
Docket Item:

University Program Approval: Western Oregon University, Bachelor of Science (B.S.) in Cybercrime Investigation and Enforcement.

Summary:

Western Oregon University proposes a new degree program leading to a B.S. in Cybercrime Investigation and Enforcement. The statewide Provosts' Council has unanimously recommended approval. Higher Education Coordinating Commission (HECC) staff completed a review of the proposed program. After analysis, HECC staff recommends approval of the program as proposed.

Staff Recommendation:

The HECC recommends the adoption of the following resolution:

RESOLVED, that the Higher Education Coordinating Commission approve the following program: B.S. in Cybercrime Investigation and Enforcement at Western Oregon University.



Proposal for a New Academic Program

Institution: Western Oregon University
College/School: College of Liberal Arts and Sciences
Department/Program Name: Criminal Justice Sciences
Degree and Program Title: Bachelor of Science in Cybercrime Investigation and Enforcement

1. Program Description

a. Proposed Classification of Instructional Programs (CIP) number.

43.0116. Cyber/Computer Forensics and Counterterrorism

Definition: A program focusing on the principles and techniques used to identify, search, seize and analyze digital media and to conduct cyber investigations against criminal and terrorist activity. Includes instruction in computer boot processes and drives, jumper setting, file access and reconstruction, hacking, network systems, cryptography, programming, investigative techniques, forensic imagery, web-based investigation methods, cyberterrorism, and applicable laws and administrative procedures.

b. Brief overview (1-2 paragraphs) of the proposed program, including its disciplinary foundations and connections; program objectives; programmatic focus; degree, certificate, minor, and concentrations offered.

Cyber-related crimes are evolving rapidly. From a criminal justice perspective, law enforcement officials work to help detect, investigate, and enforce such crimes. As new risks emerge, crime prevention and law enforcement response knowledge and skills must be acquired by criminal justice professionals who work as part of crime prevention and cyber security teams to effectively and legally respond. Countermeasures are required to safeguard sensitive personal, government, and business data as well as national security protection through detection, and to aid investigations and enforcement through evidence gathering, and collaborative responses for the purpose of combating these emerging crimes.

In this program, students will gain essential knowledge and skills to investigate and enforce cybercrimes. This program combines elements of law enforcement, computer investigative, legal and security skills, forensics, and other related fields in the study of crime prevention and response to various crimes occurring in the cyber world. Graduates of the program will be well prepared for traditional and emerging positions related to prevention, investigation, and enforcement of crime generally, and cyber-related crimes more specifically.

c. Course of study – proposed curriculum, including course numbers, titles, and credit hours.

The Cybercrime Investigation and Enforcement program is a 90-credit interdisciplinary degree. The Curriculum is comprised of the following elements: Criminal Justice courses (CJ), Cybercrime Investigation and Enforcement courses (CIE), Information Systems courses, and free elective courses. To reach a total of 90 credits, students will take a combined 56 credits from CJ, CIE, and IS. Students will take an additional 16 upper division elective credits from those disciplines. The remaining credits should be upper division and can be from an optional minor and/or courses in other disciplines as suggested by an advisor.

Mission

Provide students with essential conceptual knowledge and skills to prevent, investigate, and enforce cybercrimes and cyberthreats. This program combines elements of law enforcement, computer investigative, legal, and security skills, forensics, and other related fields in the study of crime prevention and response to various crimes occurring in the cyber world. Graduates of the program will be well prepared for traditional and emerging positions related to prevention, investigation, and enforcement of crime generally, and cyber-related crimes more specifically.

Program Learning Outcomes

1. Gain conceptual knowledge and technological skills necessary in the detection, investigation, and enforcement of cybercrimes
2. Understand the multitude of issues, theories, ethics, policies, practices, and current challenges related to the control of cybercrime
3. Develop an understanding of how traditional criminal justice theories, practices, and policies, and cybersecurity tools, techniques and technologies apply to the control of cybercrime

Core Courses

Criminal Justice

- CJ 213 Introduction to Criminal Justice **Credits: 4**
- CJ 331 Police and Community **Credits: 4**
- CJ 352 Criminal Law **Credits: 4**
- CJ 452 Criminal Procedure **Credits: 4**

Cybercrime Investigation and Enforcement

- CIE 213 Introduction to Cybercrime **Credits: 4**
- CIE 305 Ethics in Cybercrime Investigation and Enforcement **Credits: 4**
- CIE 321 Principles of Cyber Forensic Investigations **Credits: 4**
- CIE 425 Contemporary Issues on Cybercrime and Cybersecurity **Credits: 4**
- CIE 407 Capstone Seminar **Credits: 4**
- CIE 409 Practicum **Credits: 4**

Information Systems

- IS 283 Cybersecurity Fundamentals for Criminal Investigation **Credits: 4**
- IS 373 Computer Security for Criminal Investigation **Credits: 4**
- IS 473 Network Security for Criminal Investigation **Credits: 4**
- IS 474 Ethical Hacking for Criminal Investigation **Credits: 4**

Choose Four

- Upper division courses from CJ, CIE or IS, this may include an additional 4 credits of CIE 409.

