UNIVERSITY *of* WASHINGTON

Michael K. Young
President

March 10, 2014

Dean Harry Bruce
The Information School
Box 352840

Dear Harry:

Based on the recommendation of its Subcommittee on Admissions and Programs, the Faculty Council on Academic Standards has recommended approval of an option in Information Assurance and Cybersecurity within the Bachelor of Science degree in Informatics. A copy of the approval is attached.

I am writing to inform you that the Information School is authorized to specify these requirements beginning spring quarter 2014.

The new requirements should be incorporated in printed statements and in individual department websites as soon as possible. The *General Catalog* website will be updated accordingly by the Registrar's Office.

Sincerely yours,

Michael K. Young
President

Enclosure

cc: Mr. Timothy Morgan (with enclosure)
Mr. Robert Corbett (with enclosure)
Ms. Virjean Edwards (with enclosure)

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UNIVERSITY OF WASHINGTON

CREATING AND CHANGING UNDERGRADUATE ACADEMIC PROGRAMS

OFFICE USE ONLY
Control # INFO-20131205

After college/school/campus review, send a signed original and 1 copy to the Curriculum Office/FCAS, Box 355850.
For information about when and how to use this form: http://depts.washington.edu/uwcr/1503instructions.pdf

College/Campus UW Seattle	**Department/Unit** The Information School	**Date** 12/05/2013

New Programs

- ☐ Leading to a Bachelor of _____ in _____ degree.
- ☐ Leading to a Bachelor of _____degree with a major in _____.
- ☒ Leading to an Information Assurance and Cybersecurity Option within the existing major in Bachelor of Science in Informatics.
- ☐ Leading to a minor in _____

Changes to Existing Programs

- ☐ New Admission Requirements for the Major in _____ within the Bachelor of _____.
- ☐ Revised Admission Requirements for the Major in _____ within the Bachelor of _____.
- ☐ Revised Program Requirements for the Major in _____ within the Bachelor of _____.
- ☐ Revised Requirements for the Option in _____within the major in _____.
- ☐ Revised Requirements for the Minor in _____.

Other Changes

- ☐ Change name of program from _____ to _____.
- ☐ Change delivery method or location of program.
- ☐ New or Revised Continuation Policy for _____.
- ☐ New Honors Requirements for _____.
- ☐ Eliminate program in _____.

Proposed Effective Date: **Quarter:** ☐ Autumn ☐ Winter ☒ Spring ☐ Summer **Year: 2014**

Contact Person: Timothy D. Morgan	Phone: 221-6450	Email: tdm7@uw.edu	Box: 354985

EXPLANATION OF AND RATIONALE FOR PROPOSED CHANGE

For new program, please include any relevant supporting documentation such as student learning outcomes, projected enrollments, letters of support and departmental handouts. (*Use additional pages if necessary*).

[See attached Supplement 1: Rationale]

OTHER DEPARTMENTS AFFECTED

List all departments/units/ or co-accredited programs affected by your new program or changes to your existing program and acquire the signature of the chair/director of each department/unit listed. Attach additional page(s) if necessary. *See online instructions.

Department/Unit:	Chair/Program Director:	Date:
Computing and Software Systems Division at the School of STEM at UW Bothell	Chair/Program Director: Michael Stiber, Associate Dean Dean: Elaine Scott, Dean, School of STEM	12/6/2013
Department/Unit: Information and Technology Systems at the Institute of Technology at UW Tacoma	Chair/Program Director: Rob Friedman, Director	Date: 12/6/2013

CATALOG COPY

Catalog Copy as currently written. Include only sections/paragraphs that would be changed if your request is approved. Please cross out or otherwise highlight any deletions.

[No deletions, only additions. See below.]

PROPOSED CATALOG COPY

Reflecting requested changes (Include exact wording as you wish it to be shown in the printed catalog. Please underline or otherwise highlight any additions. If needed, attach a separate, expanded version of the changes that might appear in department publications). **Please note:** all copy will be edited to reflect uniform style in the General Catalog.

[to be appended at the end of the "Options" section in "Major Requirements"]

Information Assurance and Cybersecurity Option (16-20 credits).

1. The foundational course, INFO 310, "Information Assurance and Cybersecurity" or equivalent course (5 credits). Equivalent courses will be offered at all three University of Washington campuses: The Information School at UW Seattle, Computing and Software Systems at UW Bothell, and the Institute of Technology at UW Tacoma.
2. Minimum of three other courses from an approved list (11-15 credits). This list includes courses at participating departments on all three UW campuses. See program website for list: http://ischool.uw.edu/academics/informatics/degree-options.
    a. *No more than* one of these courses may be a networking course. Networking course are: INFO 341, T INFO 250, & CSS 432.

