Academic and Student Affairs
Consent

AGENDA ITEM: 5 – E (1)
DATE: May 13-15, 2024

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SUBJECT

New Specialization Requests – DSU – Security Management & Compliance Specialization and Technical Specialization – MS in Cyber Defense

CONTROLLING STATUTE, RULE, OR POLICY

BOR Policy 2.3.2 – New Programs, Program Modifications, and Inactivation/Termination

BACKGROUND / DISCUSSION

Dakota State University (DSU) requests authorization to offer both a Security Management & Compliance specialization and a Technical specialization within the MS in Cyber Defense. Currently, the MS in Cyber Defense includes this coursework as two informal tracks. By creating these specializations, these tracks become formalized and will appear on the student transcript.

The Security Management & Compliance specialization will equip students with advanced expertise in management security operations, ensuring compliance with industry standards for security and privacy, and conducting audits to mitigate risks in today's complex cybersecurity landscape.

The Technical specialization will focus on technological security controls in the areas of network security, penetration testing, digital forensics, and malware analysis, which are essential for securing business operations within organizations.

IMPACT AND RECOMMENDATION

DSU requests authorization to offer the specializations on campus and online. DSU does not request additional state resources. No new courses will be required.

Board office staff recommends approval of the program.

ATTACHMENTS

Attachment I – New Specialization Request Form: DSU – Security Management & Compliance Specialization – MS in Cyber Defense

Attachment II – New Specialization Request Form: DSU – Technical Specialization – MS in Cyber Defense

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DRAFT MOTION 20240513_5-E(1):

I move to authorize DSU to offer a Security Management & Compliance specialization and a Technical specialization within the MS in Cyber Defense program, as presented.

SOUTH DAKOTA BOARD OF REGENTS
ACADEMIC AFFAIRS FORMS

New Specialization

Use this form to propose a new specialization within an existing degree program. Specializations provide students with an alternative to the primary format of the major or it may be one of several tracks within a broad major. Specializations contain courses within the discipline(s) of the existing program. Specializations appear in the institutional catalog and on the transcript. Majors that offer specializations typically have one-third to two-thirds of the credits in common with the remaining course work fulfilling the requirements of the specialization(s) offered. The Board of Regents, Executive Director, and/or their designees may request additional information about the proposal. After the university President approves the proposal, submit a signed copy to the Executive Director through the system Chief Academic Officer. Only post the New Specialization Form to the university website for review by other universities after approval by the Executive Director and Chief Academic Officer.

UNIVERSITY:	DSU
TITLE OF PROPOSED SPECIALIZATION:	**Security Management and Compliance Specialization**
NAME OF DEGREE PROGRAM IN WHICH SPECIALIZATION IS OFFERED:	**MS in Cyber Defense**
BANNER PROGRAM CODE:	**11.0401**
INTENDED DATE OF IMPLEMENTATION:	**5/6/2024**
PROPOSED CIP CODE:	**11.0401**
UNIVERSITY DEPARTMENT:	**Computer**
BANNER DEPARTMENT CODE:	**DCSI**
UNIVERSITY DIVISION:	**Beacom College of Computer and Cyber Sciences**
BANNER DIVISION CODE:	**DCOC**

☒ **Please check this box to confirm that:**

- The individual preparing this request has read AAC Guideline 2.6, which pertains to new specialization requests, and that this request meets the requirements outlined in the guidelines.
- This request will not be posted to the university website for review of the Academic Affairs Committee until it is approved by the Executive Director and Chief Academic Officer.

University Approval

To the Board of Regents and the Executive Director: I certify that I have read this proposal, that I believe it to be accurate, and that it has been evaluated and approved as provided by university policy.

_____   3/6/2024
Institutional Approval Signature   Date
President or Chief Academic Officer of the University

Note: In the responses below, references to external sources, including data sources, should be documented with a footnote (including web addresses where applicable).

1. **Level of the Specialization (*place an "X" in the appropriate box*):**

    Baccalaureate   ☐   Master's   ☒   Doctoral   ☐

2. **What is the nature/purpose of the proposed specialization? Please include a brief (1-2 sentence) description of the academic field in this specialization.**

This specialization focuses on managerial security, including risk management, compliance, and audits that are essential for securing business operations within organizations.

