPERATING SYSTEMS.

vii) Linux class?

- b) ANY FEEDBACK/RECOMMENDATIONS?
 - i) Git hub project for the Python programming class. Sphinx.
 - ii) Linux development on top of Windows Desktop.
 - iii) Project dev class.

- c) Motion to approve: Sean Falconer
- d) Second: Dan Smith
- e) Approved unanimously.

V. CIS – Courses & Programs (JASON SIM)

a) **DATA ANALYTICS – ASSOCIATE OF SCIENCE**

Award Type A.S. Degree

Description

Description

The Associate of Science in Data Analytics program is designed to provide students with a strong foundation in data analysis, statistics, programming, and data visualization. Students will learn how to collect, clean, analyze, and interpret data to support decision-making processes in various industries. The program emphasizes hands-on experience with data analytics tools and technologies, preparing students for entry-level positions in data analysis and related fields or for further study in a bachelor's degree program.

Degree Requirements

| Required Courses | | Units: 27 |
|------------------|--|------------------|
| CMPR 112 | Java Programming(Active) | 3 |
| CMPR 114 | Python Programming(Active) | 3 |
| CMPR 115 | Python for Data Analytics(Active) | 3 |
| CMPR 167 | Microsoft Access(Active) | 3 |
| CMPR 113 | Advanced Java(Active) | 3 |
| CMPR 159 | Intro to Machine Learning with Python (Active) | 3 |
| CMPR 168 | MS SQL Database Development(Active) | 3 |
| CMPR 169 | Structured Query Language (SQL)(Active) | 3 |
| CMPR 247 | Windows Server Operating System(Active) | 3 |
| | | Total: 27 |

b) RECOMMENDATIONS/FEEDBACK?

- i) Excel, intro to AI, maybe AI might not fit because it is in its infancy.
- ii) Cloud component, **tableau, power bi**, redshift, sales force.
- iii) Companies highly depend on the cloud. LinkedIn showcases these types of tech.
- iv) Prompt engineering using AI.
- v) Amazon quick site. **ETL pipelining – pull data from different components** and data structures.
- vi) Data bricks, and airflow using data analytics.
- vii) Job description for analytics – spark, redshift, sales force, etc. Understand data modeling and ETL. How to bring different components together (pipeline).
 - Implement in SQL
- viii) Data migration tools.
- ix) Data mining
- x) jobs: **data analyst, jr data analyst, tableau specialist**

- c) Motion to approve: Alicia Ramos
- d) Second: Jason Sim
- e) Approved unanimously.

VI. CIS – Courses & Programs (JASON SIM)

a) **DATABASE MANAGEMENT SYSTEMS– ASSOCIATE OF SCIENCE**

Description

The Associate of Applied Science in Database Management Systems is designed to prepare students for a dynamic career in the field of database administration and management. This comprehensive program combines the theoretical underpinnings of database systems with practical, hands-on experience, ensuring graduates are well-equipped to meet the demands of the modern data-driven world. Through a curriculum that covers database design, SQL, data security, and the latest in database technologies, students will develop the skills necessary to design, implement, and manage sophisticated database systems.

Degree Requirements

| Required Courses | Units: 30 |
|--|------------------|
| CMPR 112 Java Programming(Active) | 3 |
| CMPR 114 Python Programming(Active) | 3 |
| CMPR 167 Microsoft Access(Active) | 3 |
| CMPR 115 Python for Data Analytics(Active) | 3 |
| CMPR 134 Microsoft Windows Operating System(Active) | 3 |
| CMPR 113 Advanced Java(Active) | 3 |
| CMPR 168 MS SQL Database Development(Active) | 3 |
| CMPR 169 Structured Query Language (SQL)(Active) | 3 |
| CMPR 213 C# Programming(Active) | 3 |
| CMPR 247 Windows Server Operating System(Active) | 3 |
| | Total: 30 |

- a. RECOMMENDATIONS/FEEDBACK?
 - i. Operational components, fault tolerance, resiliency, cost management, **compliance**, dr, backup, stored procedures, functions.
 - ii. Maybe take out c#?
 - iii. Cloud computing – integration.**
 - iv. MongoDB – IMPLEMENT
 - v. **ELASTICS search** TECHNOLOGY, postgres, nosql, mysql, mariadb.
 - vi. **Less Oracle? and more clustered design (postgres), MySQL.**
 - 1. **Cal-state focuses on Oracle – good for transfers.**

- b) Motion to approve: Dan Smith
- c) Second: Hugh Nguyen
- d) Approved unanimously.