Total Credits 72

- d. Manner in which the program will be delivered, including program location (if offered outside of the main campus), course scheduling, and the use of technology (for both on-campus and off-campus delivery).**

Students will be able to enroll in any WOU courses for which they have the prerequisites, and so may take face-to-face courses on WOU's campus in Monmouth as offered. The program will also be deliverable fully online, making it accessible to a wider and more diverse student population. The program will draw on WOU's learning management system (Moodle) for all flexible format course delivery (including face-to-face), including instructional and curriculum design support from WOU's Center for Academic Innovation.

- e. Adequacy and quality of faculty delivering the program.**

This program takes advantage of two established programs at WOU. Existing Criminal Justice courses in the Criminal Justice BS degree will be used as part of the foundational core in the new CIE degree. In consultation with CJ, Information Systems faculty are also proposing and will teach four core courses. Both of these programs have highly qualified tenure-track and tenured faculty teaching their respective curriculum.

- f. Adequacy of faculty resources – full-time, part-time, adjunct.**

This program will require the development of ten new courses: CIE 213, CIE 305, CIE 321, CIE 425, CIE 407, CIE 409, IS 283, IS 373, IS 473, and IS 474. The Criminal Justice department has faculty resources to deliver these CIE courses. Additionally, IS faculty have sufficient capacity and expertise to teach the proposed IS courses.

- g. Other staff.**

See above.

- h. Adequacy of facilities, library, and other resources.**

WOU already has the facilities, library, and other resources in place to support the courses offered.

- i. Anticipated start date.**

Pending approval, we anticipate beginning this program in Fall 2021

2. Relationship to Mission and Goals

- a. Manner in which the proposed program supports the institution's mission, signature areas of focus, and strategic priorities.**

Western Oregon University's mission is "To create lasting opportunities for student success through transformative education and personalized support". WOU is distinguished by its student-centeredness, a personalized approach to education, a strong liberal education and the high value it places on its role as an access institution in Oregon. Given the description and

direction of the proposed program earlier in this document, this program aligns with WOU's Strategic Plan in the following areas:

WOU's Vision

- Adapting to the **changing world** through continuous institutional improvement, evolving pedagogies and expertise, sustained scholarly and creative activities, and delivery of critical and **innovative programs**.

WOU's institutional priorities call for the university to:

- Promote academic array that provides **distinctive**, high-quality programs
- Promote **interdisciplinary** courses and degree programs that support collaborative and multidimensional educational experiences and pathways (this will be a collaboration with Information Systems, and will likely include elective courses from other disciplines).
- Provide intentional and effective **transfer paths to graduation**. Improve **access** to coursework for degrees, programs and certificates.
- Articulate **internship** or service-learning opportunities for all academic programs.
- Support growth of academic programs to include **new and innovative degrees** and certificates.

b. Manner in which the proposed program contributes to institutional and statewide goals for student access and diversity, quality learning, research, knowledge creation and innovation, and economic and cultural support of Oregon and its communities.

The Criminal Justice Department at WOU recently celebrated its 50th anniversary. From its inception, one of the pillars of the department has been our continued partnerships with Oregon's criminal justice agencies. These long-standing partnerships have been mutually beneficial. For instance, we have historically 'supplied' agencies with qualified applicants. In turn, communication with those agencies has allowed us to stay up to date with current trends in the field and to assess needs. It is in that context, and in recent communication and consultation with our CJ partners, that the need for this major became clear.

In 2011, Oregon passed legislation creating the 40-40-20 goal which aspires to have 40% of Oregonians complete a four-year degree, 40% complete a two-year degree or certificate, and 20% earn a high school diploma. The BS Cybercrime Investigation and Enforcement provides a clear, career-oriented pathway for students to earn a four-year degree.

The proposed program will support the State's goals in two primary ways. First, the program will be deliverable fully online, making it accessible to a wider and more diverse student population. Second, the program will aid in preventing 'credit leakage' for students who transfer from our Community College partners. For instance, the program will allow community college students who come to us with an AAOT or ASOT in cyber security or law enforcement to complete 90 credits in our program to earn this degree. Target enrollment also includes not only students in Oregon, but also in California and Washington who want to earn a bachelor's degree that builds upon their community college transfer degrees.

c. Manner in which the program meets regional or statewide needs and enhances the state's capacity to:

i. improve educational attainment in the region and state;

One of the state's goals is to increase the number of students earning 4-year degrees. Creating a clear pathway to a career-focused baccalaureate degree will help achieve that goal. Educational attainment will also increase as the program will be fully deliverable online.

ii. respond effectively to social, economic, and environmental challenges and opportunities; and

Occupational forecast sources, such as the Bureau of Labor Statistics, suggest that the projected growth of careers related to cybercrime and cybersecurity over the next decade will be 'much faster than average' [1]. At the same time, careers in law enforcement and prevention continue to grow steadily nationwide [2]. Oregon is projected to follow in these trends [3].

