Virginia Western CS/IT Curriculum Advisory Meeting (12/02/2024)

In attendance: B Bagby, Diane Wolff, Rob Schadey, Jeff Scott, Tyler Byrne, Chris Fury, Adam O'Neil

Quick recap

The meeting discussed various updates and initiatives related to the department's academic programs, including the successful SACS accreditation visit, the new Quality Enhancement Plan, and the certification exam funding. The team also discussed the challenges of integrating workforce into their operations, the development of a new AI and machine learning course, and the potential impact of AI on their teaching and job prospects. Lastly, they discussed the need for better tracking of internship opportunities for their students and the importance of soft skills and problem-solving in preparing students for job opportunities.

Next steps

• Diane to review enrollment numbers for database programming developer and information technology support analyst programs to ensure accuracy.
• Diane to send internship opportunity information from Chris to the career center, discord channel, and Adam for posting on Nexus.
• Tyler and B to provide an update on the AI committee's progress after their upcoming meeting.
• Diane to explore the possibility of creating a Career Studies Certificate focused on machine learning and data science.
• Diane to continue efforts to secure an additional faculty member to support new course offerings.
• Diane to follow up on potentially offering ITD 240 (advanced AI course) in the future.
• Diane and team to continue seeking adjunct faculty, particularly for Python, networking, and Linux courses.

Summary

Department Updates and CSUS Scholars
The meeting discusses various topics related to the department's academic programs and initiatives. Diane provides updates on the successful SACS accreditation visit, the new Quality Enhancement Plan focused on soft skills, and the certification exam funding available for students. The department has paid for 37 certification exams this year through donations. There is a certification lab on campus, but it is currently unmanned. Diane invites Rob and Chris to participate in the biweekly CSUS Scholars talks, which have been running for several years and feature a variety of topics presented by faculty.

Cae Designation Update and Benefits
Diane initiated a discussion about the status of the Cae designation, which is a recognition for institutions that produce cybersecurity professionals. B provided an update, explaining that the designation is sponsored by the National Security Agency and is renewed every five years. The process was completed in August, with some clarifications made before submission. The team is now waiting for the final decision on their redesignation. B also highlighted the benefits of the Cae designation, including access to federal government resources and job opportunities. Diane emphasized the value of the designation for their students, as it is noted on their transcripts. Chris expressed interest in the program, noting that Jci is currently focused on cybersecurity.

Workforce Solutions and Fast Track Funding
Diane and Adam discussed the recent changes in the Dean of STEM and workforce solutions at Virginia Western, with Amy White now holding the position. They also discussed the challenges of merging workforce with the rest of the campus, including different funding sources and database systems. Diane introduced the concept of "Fast Track" funding for short-term credentials, which could potentially cover all costs for students who successfully complete the program. Tyler then shared his experiences with teaching both credit and non-credit students in the same class, highlighting the challenges but also the positive outcomes for students. The team also

discussed plans to incorporate more certifications, such as CCNA, into their curriculum.

Faculty Workforce Integration Challenges
Diane discussed the challenges faced by the faculty due to the integration of a significant workforce into their operations. She mentioned the need to allocate seats for these new members, which has resulted in a reduction of seats for credit students. Diane also highlighted the need for more adjuncts and the request for a new faculty position. She expressed concern about the reliance on adjuncts and the potential impact of their departure. Additionally, she mentioned the introduction of a new AI course, which is set to start in the summer.

AI and Machine Learning Course
Diane, Tyler, Rob, and Chris discussed the development of a new AI and machine learning course, ITD 140, at Virginia Western Community College. The course will be an introductory class covering basic theories, algorithms, and applications related to AI and machine learning. The team plans to focus on Python and R due to the staff's expertise and the college's heavy use of Python. The course will be aligned with the CompTIA certification program, which includes an AI certification track. The team also discussed the potential for AWS to be integrated into the course, as AWS has recently introduced a machine learning certification. The course will be part of a career study certificate in AI and data analytics.

Challenges and Opportunities in AI Teaching
Diane, Rob, Tyler, and Chris discussed the challenges of integrating AI into their teaching, particularly in ITD 140 classes. They acknowledged the lack of faculty and bandwidth to implement AI effectively. Rob shared his approach to teaching AI, emphasizing the importance of students following research trails and verifying information. He also mentioned using hooks to detect AI-generated content in research papers. Tyler suggested using AI to analyze programming data, while Chris expressed interest in using AI to analyze the life cycle of magnetic bearings. The team agreed on the need for more focus on AI in their teaching, but also recognized the challenges of implementing it due to limited resources.

AI Concerns and Teaching in Corporates

Chris expressed concerns about the use of AI in corporate environments, particularly in terms of protecting intellectual property. He also shared his experience with Chat GPT, noting that while it can generate code, it's not yet reliable for complex programming tasks. Jeff shared his personal experience with Chat GPT, highlighting its usefulness for looking up specific information but also its potential for generating incorrect code. Diane agreed with Chris's concerns about AI use in corporate settings, while Jeff suggested that there might be room to teach AI in a more controlled manner. The team also discussed the issue of students downloading and presenting others' code as their own, a problem Chris has encountered in his teaching.

AI's Impact on Departments and Progress
Diane expressed concerns about the impact of AI on various departments, including English and history, and asked about the progress of the AI committee. B and Tyler confirmed that they have a subgroup meeting the next day to discuss these issues. Chris and Rob discussed the potential of AI in pattern recognition and image analysis, suggesting it could be a good starting point for teaching AI. Rob also shared his experience of using AI for fingerprint modality matches and case summarization, highlighting its efficiency and potential benefits.

Balancing AI and Human Interaction
The meeting discusses the importance of maintaining human interaction in education while utilizing AI tools responsibly. Diane presents enrollment data showing growth in computer science and cybersecurity programs. Chris highlights the increasing demand for cybersecurity professionals in his company due to recent incidents. He also mentions an available internship opportunity requiring Linux and computer science skills. The group acknowledges the local job prospects for graduates, especially in cybersecurity roles.

Improving Internship Tracking and Skills
Diane, Tyler, Chris, Adam, Rob, and Jeff discussed the need for better tracking of internship opportunities for their students. Diane suggested that the career center could help with this, and Tyler mentioned that he posts opportunities on Discord. Chris proposed a shared Discord channel for all CS major students. Diane agreed to post the information on their Discord channel and Adam offered to post it on Nexus. The team also discussed the importance of soft skills and problem-solving in preparing students for job opportunities. They agreed to work on a new course related to these

skills. The conversation ended with appreciation for each other's contributions and plans for future collaboration.