GENERAL EDUCATION COMMITTEE RECOMMENDATION FORM

<u>REQUEST FOR "AREA D: SOCIAL SCIENCES" DESIGNATION</u>

TO: **Elizabeth McNie, Chair, Curriculum Committee**

FROM: **Sarah Senk, Chair, General Education Committee**

DATE: **11/7/23**

SUBJECT: **Curriculum Change Request: GMA 395 Cybersecurity**

Proposed Course Subject: GMA 420
Proposed Course Title: Cybersecurity
Submitted by: Chris Chiego
Date Submitted: 10/26/2023

GE COMMITTEE SUMMARY
In the space provided, please include the following information: when the committee met, who was in attendance, who was absent (and for what reason), a record of the vote/decision, and a brief summary of the committee discussion (including justifications for decisions and dissenting opinions):

The General Education Committee met on Tuesday, November 7, 2023, to determine whether GMA 420 – Cybersecurity (formerly run as a special topics course, GMA 395) should be designated as an upper division Area D General Education course.

In attendance were voting committee members Sarah Senk (Chair), Laurie Borchard, Chris Chiego, Julie Simons, and Aparna Sinha, as well as nonvoting members Jordan Taylor, Mike Strange, Julia Odom, and Graham Benton. Cynthia Trevisan, Tom Oppenheim, and Josh Shackman were absent.

Dr. Chiego explained that the course has been offered multiple times as a special topics course with great interest from students. While the course covers some introduction to cybersecurity and offers some hacking simulations, it requires students think critically about threat actors, current events, and apply what they've learned to analyze what in the maritime sector could be most vulnerable. The course offers a policy overview regarding cybersecurity, and the final paper requires students propose a potential policy change after learning how different governments have implemented policies in the past.

After reviewing the course description, goals, competencies and list of potential texts, the General Education Committee voted unanimously to designate this course as an Area D General Education course.

When reviewing courses, the GE Committee considers how well a course accords with the description of the subject area in EO1100, and whether or not the course will require that students satisfy the Cal Maritime General Education Learning Outcomes:

EO1100 Description of Area D: Social Sciences	GE Committee Discussion Notes
"Area D requires 12 semester units or 18 quarter units dealing with human social, political and economic institutions and behavior, and their historical background. Students shall complete courses from at least two different disciplines, and one upper-division Area D course is required. Campuses shall not exceed these unit requirements. Students learn from courses in multiple Area D disciplines that human social, political and economic institutions and behavior are inextricably interwoven. Through fulfillment of the Area D requirement, students will develop an understanding of problems and issues from the respective disciplinary perspectives and will examine issues in their contemporary as well as historical settings and in a variety of cultural contexts. Students will explore the principles, methodologies, value systems and ethics employed in social scientific inquiry. Courses that emphasize skills development and professional preparation are excluded from Area D."	See discussion notes for the outcomes below. The committee agrees this is a social science course, but asked Chiego to clarify since some campuses tag cybersecurity as computational courses. Chiego clarified during discussion that this is *not* a computational class. This is about **why cybersecurity is a political issue,** why companies and countries do and don't take it seriously, and about cybersecurity as a tool of conflict. It is *not* a technical course about hacking. It is about the **political contexts and political implications** of hacking.

Cal Maritime GE Learning Outcomes: Area D	GE Committee Discussion Notes
GELO 10: Identify and explain the links between human social, political, and economic institutions and behavior.	The course requires students to evaluate current strategy and policy plans (eg. they watch congressional hearings and discuss how different governments implement policies). By thinking through what incentives can be put in place to get companies to care more about cybersecurity, they example the links between political institutions and behavior.
GELO 11: Analyze social problems and issues in their contemporary as well as historical settings and in a variety of cultural contexts.	The course requires students to think about different threats posed across a range of nations and contexts. They cover different disinformation groups, government agencies, what motivates different threat actors in different countries. The course covers how cybersecurity has evolved over time, and how threat actors have changed due to changing historical circumstances.
GELO 12: Explore the principles, methodologies, value systems and ethics employed in social scientific inquiry.	The committee had the most discussion about this outcome. Chiego explained how students assess the

	extent to which cybersecurity can be utilized as part of conflict between states and other actors. Students examine cyberattacks as a tool of warfare and debate whether responses should be the same as in conventional weapons attack. Chiego explained there is a theoretical element to the course as students debate, for instance, whether countries subjecting one another to cyberattacks are "at war" in a conventional sense. The committee recommends linking the last two learning outcomes – particularly "Evaluate current cybersecurity strategy and policy plans adopted by governments and businesses" more clearly to GELO 12.