The state of Oregon Employment department ranks high-wage, high-demand, and High-Skill occupations that are considered to be priorities in terms of job training by the Oregon Employment Department [4]. Occupational classifications that might be ultimate destinations for our undergraduates include: Police and Sheriff's Patrol Officers, Correctional Officers and Jailers, Supervisors and Managers of Fire Fighting and Prevention Workers, Supervisors and Managers of Police and Detectives, Police, Fire, and Ambulance Dispatchers, Detectives and Criminal Investigators, Private Detectives and Investigators, Database Administrators, Network and Computer Systems Administrators, Computer User Support Specialists, Computer Network Support Specialists, and Computer Systems Analysts.

iii. address civic and cultural demands of citizenship.

This program will provide students the opportunity to earn a degree that includes a broad-based liberal education. As such, students will learn and practice problem-solving skills, critical thinking skills, quantitative literacy skills, and communication. These skills are necessary for a productive, well-rounded, and well-educated citizenry. Moreover, this major will provide students with a broad foundation on the administration and practices of agencies charged with a variety of tasks related to the control of traditional and emerging cybercrimes. Understanding the social, administrative, and legal responses to these crimes requires learning about the underlying socio-economic disparities, roots of poverty, the role of gender, race, class, and the economy. These valuable concepts will be intertwined in this degree.

3. Accreditation

Cybercrime Investigation and Enforcement (CIE) is not a field in which accreditation is available. However, the program design is guided by two organizations which provide certification for programs in the closely related fields of Criminal Justice and Cybersecurity.

The Academy of Criminal Justice Sciences (which is not currently accepting new applications for certification until further notice) provides certification for traditional criminal justice and criminology programs. Especially, ACJS requires that Baccalaureate Degrees in Criminal Justice/Criminology include the following content areas in their structure and curriculum: Administration of Justice, Corrections, Criminological Theory, Law Adjudication, Law Enforcement, and Research and Analytical Methods. *The CIE program will incorporate content from all these areas in its curriculum.

Additionally, to support institutions of higher education and research in information assurance, the National Security Agency and the Department of Homeland Security jointly sponsor the National Centers of Academic Excellence in Information Assurance/Cyber Defense (IA/CD). The goal of the CAE IA/CD program is to reduce vulnerability in our national information infrastructure by promoting higher education and research in Information Assurance/Cyber Defense (IA/CD) and to produce a growing number of professionals with expertise in IA/CD disciplines (Klappenberger, 2017).

At the heart of the program accreditation process are the Knowledge Units (KUs). The KU are mandatory topics and associated objectives that must be included in an institution’s degree or certificate program. The KUs are organized into three categories: Foundational, Core, and Optional. Institutions with four-year degrees must have all 'foundational' KUs, either all 'Core Technical' KUs, or all 'Core non-technical' KUs', and then pick around 5 'Optional' KUs. *The CIE program (especially the Information System courses) will include topics from the foundational KUs, Core non-technical KUs, and several Optional KUs. Because this framework was designed for cybersecurity, rather than cybercrime, the KUs align well with the Information Systems courses proposed in the cybercrime program.

- a. Accrediting body or professional society that has established standards in the area in which the program lies, if applicable. N/A
- b. Ability of the program to meet professional accreditation standards. If the program does not or cannot meet those standards, the proposal should identify the area(s) in which it is deficient and indicate steps needed to qualify the program for accreditation and date by which it would be expected to be fully accredited. N/A
- c. If the proposed program is a graduate program in which the institution offers an undergraduate program, proposal should identify whether or not the undergraduate program is accredited and, if not, what would be required to qualify it for accreditation. N/A
- d. If accreditation is a goal, the proposal should identify the steps being taken to achieve accreditation. If the program is not seeking accreditation, the proposal should indicate why it is not. N/A

4. Need

- a. Anticipated fall term headcount and FTE enrollment over each of the next five years.

	Headcount projections, first 5 years of program				
	2021-22	2022-23	2023-24	2024-25	2025-26

Cohort 1 (21-22)	9	9	4	4	1
Cohort 2 (22-23)	0	16	16	14	2
Cohort 3 (23-24)	0	0	20	17	9
Cohort 4 (24-25)	0	0	0	22	21
Cohort 5 (25-26)	0	0	0	0	24
Total	9	25	40	57	57

Projections are based on current enrollments in the Criminal Justice department and projected job growth in related career paths. Headcount accounts for some attrition, and some students taking 5-6 years to graduate because they attend part-time. 50% of students are expected to be in the program at WOU for all years; 50% are expected to be transfer students.