3. **Provide a justification for the specialization, including the potential benefits to students and potential workforce demand for those who graduate with the credential.** *For workforce related information, please provide data and examples. Data may include, but are not limited to the South Dakota Department of Labor, the US Bureau of Labor Statistics, Regental system dashboards, etc. Please cite any sources in a footnote.*

The current MS in Cyber Defense (MSCD) program includes two tracks: Technical Track and Security Management and Compliance Track. However, these tracks do not appear on a student's transcript. We would like to create two specializations, namely, Technical Specialization and Security Management and Compliance Specialization, which include the same courses as required in the tracks.

The Security Management and Compliance Specialization equips students with advanced expertise in managing security operations, ensuring compliance with industry standards for security and privacy, and conducting audits to mitigate risks in today's complex cybersecurity landscape.

Information Security Analyst is a great fit for graduates from the MSCD program. According to the Occupational Outlook Handbook from the Bureau of Labor Statistics (https://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm), employment of information security analysts is projected to grow by 32 percent from 2022 to 2032, much faster than the average for all occupations. About 16,800 openings for information security analysts are projected each year, on average, over the decade. Regarding the Security Management and Compliance Specialization, within the category of management occupations, there were 12,574.7 employments in Information Security Analyst roles in 2022. This number is expected to increase to 13,257.7, reflecting a 5.4% growth.

4. **List the proposed curriculum for the specialization (including the requirements for completing the major – <mark>*highlight courses in the specialization*</mark>):**

Prefix	Number	Course Title *(add or delete rows as needed)*	Credit Hours	New (yes, no)
INFA	702	Data Privacy	3	No
INFA	713	Managing Security Risks	3	No
INFA	735	Offensive Security	3	No

INFA	754	Network Security Monitoring and Intrusion Detection	3	No
Security Management and Compliance Specialization				Choose an item.
INFA	720	Incident Response	3	No
INFA	722	Data Privacy Management	3	No
INFA	742	Ethics and Information Technology	3	No
INFA	745	Compliance and Audit	3	No
Choose two 700-800 level courses from INFA, CSC, INFS or BADM prefix (except INFA 701) 6 credits			6	No

Total number of hours required for completion of specialization	18
Total number of hours required for completion of major	30
Total number of hours required for completion of degree	30

5. **Delivery Location**

   Note: The accreditation requirements of the Higher Learning Commission (HLC) require Board approval for a university to offer programs off-campus and through distance delivery.

   A. Complete the following charts to indicate if the university seeks authorization to deliver the entire program on campus, at any off campus location (e.g., UC Sioux Falls, Capital University Center, Black Hills State University-Rapid City, etc.) or deliver the entire specialization through distance technology (e.g., as an on-line program)?

	Yes/No	*Intended Start Date*
On campus	Yes	**Fall 2024**

	Yes/No	*If Yes, list location(s)*	*Intended Start Date*
Off campus	No		Choose an item. Choose an item.

	Yes/No	*If Yes, identify delivery methods* *Delivery methods are defined in AAC Guideline 5.5.*	*Intended Start Date*
Distance Delivery (online/other distance delivery methods)	Yes		**Fall 2024**

   B. Complete the following chart to indicate if the university seeks authorization to deliver more than 50% but less than 100% of the specialization through distance learning (e.g., as an on-line program)? *This question responds to HLC definitions for distance delivery.*

	Yes/No	*If Yes, identify delivery methods*	*Intended Start Date*
Distance Delivery (online/other distance delivery methods)	No		Choose an item.

6. **Additional Information:** *Additional information is optional. Use this space to provide pertinent information not requested above. Limit the number and length of additional*

attachments. Identify all attachments with capital letters. Letters of support are not necessary and are rarely included with Board materials. The University may include responses to questions from the Board or the Executive Director as appendices to the original proposal where applicable. Delete this item if not used.

