

University of Maine at Augusta
Bachelor of Science in Cybersecurity
National Centers of Academic Excellence (CAE) in Cyber Defense Education Designation

**AY 2022-2023 Cyber Program
Advisory Committee Meeting Minutes
April 12, 2023**

Attendees: Henry Felch, Michele Weymouth, Jenn Moody;
Daisy Mueller, MEMA; Angela Oechsle, Project>Login; Michael Keighley, MGH; Jim Lagasse, KSB;
(Early College Reps) Mike Fraser, CATC; Nate Jalbert, PATHS; Laura Johns HCTC

Agenda:

1. Faculty and Staff
 2. Activities and Achievements
 3. Grant Funds Awarded and Budgetary Requests
 4. Program Curriculum
 5. Student Development
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1. Faculty and Staff

a. Current Faculty:

Dr. Henry Felch, DCS, Professor & Program Coordinator, Tenured
Dr. Raquel Hicks, DCS, Lecturer II - Part Time (2014)
Dr. Kelly Hughes, DCS, Lecturer II - Part Time (2016)
Dr. Jessica Chisholm, DCS, Lecturer III - Part Time (2017)
Dawn Ego, Lecturer I - Part Time (2018)
Jonna Duvall-Williams, Lecturer I - Part Time (2022)

b. Current Staff:

Michele Weymouth, MCR Program Coordinator (2018)
Pierre Laot, MCR System Administrator (2019)

c. New Faculty:

Dr. Lauren Mayhew, DCS, Assistant Professor, Tenure-Track
Dawn Ego, Assistant Professor, Tenure-Track

d. New Staff:

Jennifer Moody, MCR Content Manager

2. Activities and Achievements

a. In the fall of 2022, Student Researchers began working with industries & local/state government agencies to model their network and to create custom scenarios that are matched to their industry and their particular needs, and then provide training to those industries within the MCR. This student research project aligns with the State of Maine Economic Development Strategy, as well as Maine's State Homeland Security Strategy. UMA students and cyber practitioners greatly benefit, and are more engaged, by the MCR's ability to model an organization's network architecture and build a dedicated cyber lab to test specific tools, processes, skill level and incident response methodologies.

3. Grant Funds Awarded and Budgetary Requests

a. Department of Labor (DOL) Employment and Training Administration (ETA) Community Projects (CP) Funding/Congressional Directed Spending; Cybersecurity Training Program, including Support Services; Amount requested \$500,000.00; Cyber Security Professional Training for all Maine Municipalities. Professional training for all Maine municipalities in cyber security; and the development of ongoing training. Maine Municipal Association is supportive as they understand the need for Cyber Security training for municipalities, and as the organization that provides Cyber attack insurance to their members, recognize the benefit of Cyber security training as a risk management technique that impacts insurance premiums. Included in this funding, is the creation of online professional development training which will be made available free to participants for the next 3 consecutive years.

4. Program Curriculum

a. Beginning September 2022, all Cybersecurity and CIS degrees, minors, certificates, and courses were reviewed. Each course was evaluated, and course prerequisites were revised as needed. Course descriptions were updated as needed to reflect the content of the course. Existing courses charters were all updated to provide standard formatting. Minors and Certificates were evaluated for content and to make sure all prerequisite courses were present. All course check sheets were evaluated and revised as needed to reflect current content within the degree area.

b. Changes to Bachelor's degree in Cybersecurity. These changes will update the current BS Cybersecurity degree to reflect current requirements within the cybersecurity field. These changes will also help UMA prepare for updated Department of Homeland Security (DHS)/National Security Agency (NSA) Centers of Academic Excellence in Cybersecurity Education redesignation requirements. This was done by modifying a concentration, adding several courses and removing several courses.

- Replaced CIS 120 Introduction to Data Structures with (New) ISS 212 Cybersecurity Scripting
- Added CIS 220 IT Hardware and Systems Software
- Removed ISS 301 Cybersecurity Competitions
- In General Focus Area - Replaced ISS 332 with a 200 level or higher ISS elective.
- In Cybersecurity Analyst Focus Area - Replaced ISS 438 Cyber Investigations with ISS 482 Advanced Cyber Operations
- In Cyber Forensics Focus Area - Replaced ISS 382 System Forensics I with ISS 385 Malware Analysis; Replaced ISS 432 System Forensics II with a (New) ISS 430 Computer Forensics
- Changes/Modifications made to Cybersecurity Minor
- Changes/Modifications made to Cyber Forensics Minor
- Changes/Modifications made to Cybersecurity Certificate
- Changes/Modifications made to Cybersecurity Operations Certificate
- Changes/Modifications made to Information Assurance Certificate
- Changes/Modifications made to Network Security Analyst Certificate
- Changes/Modifications made to Cyber Forensics Certificate
- New Cybersecurity Associate's degree
- New Cybersecurity Accelerated Program (with provisional acceptance, BS can take MS courses which will apply to their undergraduate degree)
- Discontinued Cybersecurity Post Baccalaureate degree

c. Changes to the following courses were made to incorporate industry certification content. CompTIA was integrated into our LMS to provide seamless integration.