	FTE projections (Average of 12 credits per term), first five years of the program				
	2021-22	2022-23	2023-24	2024-25	2025-26
Cohort 1 (21-22)	8.1	8.1	3.6	3.6	0.9
Cohort 2 (22-23)	0	14.4	14.4	12.6	1.8
Cohort 3 (23-24)	0	0	18	15.3	8.1
Cohort 4 (24-25)	0	0	0	19.8	18.9
Cohort 5 (25-26)	0	0	0	0	21.6
Total	8.1	22.5	36	51.3	51.3

We anticipate about 75% of students will be full time and about 25% will be half-time.

b. Expected degrees/certificates produced over the next five years.

	Expected degree projections, first 5 years of program				
	2021-22	2022-23	2023-24	2024-25	2025-26
Cohort 1 (21-22)	0	0	4	4	1
Cohort 2 (22-23)	0	0	0	7	5
Cohort 3 (23-24)	0	0	0	0	10
Cohort 4 (24-25)	0	0	0	0	0
Cohort 5 (25-26)	0	0	0	0	0
Total	0	0	4	11	16

The program will begin producing graduates mainly after the fourth year of existence. Since it is expected that some students will be transfer students, we are expecting some will graduate after the second year.

c. Characteristics of students to be served (resident/nonresident/international; traditional/ nontraditional; full-time/part-time, etc.).

We expect the characteristics of students in this major to reflect the overall population of WOU students pursuing a bachelor's degree, and of students currently in the related Criminal Justice BS.

d. Evidence of market demand.

Occupational forecast sources, such as the Bureau of Labor Statistics, suggest that the projected growth of careers related to cybersecurity over the next decade will be 'much faster than average' [1]. At the same time, careers in law enforcement and prevention continue to grow steadily nationwide [2]. Oregon is projected to follow in these trends [3]. The Criminal Justice Department at WOU recently celebrated its 50th anniversary. From its inception, one of the pillars of the department has been our continued partnerships with Oregon's criminal justice agencies. These long-standing partnerships have been mutually beneficial. For instance, we have historically 'supplied' agencies with qualified applicants. In turn, communication with those agencies has allowed us to stay up to date with current trends in the field and to assess needs. It is in that context, and in recent communication and consultation with our CJ partners, that the need for this major became clear.

e. If the program's location is shared with another similar Oregon public university program, the proposal should provide externally validated evidence of need (e.g., surveys, focus groups, documented requests, occupational/employment statistics and forecasts).

WOU is located near Salem in the mid-Willamette Valley. The only other public university in this region is Oregon State University, and they do not offer a cybercrime program, or a criminal justice major (only a 'crime and justice' option within the sociology major). The proposed program at WOU is designed to give graduates with a bachelor's degree the skills required for entry-level positions in a wide range of occupations within and outside of the criminal justice and cybersecurity fields.

f. Estimate the prospects for success of program graduates (employment or graduate school) and consideration of licensure, if appropriate. What are the expected career paths for students in this program?

The state of Oregon Employment department ranks high-wage, high-demand, and High-Skill occupations that are considered to be priorities in terms of job training by the Oregon Employment Department [4]. Occupational classifications that might be ultimate destinations for our undergraduates include: Police and Sheriff's Patrol Officers, Correctional Officers and Jailers, Supervisors and Managers of Fire Fighting and Prevention Workers, Supervisors and Managers of Police and Detectives, Police, Fire, and Ambulance Dispatchers, Detectives and Criminal Investigators, Private Detectives and Investigators, Database Administrators, Network and Computer Systems Administrators, Computer User Support Specialists, Computer Network Support Specialists, and Computer Systems Analysts.

5. Outcomes and Quality Assessment

a. Expected learning outcomes of the program.

Students majoring in the new Cybercrime Investigation and Enforcement major will achieve WOU's Undergraduate Learning Outcomes (ULOs): Quantitative Literacy, Written Communication, Inquiry & Analysis, Integrative Learning, and Diversity.

The curriculum will also help students meet WOU's General Education Learning Outcomes (GELOs) which are as follows:

- WOU GELO #1: Intellectual Foundations and Breadth of Exposure

Practice different and varied forms of knowledge, inquiry, and expression that frame academic and applied learning

- WOU GELO #2: Critical thinking

Demonstrate the ability to evaluate information and develop well-reasoned and evidence-based conclusions.

- WOU GELO #3: Citizenship

Articulate the challenges, responsibilities, and privileges of belonging in a complex, diverse, interconnected world.

- WOU GELO #4: Multidisciplinary learning

Integrate knowledge, perspectives, and strategies across disciplines to answer questions and solve problems.

In addition, the BS in Cybercrime Investigation and Enforcement major will have the following program-specific learning outcomes.