SOUTH DAKOTA BOARD OF REGENTS
ACADEMIC AFFAIRS FORMS

New Specialization

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UNIVERSITY:	DSU
TITLE OF PROPOSED SPECIALIZATION:	**Technical Specialization**
NAME OF DEGREE PROGRAM IN WHICH SPECIALIZATION IS OFFERED:	**MS in Cyber Defense**
BANNER PROGRAM CODE:	**11.0401**
INTENDED DATE OF IMPLEMENTATION:	**5/6/2024**
PROPOSED CIP CODE:	**11.0401**
UNIVERSITY DEPARTMENT:	**Computer**
BANNER DEPARTMENT CODE:	**DCSI**
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- This request will not be posted to the university website for review of the Academic Affairs Committee until it is approved by the Executive Director and Chief Academic Officer.

University Approval
To the Board of Regents and the Executive Director: I certify that I have read this proposal, that I believe it to be accurate, and that it has been evaluated and approved as provided by university policy.

[signature: Rebecca S. Hoey]	3/6/2024
Institutional Approval Signature	Date
President or Chief Academic Officer of the University	

Note: In the responses below, references to external sources, including data sources, should be documented with a footnote (including web addresses where applicable).

1. **Level of the Specialization (*place an "X" in the appropriate box*):**

    Baccalaureate ☐   Master's ☒   Doctoral ☐

2. **What is the nature/purpose of the proposed specialization? Please include a brief (1-2 sentence) description of the academic field in this specialization.**

    This specialization focuses on technological security controls in the areas of network security, penetration testing, digital forensics, and malware analysis, which are essential for securing business operations within organizations.

3. **Provide a justification for the specialization, including the potential benefits to students and potential workforce demand for those who graduate with the credential.** *For workforce related information, please provide data and examples. Data may include, but are not limited to the South Dakota Department of Labor, the US Bureau of Labor Statistics, Regental system dashboards, etc. Please cite any sources in a footnote.*

    The current MS in Cyber Defense (MSCD) program includes two tracks: Technical Track and Security Management and Compliance Track. However, these tracks do not appear on a student's transcript. We would like to create two specializations, namely, Technical Specialization and Security Management and Compliance Specialization, which include the same courses as required in the tracks.

    The Technical Specialization equips students with advanced expertise in areas such as network security, penetration testing, digital forensics, and malware analysis, enabling them to apply specific technological controls to enforce cybersecurity policies and procedures within an organization.

    Information Security Analyst is a great fit for graduates from the MSCD program. According to the Occupational Outlook Handbook from the Bureau of Labor Statistics (https://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm), employment of information security analysts is projected to grow by 32 percent from 2022 to 2032, much faster than the average for all occupations. About 16,800 openings for information security analysts are projected each year, on average, over the decade. Regarding the Technical Specialization, within the category of Business and Financial Operations occupations, there were 10,591.1 employments in 2022. This number is expected to grow to 11,179.7 by 2032, reflecting a 5.6% increase. In another example, within Healthcare Practitioners and Technical Occupations, there were 9,481.0 employments in 2022. This number is expected to grow to 10,243.7 by 2032, representing an 8.0% increase.

4. **List the proposed curriculum for the specialization (including the requirements for completing the major – <mark>highlight courses in the specialization</mark>):**

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INFA	702	Data Privacy		3	No
INFA	713	Managing Security Risks		3	No
INFA	735	Offensive Security		3	No
INFA	754	Network Security Monitoring and Intrusion Detection		3	No
Technical Specialization					Choose an item.
INFA	721	Digital Forensics		3	No
INFA	723	Cryptography		3	No
INFA	732	Malware Analysis		3	No
INFA	751	Wireless Security		3	No
Choose two 700-800 level courses from INFA or CSC prefix (except INFA 701) 6 credits				6	Choose an item.

Total number of hours required for completion of specialization	18
Total number of hours required for completion of major	30
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	Yes/No	*Intended Start Date*	
On campus	Yes	**Fall**	**2024**

	Yes/No	*If Yes, list location(s)*	*Intended Start Date*
Off campus	No		Choose an item. Choose an item.

	Yes/No	*If Yes, identify delivery methods* *Delivery methods are defined in AAC Guideline 5.5.*	*Intended Start Date*
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B. Complete the following chart to indicate if the university seeks authorization to deliver more than 50% but less than 100% of the specialization through distance learning (e.g., as an on-line program)? *This question responds to HLC definitions for distance delivery.*

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