*[See attached Supplement 2 for **current** approved course list.]*

APPROVALS	
Chair/Program Director: Scott Barker, Program Chair for Informatics Scott T. Barker	Date: 12/9/13
College/School/Campus Curriculum Committee: Cris Fowler, Director for Academic Services	Date: 12/9/13
Dean/Vice Chancellor: Matt Saxton, Associate Dean for Academics	Date: 12/9/2013
Faculty Council on Academic Standards/ General Faculty Organization/Faculty Assembly Chair: Pat Ann Kramer	Date: 1/10/14
POST TRI-CAMPUS APPROVAL (when needed)	
Faculty Council on Academic Standards/ General Faculty Organization/Faculty Assembly Chair: Pat Ann Kramer	Date: 21 Feb 2014

BACHELOR OF SCIENCE IN INFORMATICS

TRANSCRIPTABLE OPTION IN INFORMATION ASSURANCE AND CYBERSECURITY

SUPPLEMENT 1: RATIONALE

We live during a time where our dependence on technology and ever-increasing interconnections has left us vulnerable to both the intentional malicious and accidental actions of others. The University of Washington provides numerous undergraduate technical degrees but none with a focus and concentration on cybersecurity and privacy that the current IT climate necessitates. As a creator of future information technology professionals the University of Washington must properly equip students with the knowledge to develop and utilize tools and applications that are safe and secure. Managers, policy makers, developers, and end-users alike should be able create, deploy, utilize, and manage systems that preserve individual and organizational privacy and security.

Information Assurance and Cybersecurity (IAC) is the practice of creating and managing safe and secure systems. It is crucial for organizations public and private, large and small. In the IAC option, students will be equipped with the knowledge to create, deploy, use, and manage systems that preserve individual and organizational privacy and security.

This option to the Informatics program is being proposed in conjunction with new options at (1) the Division of Computing and Software Systems at the School of Science, Technology, Engineering, and Math at UW Bothell and (2) the Information and Technology Systems program in the Institute of Technology at UW Tacoma. This proposal leverages the strengths of all three programs. Students will take the same foundational course in the technical, policy, and management foundations of IAC at their home campus. They will then choose different electives at any campus to learn such specialties as information assurance policy, secure coding, or networking and systems security. The electives at each campus will focus on the particular strengths of that program.

The combination of all three campuses working together on a unified concentration provides a greater opportunity for students attending one campus to learn from faculty across all three campuses. This flexibility will give students greater access to courses than would be available at any single campus and enhance the ability for students to customize their learning and career goals. It also is much more efficient than each institution building its own program. Some courses may be offered online or in hybrid format to encourage enrollment from students across campuses.

After completing the concentration, students will be well equipped with the knowledge and skills necessary to enter the field of information assurance and cybersecurity as professionals. They will be prepared to succeed in this rapidly growing field.

TRI-CAMPUS TRANSCRIPTABLE OPTION IN INFORMATION ASSURANCE AND CYBERSECURITY

SUPPLEMENT 2: IAC COURSES

Core Class: Any one of the following equivalent courses:

- CSS 310: Information Assurance and Cybersecurity
- INFO 310: Information Assurance and Cybersecurity
- T INFO 310: Information Assurance and Cybersecurity (currently T INFO 340)

UW Bothell electives:

- CSS 337: Secure Systems
- CSS 415 – Emerging Topics in IAC
- CSS 432: Network Design*
- CSS 411: Computing Technology and Public Policy

UW Seattle electives:

- INFO 312: Enterprise Risk Management (submitted to UWCC)
- INFO 341: Computer Networks and Distributed Applications*
- INFO 415 – Emerging Topics in IAC (submitted to UWCC)

UW Tacoma electives:

- T INFO 250: Foundations of Information Networking*
- T INFO 415 – Emerging Topics in IAC
- T INFO 441: Network Security
- T INFO 442: Computer Security
- T INFO 443: Digital Forensics

** Networking course: only one may count towards IAC option*

CORE CLASS:

CSS 310 / INFO 310 / T INFO 310 Information Assurance and Cybersecurity (5)
Theoretical and practical introduction to information assurance and cybersecurity (IAC). Methods and practices for securing information and information systems. Learn how vulnerabilities arise, recognize evolving threats, and mitigate them. Explores the role of risk analysis, information privacy, accountability, and policy.

BOTHELL COMPUTING AND SOFTWARE SYSTEMS ELECTIVES:

CSS 337 Secure Systems (5)
Prepares students for deploying and operating secure systems on a heterogeneous distributed infrastructure. Covers cybersecurity principles, methods, and tools used to protect against and detect external and internal threats. Addresses ethical and professional issues for cybersecurity personnel. Assumes students have basic computer administration skills. Prerequisite: CSS 161.