1. Gain conceptual knowledge and technological skills necessary in the detection, investigation, and enforcement of cybercrimes (PS—program specific outcome)
2. Understand the multitude of issues, theories, ethics, policies, practices, and current challenges related to the control of cybercrime (ULO: Inquiry and Analysis)
3. Develop an understanding of how traditional criminal justice theories, practices, and policies, and cybersecurity tools, techniques and technologies apply to the control of cybercrime (ULO: Integrative Learning)

Students will achieve these outcomes through a curricular structure that ensures a balance between breadth and depth of exposure. Breadth is ensured through the general education courses students will take at WOU, as well as the required lower division courses in the new program, and the existing criminal justice program. The depth of exposure will occur through the upper division coursework in the proposed major, as well as the two capstone courses that are required for the major.

b. Methods by which the learning outcomes will be assessed and used to improve curriculum and instruction.

Since the WOU University Learning Outcomes and General Education Learning Outcomes applied to all students who are enrolled at WOU, they are assessed by the university faculty committees.

Listed above are three Program Learning Outcomes (PLOs). PLO 1 this is a program-specific outcome which will be assessed every three to five years by the department (in the same manner that program-specific PLOs for the existing criminal justice department are assessed). PLO 2 is aligned with the Inquiry and Analysis ULO, and will be assessed every three to five years by the

department. The learning outcome will be assessed using the LEAP VALUE rubric for Inquiry and Analysis. PLO 3 is aligned with Integrative Learning ULO, and will be assessed every three to five years by the department. The learning outcome will be assessed using the LEAP VALUE rubric for Integrative Learning.

Faculty of the WOU Criminal Justice and Information Systems Departments will meet annually to review assessment findings from the previous year. Curricular adjustments, such as required courses, course-specific learning outcomes, concept delivery strategy, etc., will be discussed and considered for implementation.

c. Nature and level of research and/or scholarly work expected of program faculty; indicators of success in those areas.

Faculty in the Criminal Justice and Information Systems Departments at WOU are expected to meet the scholarly standards of their respective divisions. Faculty may demonstrate their scholarly achievement in the scholarship of discovery, application, integration and teaching & learning. All tenure-track WOU faculty are expected to maintain engagement in at least one of these modes of scholarship

6. Program Integration and Collaboration

a. Closely related programs in this or other Oregon colleges and universities.

There are no 4-year institutions offering a BS degree in Cybercrime in Oregon. There are, however, several 2 and 4-year institutions which offer degrees, certificates, or concentrations in cybersecurity [5]. Also, there are of course several institutions which offer more traditional Criminal Justice degrees. See description below

George Fox University offers a BS in Computer Science with a Cybersecurity Concentration

Linfield College offers a Certificate in Cybersecurity and Digital Forensics

Mt Hood Community College offers an Associate of Applied Science in Cybersecurity and Networking, a Business Cyber Vulnerability Analyst Certificate, and a Network and Firewall-Security Technician Certificate

Portland Community College offers a Certificate in Cybersecurity Fundamentals

Portland State University offers a Graduate Certificate in Computer Security

Umpqua Community College offers a Associate of Applied Science in Computer Information Systems – Cybersecurity

University of Oregon offers a BS in Computer and information Science—Security Track

b. Ways in which the program complements other similar programs in other Oregon institutions and other related programs at this institution. Proposal should identify the potential for collaboration.

The proposed program is a collaboration of the Departments of Criminal Justice (within the Criminal Justice Sciences Division) and Information Systems.

As previously mentioned, several Oregon institutions offer either more traditional and general Criminal Justice degrees (focused on the administration of justice and theoretical causes of crime), or very technical degrees and certificates in Cybersecurity within Computer Sciences programs. *The proposed major will complement these programs, and bridge the gap between the current degree offerings in Oregon.

- c. If applicable, proposal should state why this program may not be collaborating with existing similar programs.
- d. Potential impacts on other programs.
N/A. The collaboration was explained.

7. External Review

If the proposed program is a graduate level program, follow the guidelines provided in *External Review of New Graduate Level Academic Programs* in addition to completing all of the above information. N/A

Revised May 2016

Instructions on Budget Outline form

1. Whose viewpoint?

The Budget Outline is intended to show the budgetary impact resulting from offering the new program. This table should be completed from the viewpoint of the budgetary unit that will be responsible for the program. Determine what the budgetary unit will be doing (in terms of new or additional activities) that it is not now doing and show what these activities will cost — whether financed and staffed by shifting of assignments within the budgetary unit; reallocation of resources within the institution; special appropriation of the legislature; or gift, grant, or other funds.

2. No additional resources needed?

If the program is simply a rearrangement of courses already being offered, relying on access to library resources available for other programs, with no requirements for new or additional specialized facilities, equipment, or technology, and with no increase or decrease in students served by the budgetary unit responsible for the program, the budgetary impact would be near zero and should be so reported in the table.