VII. **MACHINE LEARNING– ASSOCIATE OF SCIENCE**

Description

Description

The Associate of Science in Computer Science program provides students with a comprehensive education the theory, design, programming, and application of computing systems. The program covers a wide range of topics including software development, algorithms, data structures, computer architecture, and artificial intelligence. Through hands-on projects and coursework, students will develop the skills and knowledge necessary to pursue careers in software development, computer programming, system analysis, and other related fields.

Degree Requirements

| | | |
|------------------|--|------------------|
| Required Courses | | Units: 27 |
| CMPR 112 | Java Programming(Active) | 3 |
| CMPR 114 | Python Programming(Active) | 3 |
| CMPR 115 | Python for Data Analytics(Active) | 3 |
| CMPR 158 | Intro to Artificial Intelligence(Active) | 3 |
| CMPR 113 | Advanced Java(Active) | 3 |
| CMPR 168 | MS SQL Database Development(Active) | 3 |
| CMPR 159 | Intro to Machine Learning with Python (Active) | 3 |
| CMPR 213 | C# Programming(Active) | 3 |
| CMPR 247 | Windows Server Operating System(Active) | 3 |
| | | Total: 27 |

- a. RECOMMENDATIONS/FEEDBACK?
 - i. Intro to neural networks. – **take out c#, in replace intro to neural networks.**
 - ii. Maybe change the title for cmpr160**
- b) Motion to approve: Hugh Nguyen
- c) Second: Dan Smith
- d) Approved unanimously.

VIII. AI CYBER ENGINEER– ASSOCIATE OF SCIENCE DEGREE

- a) CMPR 114 PYTHON PROGRAMMING
- b) CMPR 117 LINUX PROGRAMMING
- c) CMPR158 INTRO TO AI
- d) CMPR159 INTRO TO ML > maybe take out?
- e) CMPR139 INTRO TO CLOUD COMPUTING
- f) CMPR175 SECURITY +

- g) CMPR 177 ETHICAL HACKING >> ethical prompt management?
- h) CMPR178 GENERATIVE AI: **PROMPT ENGINEERING & ANALYSIS (NEW COURSE)**
- i) CMPR179 ADVANCED **GENERATIVE AI (NEW COURSE)**

RECOMMENDATIONS/FEEDBACK?

1. IBM, quantum computing.
 - a. QC:
2. Raspberry PI – implement?
3. Create personal GTPS?
4. Connect with chat gtp’s
5. Helm charts – hugging face – for prompt engineering.
6. **Virtual assistance, knowledge-based search, code assistance.**
 - a. Document summarization.
 - b. Automation
 - c. Vector databases.
 - d. **Ethics** and prompt engineering.
 - e. Use cases – amazon and azure. Search use cases. Focus on the model provider, open AI, and cohere.
 - f. Blockchain tech: distributed ledgers, is there a need for this tech?
 - i. Supply Chain use case for BC.
 - g. Data privacy and security.

AI associate/cert is worth adding in AWS-specific tools like:

- Amazon Q
- Amazon Bedrock Playground/Knowledgebase
- Amazon PartyRock – **FREE**

Motion to approve: Dan Smith

Second: Minh Pham, Sean Falconer

Approved unanimously.

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X. Bachelor's degree in AI & IT Cyber Engineer???

RECOMMENDATIONS/FEEDBACK?

CTE RELATED. Research this first - Cal State and UC universities.

1. **HAVE TO BE UNIQUE**, may get pushback from 4-year universities.
2. Consult with Kristen and Kim.

XI. **Adjournment of Meeting** – Entered the time by Jason Sim, the meeting ended at 8:17 pm

Computer Science Advisory Meeting Attendance

Attendance was taken through Zoom.

8 attended.

| First Name | Last Name | Title | Company/Organization | Email |
|------------|-----------|------------------------------|------------------------------|--|
| Jason | Sim | Co-Chair/Associate Professor | Santa Ana College | Sim_Jason@sac.edu |
| Hugh | Nguyen | Co-Chair/Associate Professor | Santa Ana College | Nguyen_Hugh@sac.edu |
| Dan | Smith | Director of Product Launch | Cisco, and Santa Ana College | Smith_Daniel@sac.edu |
| Alicia | Ramos | Student Coordinator | Santa Ana College | Ramos_Alicia@sac.edu |
| Alex | Koster | Director of IT | Langer Juice Co | kostera@uci.edu |
| Sean | Falconer | Solutions Architect | AWS | sean.falconer@gmail.com |
| Nate | Clay | Computer Repair | Self | nc99882@student.sac.edu |
| Minh | Pham | Student | Santa Ana College | phamnguyenkhaiminh93@gmail.com |
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