

Bakersfield College Computer Science Advisory Committee

Minutes for February 12, 2024

Membership

Jason Dixon	Professor	Bakersfield College
Malcolm Murdock	Sr. Manager, Software Engineering	The Walt Disney Company
Richard Miles	Professor, Computer Science	Bakersfield College
Greg Boyer	Web Consultant	Genuine Web
Debby Kurti	Disruptive Learning Strategist	Innovation Academy
Steve Kurti	Data and Laboratory Automation	Orion Legend LLC
Derek Baird	Chief Youth Data Officer	BeMe Health
Robert Moseley	Software Engineer II	Microsoft

Program Review and Approval

Web Design and Development Certificate of Achievement

Program Approval Vote: 8/8 (100%) in favor

Program Recommendations / Considerations from Committee:

- AI-assisted coding is rapidly becoming the industry norm (see e.g. <https://cursor.sh/>). Program should equip students to use AI coding assistants without neglecting strong fundamentals.
- I think it's missing two important areas. 1. UX Design, where the student understands the most important part of the website which is the framing of the whole user experience and to understand how users interact with websites. The goal would be to prepare students to design functional websites that meet the needs of their target audience. 2. Responsive Design, where the student learns how to design the site to be responsive on all devices, not just desktop. With mobile browsing pretty much taking over desktop browsing, this is very important.
- Front end and back end web development is still a good career choice, whether for small business, industry, or personal use. Learning specific languages and how to apply best practices is a marketable skill.
- Web design is fundamentally a collaborative project career. Whether it's collaboration with teammates or customers, students should be learning to work from a specification and using organized versioning systems such as GIT. If possible, an over-arching, cross-classroom, multi-skillset collaborative project would be the best preparation for a career in the field.

iOS Development Certificate of Achievement - Level 1

Program Approval Vote: 8/8 (100%) in favor

Program Recommendations / Considerations from Committee:

- Looks well-structured. May be worth adding a section on testing / unit testing / debugging; app store deployment process; and cross-platform considerations. Many companies have to develop for both iOS / Android now and students should at least be aware of issues even if the course doesn't have time to cover them.
- As with web design, app development is fundamentally a collaborative project career, and students should be learning to work from a specification and using organized versioning systems such as GIT. It would be extremely valuable to partner student groups with local businesses to build apps and write documentation. It might even be valuable to have multi-year projects where different groups of students inherit the project from previous students and learn first hand the need for documentation and collaborative structure.
- You should include training in the Age-Appropriate Design Code framework as well as Child Rights by Design. AADC is a California law (under review) but also an EU and UK requirement.

Data Science Development Certificate of Achievement

Program Approval Vote: 8/8 (100%) in favor

Program Recommendations / Considerations from Committee:

- Would a short class on data analysis with spreadsheets be applicable? For example, ENGG 111 (1 unit) at College of Marin: <https://marin.elumenapp.com/public/course/108/419101dc-0a1f-11ee-a856-411b253c7294/419101dc-0a1f-11ee-a856-411b253c7294>
- Ensure students get comfortable using Google Colab. Expose students to PyTorch. Expose students to elementary concepts in causal language models / LLMs given the foundational nature of these to modern AI/ML.
- There are many real data sets available for public use, and having students mine for meaningful correlations in the data would be a great preparation for a career in this field. It would be particularly useful to have data sets and goals that require students to look for mathematical and data methods beyond classroom preparation in order for them to deeply relate to the idea that data science is a quickly evolving field requiring constant learning.
- This program should include training on COPPA and children's data privacy.

General Feedback and Guidance for the Department

- Has BC considered an undergraduate program in cybersecurity that give students marketable skills at the associates level and would articulate to four year programs if they wanted to continue?
- Focus on data privacy, especially when you are developing apps for kids, tweens or teenagers. Teach students about COPPA, Age-Appropriate Design Code, Kids Online Safety Act (KOSA), Child Rights by Design (CRbD), & Design For Child Rights. Students need to understand how to design databases for children and teens that protect their privacy. This is where kid tech is moving.