CSS 432 Network Design (5)
Examines methods for designing LANs and WANs that optimize Quality of Service (QoS). Covers theoretical and practical element of the OSI protocol stack; routing protocols including OSPF and BGP; networking management/architecture; router configuration; security; and Internet policies. Explores emerging networking technologies. Prerequisite: CSS 301; either CSS 421 or CSS 422 which may be taken concurrently; may not be repeated.

CSS 411 Computing Technology and Public Policy (5)
In depth investigation of economical, political, organizational, and societal ramifications of using computing technology. Evaluates current policy approaches, determines trends, and proposes changes. Topics vary by quarter.

SEATTLE INFORMATION SCHOOL ELECTIVES:

INFO 312 Risk Management (5)
Learn risk assessment, risk mitigation, and risk management and communicate this information to stakeholders. Learn risk management frameworks and theory. Technological, regulatory, and financial implications for risk and risk management. Examine how mobile, cloud, and social media technology influence risk in small organizations and large enterprises.

INFO 341 Computer Networks and Distributed Applications (5)
Basic concepts of local and wide-area computer networking including an overview of services provided by networks, network topologies and hardware, packet switching, client/server architectures, network protocols, and network servers and applications. Also addresses management, security, authentication, and policy issues associated with distributed systems. Prerequisite: either CSE 142, CSS 161, or T INFO 142.

INFO 415 Emerging Topics in Information Assurance and Cybersecurity (1-5, max 15)
Explores emerging topics and unique subjects in Information Assurance and Cybersecurity (IAC) not otherwise covered in the IAC curriculum. Intended for students in the IAC option at any of the UW campuses. Topics vary by quarter. May be repeated for credit. Prerequisite: either CSS 310, INFO 310, or T INFO 310.

TACOMA INFORMATION TECHNOLOGY AND SYSTEMS ELECTIVES:

T INFO 250 Foundations of Information Networking (5)
Explores computer networking and telecommunications fundamentals including LANs, WANs, Intranets, and the World Wide Web. Studies data communication concepts, models, and protocols. Practices installation, configuration, systems integration, and management of infrastructure technologies.

T INFO 441 Network Security (5)
Covers cryptographic methods including public and private key algorithms. Examines protocols that utilize secure email, digital signatures, authorization, e-voting, and electronic cash. Examines the fundamentals of security issues arising from computer networks. Includes lab component for demonstration of security techniques such as firewalls, intrusion detection systems, and virtual private networks. Prerequisite: T INFO 340.

T INFO 442 Computer Security (5)
Discusses the theoretical and practical issues surrounding computer security and data protection. Explores formal models of encryption and authentication. Examines operating system and program security with vulnerabilities analyses. Includes a lab component for demonstrating computer security techniques such as malware analysis, and access control. Prerequisite: T INFO 310; either T INFO 250, CSS 432, or INFO 341.

T INFO 443 Digital Forensics (5)
Explores the many facets of computer forensics and network security. Examines intrusion detection, evidence collection and presentation, network auditing, and network security policy design and implementation. Examines the issues and facilities available to the intruder and data network administrator and incorporates hands-on exercises. Prerequisite: T INFO 310; either T INFO 250, CSS 432, or INFO 341.

December 5, 2013

MEMORANDUM

To: Faculty Council on Academic Standards, UW Seattle
General Faculty Organization, UW Bothell
Faculty Assembly, UW Tacoma

From: Matthew Saxton, Associate Dean for Academics, Information School, UW Seattle
Elaine Scott, Dean, School of STEM, UW Bothell
Mike Stiber, Associate Dean, School of STEM, UW Bothell
Rob Friedman, Director, Institute of Technology, UW Tacoma

RE: Tri-campus collaboration on Information Assurance and Cybersecurity (IAC) option

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At the University of Washington, we have faculty experts in various aspects of IAC located on all three campuses who have come together to develop a tri-campus transcriptable option in IAC. With this option, students will be equipped with the knowledge and skills to create, deploy, use, and manage systems that preserve individual and organizational privacy and security.

Our three programs are submitting the requisite documentation to establish the IAC transcriptable option within our undergraduate majors in Autumn 2013, to take effect Spring 2014. We each fully support the others' requests to approve a transcriptable option in IAC.

IAC is a constantly developing field and the University of Washington is becoming a global leader. We have exceptional faculty collaborating on world-class research, and by working together we will be able to extend our collaboration directly to our students in the classroom.

We believe that this is another example of a strong and growing partnership across our campuses, and that this partnership will establish the University of Washington as a leader in Information Assurance and Cybersecurity on the West Coast and across the nation.