3. Additional resources needed?

If FTE faculty or support staff assigned to the budgetary unit must be increased to handle an increased workload as a result of the new program (or to provide added competencies), indicate the total resources required to handle the new activities and workload (e.g., additional sections of existing courses) by specifying: (1) how much of this total figure is from reassignment within the budgetary unit (Column A), and (2) how much is from resources new to the budgetary unit (Columns B-E). Please provide line item totals in Column F.

Statement pertaining to the budget outline forms (prepared in consultation with the Assistant Provost):

As stated earlier in this proposal, no new faculty resources will be needed to operate the new major. CJ and CIE courses will be taught by existing faculty within the Criminal Justice department. The four IS courses will be taught by existing Information Systems faculty. The major will operate under the Criminal Justices Sciences Division, and with its existing facilities and resources. Thus, the budget forms contain only 0s.

References

[1] Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, Information Security Analysts, on the Internet at <https://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm> <https://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm#tab-8> (visited October 26, 2019).

[2]. Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, Police and Detectives, on the Internet at <https://www.bls.gov/ooh/protective-service/police-and-detectives.htm> (visited November 03, 2019).

[3] Projections Central, State Occupational Projections (2016-2016), information security analysts, police and sheriffs. On the internet at <https://projectionscentral.com/Projections/LongTerm>

[4] Oregon High-Wage, High-Demand, High-Skill-Occupations. On the internet at https://www.qualityinfo.org/home?p_p_id=3&p_p_lifecycle=0&p_p_state=maximized&p_p_mode=view&_3_struts_action=%2Fsearch%2Fsearch&_3_redirect=%2F&_3_keywords=high-demand&_3_groupId=0

[5] Cybersecurity Programs in Oregon. On the internet at <https://www.cyberdegrees.org/listings/oregon/>

Budget Outline Form: Year 1

Estimated Costs and Sources of Funds for Proposed Program

Total new resources required to handle the increased workload, if any. If no new resources are required, the budgetary impact should be reported as zero

Institution: Western Oregon University

Academic Year: 2016-2017

Program:

	Column A	Column B	Column C	Column D	Column E	Column F
	From Current Budgetary Unit	Institutional Reallocation from Other Budgetary Unit	From Special State Appropriation Request	From Federal Funds and Other Grants	From Fees, Sales and Other Income	LINE ITEM TOTAL
Personnel						
Faculty (Include FTE)	0	0	0	0	0	0
Graduate Assistants (Include FTE)	0	0	0	0	0	0
Support Staff (Include FTE)	0	0	0	0	0	0
Fellowships/Scholarships	0	0	0	0	0	0
OPE	0	0	0	0	0	0
Nonrecurring	0	0	0	0	0	0
Personnel Subtotal	0	0	0	0	0	0
Other Resources						
Library/Printed	0	0	0	0	0	0
Library/Electronic	0	0	0	0	0	0
Supplies and Services	0	0	0	0	0	0
Equipment	0	0	0	0	0	0
Other Expenses	0	0	0	0	0	0
Other Resources Subtotal	0	0	0	0	0	0
Physical Facilities						
Construction	0	0	0	0	0	0
Major Renovation	0	0	0	0	0	0
Other Expenses	0	0	0	0	0	0
Physical Facilities Subtotal	0	0	0	0	0	0
GRAND TOTAL	0	0	0	0	0	0

Budget Outline Form: Year 2

Estimated Costs and Sources of Funds for Proposed Program

Total new resources required to handle the increased workload, if any. If no new resources are required, the budgetary impact should be reported as zero

	Column A	Column B	Column C	Column D	Column E	Column F
	From Current Budgetary Unit	Institutional Reallocation from Other Budgetary Unit	From Special State Appropriation Request	From Federal Funds and Other Grants	From Fees, Sales and Other Income	LINE ITEM TOTAL
Personnel						
Faculty (Include FTE)	0	0	0	0	0	0
Graduate Assistants (Include FTE)	0	0	0	0	0	0
Support Staff (Include FTE)	0	0	0	0	0	0
Fellowships/Scholarships	0	0	0	0	0	0
OPE	0	0	0	0	0	0
Nonrecurring	0	0	0	0	0	0
Personnel Subtotal	0	0	0	0	0	0
Other Resources						
Library/Printed	0	0	0	0	0	0
Library/Electronic	0	0	0	0	0	0
Supplies and Services	0	0	0	0	0	0
Equipment	0	0	0	0	0	0
Other Expenses	0	0	0	0	0	0
Other Resources Subtotal	0	0	0	0	0	0
Physical Facilities						
Construction	0	0	0	0	0	0
Major Renovation	0	0	0	0	0	0
Other Expenses	0	0	0	0	0	0
Physical Facilities Subtotal	0	0	0	0	0	0
GRAND TOTAL	0	0	0	0	0	0

Budget Outline Form: Year 3

Estimated Costs and Sources of Funds for Proposed Program

Total new resources required to handle the increased workload, if any. If no new resources are required, the budgetary impact should be reported as zero