When reviewing courses, the GE Committee also considers the "IGETC Standards, Policies & Procedures for Intersegmental General Education Transfer Curriculum, Version 2.0" (updated May 2019) and the "Guiding Notes for General Education Course Reviewers" (updated October 2019) which were "developed based on recommendations from the faculty and staff who review course outlines proposed for lower-division general education credit in the University of California (UC) and the California State University (CSU)."

IGETC Standard for Area 4: Social and Behavioral Sciences Courses	GE Committee Discussion Notes
10.4 Subject Area 4: Social and Behavioral Sciences: courses dealing with individual behavior in human social, political, and economic institutions. Students develop understanding of the perspectives and research methods of the social and behavioral sciences. Problems and issues in these areas should be examined in their contemporary, historical, and geographical settings. Students who have completed this requirement shall have been exposed to a pattern of coursework designed to help them gain an understanding and appreciation of the contributions and perspectives of men, women and of ethnic and other minorities and a comparative perspective on both Western and non-Western societies. The material should be presented from a theoretical point of view and focus on core concepts and methods of the discipline rather than on personal, practical, or applied aspects. 10.4.1 Courses That Do Not Fulfill the Social and Behavioral Sciences Requirement Only courses taught from the perspective of a social or behavioral science are approved. Consequently, courses such as Physical Geography and Statistics do not meet the IGETC specifications for this area and are not approved. Community colleges may resubmit these courses in a more appropriate area. Courses with a practical, personal, or applied focus are not approved. Administration of Justice courses may be approved if the content focuses on core concepts of the social and behavioral sciences.	See above. While the course clearly has some applied elements in policy-making, the committee deemed it sufficiently rooted in the discipline of political science due to its theoretical questions about what constitutes warfare, among other things.

Social Sciences Description (from the CSU "Guiding Notes for General Education Course Reviewers")	GE Committee Discussion Notes
Uses social scientific techniques of experimentation and empirical evidence to explore human experience	
Includes theoretical perspectives and focus on core concepts and methods of the discipline, including quantitative and qualitative analysis	
Examine groups of people and patterns of behavior and social dynamics	
Students learn how to practice social science, and not just understand what social scientists have concluded	
Course leads to a broad understanding of social science, and not just the discipline within it	
Students are learning more than pre-professional skills	

The GE Committee votes on whether or not a course should be classified as "General Education" based on the criteria above. However, the committee should preserve a record of any discussion regarding potential impact across the university, overlaps with existing courses, concerns about assessment (including recommendations regarding learning outcomes, assessment plans, etc.), and anything else the committee deems important for the Curriculum Committee to consider in the space below:

Additional Discussion Notes
- Chiego notes that the GSMA major name is going to change to International Strategy and Security officially starting in Fall 2023, and we are unsure if that impacts CCRs. (Will course codes change to ISS or will they stay GMA?)   - Simons suggest before submitting to Curriculum Committee, review learning outcomes to make clear expertise in computer science isn't required. This course is from a policy perspective. "Cyber coding" feels like it might be more specialized than it is.   - Chiego clarifies it's about identifying *strategies* to inform policy, and thinking about what next innovation could be, but no technical expertise is required.   - Benton anticipates Curriculum Committee may have questions about how this meets Area D; every university has cybersecurity classes, and Benton is curious to see what was tagged as D (vs. area B). Benton believes this course is clearly a computational social science (emphasis on *social science*) but asks Chiego to confirm and make clear that this is not a computer science course, which would tip it into a different Area of Gen Ed.   - Chiego clarifies this is *not* a computational class and is taught from the perspective of social science.