- Incorporated CompTIA A+ into the CIS 220 course, this included CompTIA content and labs
- Incorporated CompTIA Linux+ into the CIS 221 course, this included CompTIA content and labs
- Incorporated CompTIA network+ into the CIS 240 course, this included CompTIA content and labs
- Incorporated CompTIA Security+ into ISS 210 course, this included CompTIA content and labs
- Incorporated CompTIA CySA+ into ISS 282 course, this included CompTIA content and labs

5. Student Development

a. Student Participation in Cyber Competitions: Established in 2017, the Cyber Moose Team has been participating in the National Cyber League (NCL) competitions. Team results for the NCL competitions are as follows:

Fall21 ranked 117 out of 920 teams

Spr22 ranked 146 out of 978 teams

Fall22 ranked 57 out of 1068 teams

Spr23 ranked 56 out of 316 teams (new student bracket implemented)

b. Undergraduate Student Presentations: Students presented at the Maine Emergency Management Agency (MEMA) Annual Maine Partners in Emergency Preparedness Conference held August-September 2022 in Augusta ME. Theme was Rediscover Readiness. Student researchers presented on the Maine Cyber Range incident response research project and provided range demonstrations on the cascading effects of a cyber attack.

c. Undergraduate Student Presentations: Students presented at the CISA Region I (New England Area of Operations) All Hands Meeting held September 2022 in South Portland, ME. Student researchers presented on the Maine Cyber Range's capabilities, past accomplishments, current activities, future activities, and research projects.

d. Undergraduate Student Presentations: Students presented at the Maine Chapter of the Fulbright Association and the Bureau of Educational and Cultural Affairs of the U.S. State Department - Global Cybersecurity Forum held October 2022 at UMA. Student researchers presented on cybersecurity topics and opened the floor for Q&A, followed by a faculty/staff panel discussion on global cybersecurity topics.

e. Early College (EC) Outreach: The following schools have either a concurrent (dual) enrollment agreement or a partnership with UMA Cybersecurity. Students provided training sessions on the Cyberbit Range environment as a supplemental lab opportunity. Capital Area Technical Center (CATC) Computer Technology, Hancock County Technical Center (HCTC) Cybersecurity I and II, and Portland Arts & Technology High School (PATHS) Cybersecurity. The EC faculty were then provided range instructor training so they may implement the Cyberbit range as a supplemental lab.

6. Cybersecurity Practitioners and Industry Partnerships

a. Established National CyberWatch Center Academic Institution Membership. The organization is a consortium of higher education institutions, public and private schools, individual cybersecurity practitioners, businesses, and government agencies focused on collaborative efforts to advance cybersecurity education and strengthen the national cybersecurity workforce.

b. Update to Cybersecurity and Infrastructure Security Agency (CISA) Region 1 contacts. Talis Jordans, Protective Security Advisor - Maine is replacing T.J. Swenson, who is now the Regional / Boston Area Protective Security Advisor effective February 2023.

c. Hosted the Department of Homeland Security (DHS) Office of Academic Engagement, with the DHS Senior Executive Service (SES) Executive Director for Headquarters Academia, Traci Ballard-Silas. In August 2022. Purpose was to discuss the UMA Cybersecurity Program, Trauma-Informed Emergency Management (TEM) Program, and Maine Community Policing Institute (MCPI). The goals of the engagement were to build and strengthen the DHS/UMA partnership; discuss collaborative research opportunities; discuss resources DHS might be able to provide for our programs or students as part of the DHS mission, particularly along the lines of disaster, cybersecurity, immigration, domestic terrorism, and resilience; discuss ways to support UMA students with aspirations of federal service with DHS. Also discussed was the need for UMA to provide grant-writing resources in support of these programs.

d. Promoted the CAE Regions Investing in the Next Generation (RING) program to implement and support Maine high schools students that do not have a Cybersecurity program available at their school or technical center. UMA Early College Office and Educate Maine-Project Login both announced this opportunity to Maine HS School Administrators, Home-School Educators, and the Computer Science Teacher Association (CSTA) listserves. This serves as a recruitment opportunity.