	Column A	Column B	Column C	Column D	Column E	Column F
	From Current Budgetary Unit	Institutional Reallocation from Other Budgetary Unit	From Special State Appropriation Request	From Federal Funds and Other Grants	From Fees, Sales and Other Income	LINE ITEM TOTAL
Personnel						
Faculty (Include FTE)	0	0	0	0	0	0
Graduate Assistants (Include FTE)	0	0	0	0	0	0
Support Staff (Include FTE)	0	0	0	0	0	0
Fellowships/Scholarships	0	0	0	0	0	0
OPE	0	0	0	0	0	0
Nonrecurring	0	0	0	0	0	0
Personnel Subtotal	0	0	0	0	0	0
Other Resources						
Library/Printed	0	0	0	0	0	0
Library/Electronic	0	0	0	0	0	0
Supplies and Services	0	0	0	0	0	0
Equipment	0	0	0	0	0	0
Other Expenses	0	0	0	0	0	0
Other Resources Subtotal	0	0	0	0	0	0
Physical Facilities						
Construction	0	0	0	0	0	0
Major Renovation	0	0	0	0	0	0
Other Expenses	0	0	0	0	0	0
Physical Facilities Subtotal	0	0	0	0	0	0
GRAND TOTAL	0	0	0	0	0	0

Budget Outline Form: Year 4

Estimated Costs and Sources of Funds for Proposed Program

Total new resources required to handle the increased workload, if any. If no new resources are required, the budgetary impact should be reported as zero

	Column A	Column B	Column C	Column D	Column E	Column F
	From Current Budgetary Unit	Institutional Reallocation from Other Budgetary Unit	From Special State Appropriation Request	From Federal Funds and Other Grants	From Fees, Sales and Other Income	LINE ITEM TOTAL
Personnel						
Faculty (Include FTE)	0	0	0	0	0	0
Graduate Assistants (Include FTE)	0	0	0	0	0	0
Support Staff (Include FTE)	0	0	0	0	0	0
Fellowships/Scholarships	0	0	0	0	0	0
OPE	0	0	0	0	0	0
Nonrecurring	0	0	0	0	0	0
Personnel Subtotal	0	0	0	0	0	0
Other Resources						
Library/Printed	0	0	0	0	0	0
Library/Electronic	0	0	0	0	0	0
Supplies and Services	0	0	0	0	0	0
Equipment	0	0	0	0	0	0
Other Expenses	0	0	0	0	0	0
Other Resources Subtotal	0	0	0	0	0	0
Physical Facilities						
Construction	0	0	0	0	0	0
Major Renovation	0	0	0	0	0	0
Other Expenses	0	0	0	0	0	0
Physical Facilities Subtotal	0	0	0	0	0	0
GRAND TOTAL	0	0	0	0	0	0

Summary of Prospective BS/AB Program in Cybercrime Investigation and Enforcement Western Oregon University

Submitted to Statewide Provosts Council: January 15, 2020

Program Description

Cybercrimes are offences that are committed against organizations, individuals, or groups, with a criminal motive—using modern telecommunication networks such as Internet and equipment such as computers mobile phones. From a criminal justice perspective, law enforcement officials work to help detect, investigate, and enforce such crimes. Cyber-related crimes are evolving rapidly. As new risks emerge, crime prevention and law enforcement response knowledge and skills must be acquired by criminal justice professionals who work as part of crime prevention and cyber security teams to effectively and legally respond. Countermeasures are required to safeguard sensitive personal, government, and business data as well as national security protection through detection, and to aid investigations and enforcement through evidence gathering, and collaborative responses for the purpose of combating these emerging crimes. In this Bachelor's Degree students will gain essential knowledge and skills to prepare to protect organizations and individuals from cyber threats, and to investigate and enforce cybercrimes. This program combines elements of law enforcement, computer investigative, legal and security skills, forensics, and other related fields in the study of crime prevention and response to various crimes occurring in the cyber world. Graduates of the program will be well prepared for traditional and emerging positions related to prevention, investigation, and enforcement of crime generally, and cyber-related crimes more specifically.

Classification of Instructional Program (CIP): 43.0116.

Program Outcomes:

Combining elements of criminal justice, computer literacy, forensics, and other related fields students will:

- Master basic theory and best practices of law enforcement in the detection, investigation and enforcement of cybercrimes
- Acquire the ability to detect current cybercrimes, identify and utilize effective digital forensic skills for criminal evidence gathering
- Understand legal issues, ethics, and policy implications in the conduct of cyber forensic investigations and enforcement
- Learn technological skills necessary in the detection, investigation, and enforcement of cyber crimes
- Learn the correct legal and law enforcement industry standards for responding to cybercrimes

Program Location and Modality

This program will be offered face-to-face and fully online. Courses will be offered primarily at WOU campus, but some courses may also be offered at our WOU Salem location.

The program will require new faculty with expertise in the cybersecurity field, as well as some new courses.