December 5, 2013

MEMORANDUM

To: Faculty Council on Academic Standards, UW Seattle
General Faculty Organization, UW Bothell
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From: Matthew Saxton, Associate Dean for Academics, Information School, UW Seattle
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RE: Tri-campus collaboration on Information Assurance and Cybersecurity (IAC) option

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Undergraduate Curriculum Review Process for New Programs

Manage Participants Profile (uwcr)

Seattle: option in Information Assurance and Cybersecurity within the Bachelor of Science degree in Informatics (INFO-20131205)

uwcr
uwcr
Board Owner

Posted Jan 14, 2014 [illegible] AM

Please review the attached 1503 pdf requesting to establish an option Information Assurance and Cybersecurity within the Bachelor of Science degree in Informatics at the Seattle campus and post comments by 5:00 pm on Tuesday, February 4th.

If you have any problems viewing the attachment or need disability accommodations, please contact the University Curriculum Office at uwcr@uw.edu.

Attachments

INFO-20131205.pdf 1.6M
Download View

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Posted Jan 29, 2014 9:48 PM

The motivation and goal in this proposal are practical and meaningful in such an information era. There is only one question about the core course. Should the students take one more core course of Information Assurance and Cybersecurity besides taking the other core courses of ITS in UW Tacoma or CSS in UW Bothell or are the students only required to take one core course of Information Assurance and Cybersecurity?

Undergraduate Curriculum Review Process for New... > Seattle: option in Information Assurance and Cy...

From: Timothy Morgan
Sent: Monday, February 10, 2014 4:46 PM
To: Jennifer A. Payne
Subject: RE: Tri-Campus Comments

Oh, I see what you mean. Here's a revision. Do you think this addresses the question? (I'm inclined to leave my second paragraph in, but you can cut it if you think it's unnecessary.)

****

In order to earn this Information Assurance and Cybersecurity transcriptable option, students will take one core course and three electives. The core course for Informatics students seeking this option will be INFO 310 at the Information School, and the electives are certain designated courses from the iSchool at UW Seattle, ITS at UW Tacoma, and CSS at UW Bothell. Although students have the option of taking electives at other campuses, there is no requirement that they do so. An Informatics student could take all credits for the option at the Information School on the Seattle campus.

Tacoma's Institute of Technology and Systems program has recently put forth its transcriptable option proposal to the UW Tacoma Faculty Assembly, and UW Bothell's CSS department has likewise put their proposal before the Bothell General Faculty Organization. These proposals are very similar to the Informatics proposal under discussion now, and both have the full support of the iSchool. They will each come up for tri-campus review and comment after they are approved by their respective campus committees.
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UNIVERSITY CAMPUSES UNDERGRADUATE PROGRAM REVIEW PROCEDURES**

CHECKLIST

Title of Proposal: Option in Information Assurance and Cybersecurity within the Bachelor of Science degree in Informatics (INFO-20131213)

Proposed by (unit name): The Information School

Originating Campus:

_x_ UW, Seattle

___ UW, Bothell

___ UW, Tacoma

I. **Phase I. Developed Proposal Review** (to be completed by Originating Campus' Academic Program Review body)

A. Review Completed by: (list name of program review body)

Chaired by:

01/10/14 Date proposal received by originating campus's review body

01/14/14 Date proposal sent to University Registrar

01/14/14 Date proposal posted & email sent to standard notification list

02/21/14 Date of originating campus's curriculum body approval
(Note: this date must be 15 business days or more following date of posting)

B. ___1___ Number of comments received. Attach the comments and a summary of the consideration and responses thereof : (1-2 paragraphs)

II. **Phase II. Final Proposal Review** (to be completed by FCTCP)

A. Review Completed by:
_x_ FCTCP subcommittee
___ FCTCP full council
Chaired by: William Erdly

2/22/14 Date request for review received from University Registrar
3/6/14 Date of FCTCP report

B. Review (attached)

YES NO
_x_ ___ Was notice of proposal posted on UW Website for 15 business days?
_x_ ___ Was notice of proposal sent to standard mailing list 15 business days in advance of academic program review?
_x_ ___ Were comments received by academic program review body?
_x_ ___ Was response to comments appropriate? (explain, if necessary)
_x_ ___ Was final proposal reviewed by FCTCP within 14 days of receipt?
_x_ ___ Was there adherence to the University Campuses Undergraduate Program Review Process? (explain, if necessary)

C. Recommendation

_x_ Forward for final approval
___ Forward to Provost because of University issues (Explain)
___ Return to campus council because of insufficient review (Explain).

**Endorsed by Faculty Senate Executive Committee, 1/10/05, modified 1/31/06; These procedures apply to new undergraduate degrees, majors, minors (and certificates) and substantive changes to same