Academic Affairs Presentation Checklist

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Department: Computer and Information Systems (CIS)

Please note: If an item listed is not relevant to your specific presentation to Academic Affairs, please mark as **N/A**. Use as many pages as necessary.

OVERVIEW OF PROGRAM OR POLICY

AS in Cybersecurity

The new CIS AS in Cybersecurity degree is designed to provide a guided pathway to Oregon Institute of Technology's B.S. in Cybersecurity degree (starting Fall 2018) and prepare CIS students for entry into the fast-growing field of Cybersecurity. With the associates degree and industry certifications that can be earned in parallel to many of our courses, students will be well positioned to fill entry-level jobs in the Cybersecurity field.

- Following through with a Bachelors, students may see more job opportunities and salaries in excess of $80,000
  - https://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm
  - http://www.mass.gov/anf/research-and-tech/cyber-security/cyber-security-employment-statistics.html
- Stopping with the AS and going to work, students will see job opportunities as a junior analyst with salaries greater than $50,000
  - Portland. BA/BS preferred but not required - $68,000 (https://goo.gl/uFG7BN)
  - Bend. Degree or experience and industry certification - $71,000 (https://goo.gl/zDkUgz)
  - In meeting with other employers in Bend, confirmations that the course mix described below and certifications would support entry-level work in security

BUDGET

Potential Expenses	Potential Funding Sources
Faculty Training Our lead instructor for this program will need training to better teach two new classes.	• Personal funding and time • Redirection of PIP funds • Apply for unused PIP funds • Cyberwatch West stipends
Marketing Although we don't have quotes on specific advertising campaigns, there are several	• NSA/DHS program certification to get onto an approved list of academic programs.

things we can do that are no-cost or low-cost.	● Grass roots efforts with Bend-LaPine schools. Working with new focus school with technology track starting Fall 2018 ○ Tech clubs ○ College Now ○ High school to COCC pathway ○ Regional cybercamps (one being offered this Summer 2017) ● Offer expert commentary to local newspapers, television, clubs. Always mentioning COCC Cybersecurity ● Targeted YouTube advertisements. Several CIS faculty maintain popular tech channels. ● CIS web site dedicated to information and resource for cybersecurity program, news, and commentary.
Hardware/Software	● We can utilize existing hardware and leverage new Intel servers recently acquired as part of a capital request. ● May need additional support from IT regarding available bandwidth after 2 years.
Other Costs Potential cost of finding new instruction to cover foundation CIS 120 courses that Eric Magidson (lead instructor for cybersecurity) wouldn't be able to teach.	● Offer 1-3 fewer sections of CIS 120 per year while enrollment down. ● Seeking adjunct and part-time instruction in CIS for foundation classes in Bend and Redmond.

Instructional Requirements

- Existing faculty and part-time instructors in the CIS department can teach all of the essential classes. Most classes in the program (except three) are already offered in CIS as part of existing AAS degrees and options.
- Possible that we will seek out a part-timer with cybersecurity and education skills to help with future growth and faculty retirements.
- Possible that we will seek out a replacement FT faculty with cybersecurity/networking skills when needing to replace retiring FT faculty in the next 2-3 years.
- New instructional hires would need computer networking experience and cybersecurity experience. Instructors may have a Bachelor's degree with appropriate experience.
- It is not likely that other COCC departments will be negatively affected.
- There could be some impact to another CIS program: CIS AAS Networking. Networking and Cybersecurity are tangentially related and likely some students that were thinking of going into Networking might opt for Cybersecurity, and vice versa.

OPERATIONAL NEEDS, CURRENT AND FUTURE

- We expect to utilize existing staff and resources, including a networking lab/classroom in Pioneer Hall 232 for the first 2-3 years the program is offered.
- We do NOT expect any additional impacts on administrative and student support departments, except for, hopefully, a growing program each year with more students.

STUDENT IMPACT

- Marketing and education of the program will be critical. The department will work to promote the program to students and solicit help from COCC public relations.
- Students will also need to be prepared for a more challenging entrance into Cybersecurity, compared to a general AAS in Computer and Information Systems. Higher level math and computer/network understanding for entry-level classes.
- A similar program at Mt Hood Community College saw cybersecurity student enrollment of 42, 66, and 104 in the past three years. Of course, COCC would be in a smaller market with fewer potential students.

ANTICIPATED IMPLEMENTATION TIMELINE

- We would like this AS degree listed in the catalog for AY 18-19.
- Students that start the program then will be taking mostly courses that are already available.
- One new 3-credit orientation course will be available in AY 18-19.
- Other courses would be made available in AY 19-20, if registered students are truly on a 2-year path. Otherwise, those upper-level classes will be available in AY 20-21.
- Most communication with students in the program will take place with teachers and advisors. It is reasonable that in the first 4-5 years, all cybersecurity students will have the same CIS faculty advisor.

EXAMPLE COURSE OFFERINGS LEADING TO AS CYBERSECURITY

Year	Term	New Cybersecurity AS	Cr	Targeted OIT Equivalent
1	1	WR 121 Comp	4	WR 121 English Comp
1	1	MTH 111 Algebra	4	MTH 111 College Algebra
1	1	**CIS 101 (New) CIS Program Orientation / Fundamentals**	**3**	CYB 101 Orientation
1	1	CIS 151C Cisco Introduction to Networks	4	MIS 251 Networking I
1	1	CIS 195 Web Development I	4	MIS 280 Intro HTML/CSS
			19	

1	2	WR 227 Technical Writing	4	WRI 227 Technical Report Writing
1	2	CIS 140 A+ Essentials	4	n/a
1	2	CIS 145 A+ Essential II	4	MIS 145 PC Hardware/Software
1	2	CIS 152C Cisco Routing and Switching	4	MIS 252 Networking II
			16	
1	3	SP 111 Fundamentals of Public Speaking	4	SPE 111 Fundamentals of Speech
1	3	CIS 279SE Security +	4	CYB 201 Cybersecurity Fundamentals
1	3	CIS 279L Linux +	4	MIS 240 Linux
1	3	CIS 154C Scaling and Connecting Networks	4	MIS 263 Networking III
			16	
2	1	PHL 202 Philosophy-Ethics (arts and letters 1)	3	Elective (Fall Term Course Currently)
2	1	CS 160 Intro Computer Sci (math/sci 1)	4	math/science elective
2	1	CIS 284EH Ethical Hacking	4	?
2	1	CIS 279SC Server Configuration (70-740)	4	MIS 273 Windows Server
2	1	PSY 201 Mind and Brain (social science 1)	3	PSY 201 Psychology
			18	
2	2	CS 161 Computer Science 1 (math/sci 2)	4	CST 116 C++ Programming
2	2	??? another arts/letters	3	elective
2	2	CIS 279SM Server Management (70-741)	4	?
2	2	**CIS 279CL (New) Cloud Essentials**	**4**	CYB ??? Cloud Computing (in development)
			15	
2	3	**CIS 279OP (New) CCNA Cyber Ops**	**4**	* CYB 302 Incident Handling and Forensics
2	3	CIS 244 Systems Analysis (Project Management)	4	* MGT 335 Project Management
2	3	EC 201 Microeconomics (social science 2)	4	elective
2	3	CIS 135 DB Database/SQL	4	* MIS 275 Intro to Relational Databases
			16	

* classes at OIT will require extra efforts to align and may not count as they are 300-level.