Anticipated Start Date

Fall of 2021

Anticipated Enrollment

2020-21	2021-22	2022-23	2023-24	2024-25	2029-30
25	50	75	100	125	150

Addressing Statewide Needs

Several factors motivate our proposal for this degree. Occupational forecast sources, such as the Bureau of Labor Statistics, suggest that the projected growth of careers related to cybersecurity over the next decade will be ‘much faster than average’ [1]. At the same time, careers in law enforcement and prevention continue to grow steadily nationwide [2]. Oregon is projected to follow in these trends [3]. The Criminal Justice Department at WOU recently celebrated its 50th anniversary. From its inception, one of the pillars of the department has been our continued partnerships with Oregon’s criminal justice agencies. These long-standing partnerships have been mutually beneficial. For instance, we have historically ‘supplied’ agencies with qualified applicants. In turn, communication with those agencies has allowed us to stay up to date with current trends in the field and to assess needs. It is in that context, and in recent communication and consultation with our CJ partners, that the need for this major became clear.

In 2011, Oregon passed legislation creating the 40-40-20 goal which aspires to have 40% of Oregonians complete a four-year degree, 40% complete a two-year degree or certificate, and 20% earn a high school diploma. The BS in Cybersecurity and Crime Investigation and Enforcement provides a clear, career-oriented pathway for students to earn a four-year degree.

The proposed program will support the State’s goals in two primary ways. First, the program will be deliverable fully online, making it accessible to a wider and more diverse student population. Second, the program will aid in preventing ‘credit leakage’ for students who transfer from our Community College partners. For instance, the program will allow community college students who come to us with an AAOT or ASOT in cyber security or law enforcement to complete 90 credits in our program to earn this degree. Target enrollment also includes not only students in Oregon, but also in California and Washington who want to earn a bachelor’s degree that builds upon their community college transfer degrees.

Alignment with WOU's Strategic Planning

Given the description and direction of the proposed program, this program aligns with WOU's Strategic Plan in the following areas.

WOU's Vision

- Adapting to the **changing world** through continuous institutional improvement, evolving pedagogies and expertise, sustained scholarly and creative activities, and delivery of critical and **innovative programs**.

WOU's institutional priorities call for the university to:

- Promote academic array that provides **distinctive**, high-quality programs
- Promote **interdisciplinary** courses and degree programs that support collaborative and multidimensional educational experiences and pathways (this will be a collaboration with Information Systems, and will likely include elective courses from other disciplines).
- Provide intentional and effective **transfer paths to graduation**. Improve **access** to coursework for degrees, programs and certificates.
- Articulate **internship** or service-learning opportunities for all academic programs.
- Support growth of academic programs to include **new and innovative degrees** and certificates.

Contacts

The program was developed by the WOU Criminal Justice Department, in partnership with the Information Systems Department. Interested Universities should contact:

1. Omar Melchor Ayala, Criminal Justice Department, Western Oregon University
ayalao@wou.edu
2. Vivian Djokotoe, Criminal Justice Sciences Division Chair, Western Oregon University
djokotoev@wou.edu
3. Don Kraus, Information Systems Department, Western Oregon University
krausd@wou.edu
4. Thaddeus Shannon, Information Systems, Western Oregon University,
shannont@mail.wou.edu

[1] Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, Information Security Analysts, on the Internet at <https://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm>
<https://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm#tab-8> (visited *October 26, 2019*).

[2]. Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, Police and Detectives, on the Internet at <https://www.bls.gov/ooh/protective-service/police-and-detectives.htm> (visited *November 03, 2019*).

[3] Projections Central, State Occupational Projections (2016-2016), information security analysts, police and sheriffs. On the internet at <https://projectionscentral.com/Projections/LongTerm>

Institution: Western Oregon University

Program: Bachelor of Science in Cybercrime Investigation and Enforcement

Action: At the **August 18, 2020** meeting, the Statewide Provosts Council approved a new program for **Western Oregon University, BS in Cybercrime Investigation and Enforcement** to move forward to the Oregon Higher Education Coordinating Commission for its review and approval. The **WOU** Board of Trustees approved the **BS in Cybercrime Investigation and Enforcement** program at its **June 10, 2020** meeting.

Eastern Oregon University

Sarah Witte, provost

Approved

Opposed

Abstained



Oregon Health & Science University

Elena Andresen, interim provost

Approved

Opposed

Abstained



Oregon State University

Ed Feser, provost

Approved

Opposed

Abstained



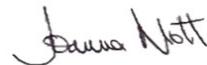
Oregon Tech

Joanna Mott, provost

Approved

Opposed

Abstained



Portland State University

Susan Jeffords, provost

Approved

Opposed

Abstained



Southern Oregon University

Susan Walsh, provost

Approved

Opposed

Abstained



University of Oregon

Patrick Phillips, provost

Approved

Opposed

Abstained



Western Oregon University

Rob Winningham, provost

Approved

Opposed

Abstained

