

**NETWORK TECHNOLOGY ADVISORY COMMITTEE - MINUTES**

**Tuesday, October 2, 2018 \* 5:30 – 7:00pm**

**Joan Stout Hall, 250**

**Members Present:** Brian MacKay (Vice Chair), The Columbian Publishing Co.; Steve Bohling, Clark PUD; Eric Cowen, Columbia Machine; Eric Olmsted, On Line Support; Patrick Rancore, Windstream

**Members Absent:** Brian Page (Committee Chair), Fortinet; Michael Jaeger, IRely; Gary Liberman, EarthLink;

**Clark College:** Dwight Hughes, Network Technology Department Head; Bob Hughes, CTEC Dept. Head; Adam Coleman, CTEC Instructor; Genevieve Howard, Dean of WPTE; Kathy Chennault, Foundation; Travis Kibota, Interim Associate Vice President of OOI; Cathy Sherick, Assoc. Dir. of Instructional Programming & Innovation; SueAnn McWatters, Advisory Committees Coordinator

Committee Vice Chair Brian McKay called the meeting to order at 5:33pm.

**MINUTES OF THE PREVIOUS MEETING**

*The minutes of October 3, 2017 were presented: Eric Olmsted made a motion to approve; this was seconded by Steven Bohling and passed unanimously.*

*The minutes of the Cyber Panel Meeting on November 15, 2017 were presented: Brian McKay made a motion to approve, this was seconded by Eric Cowen and passed unanimously.*

**NEXT MEETING DATE**

The committee will meet next on **Tuesday, February 5th at 5:30pm.**

**CHAIR/VICE CHAIR ELECTIONS**

Brian McKay volunteered as Chair

Eric Cowen volunteered as Vice Chair

Steven made a motion to approve, this was seconded by Eric Olmsted, and passed unanimously.

**OFFICE OF INSTRUCTION UPDATES**

Cathy made the following announcements:

Welcome back to 2018-19 Academic year, Advisory Committees will continue to see how they fit in to the implementation work of **Pathways at Clark.** The goal is to improve rates of completion, transfer and attainment of jobs to that end this year we will be working very closely with other colleges to make sure our programs link directly to opportunities for students who are continuing. Our high school partners are also working with us to ensure that their programs are also aligning closely to Clark.

To that end, Clark will be producing the **Career and Technical Education Insert** again this year. It will go out in February in the Food Day Columbian reaching 56,000 households. We are asking business partners to advertise in the insert again – and we will be working on some very compelling stories of students in CTE programs. Please contact Cathy Sherick in the Office of Instruction if you would like to advertise or for more details.

Clark is always opening the invitation to more **Advisory volunteers** for the twenty-five committees that support CTE programs. It might mean infusing current committees with new members or building new committees for new programs. Also, we are continuing to work on the **Master Advisory Committee** as well to assist with visiting current committees to talk to members, planning and hosting an Advisory event and reporting to the Board of Trustees every year on the great work of Advisory Committees.

The energy is heating up around the development of the new **Advanced Manufacturing Center** planned for the North Campus at Boschma farms. Contact Dean Genevieve Howard for details on this amazing new building and the advanced manufacturing programs that will be located there.

October 9th Clark College, in partnership with Partners in Careers (PIC) and Workforce SW, hosted over 250 local high school students on campus for National Manufacturing day. Special thanks to S.E.H. America, Columbia Machine, Graphic Packaging, Silicon Forest Electronics, General Sheet metal, and BagCraft for providing activity stations.

Kathy Chennault stated that if there is a company that has an established corporate giving program, it’d be a great conversation to potentially bring resources into the program (equipment, internships, externships, etc.). She would be happy to talk at any time.

**CYBER SECRUITY BAS (PowerPoint – Appendix A)**

Students do not have to have any prior certifications before entering the program.

**Slide 2: Degree Map**

Dwight discussed the courses that are currently making up the degree:

* Blue arrows = prerequisites
* Blue boxes = core curriculum
* Cream boxes = Gen Eds

**Slide 3: Degree Outcomes**

They align with the NICE (National Initiative for Cybersecurity Education) framework.

* Plan, implement, administer, and support enterprise information technologies and systems
* Analyze the security vulnerabilities of an organization’s information technology resources
* Plan and implement security measures and practices for an organization’s information technology resources
* Evaluate organization needs, and use those needs to plan the implementation of information technology systems

**Slide 4: Pre Entry**

* Application
  + First come, first serve. As long as students meeting the entrance requirements, they will get in.
* Orientation Session
  + Overview of program, expectations, introductions, support resources reviewed, etc.
* Advising meeting
  + Qualifying AAT degree program (CTEC Computer Support/NTEC Cisco/NTEC Network Technology)
  + General Education coursework
* Entry code for 1st quarter registration

**Slide 5: Courses: Overview**

Choose your starting point and then follow it up to the career.

Core Curriculum:

* Developed from and aligned with using the NICE Framework
* Mots courses are associated with an industry certification
* Courses reflect the input from this Advisory Committee and the industry employer DACUM

General Education:

* Required to 45 credits across several distribution areas
* Courses selected for their applicability to a mid-level IT worker, availability, and their prerequisites
* Dwight met with each department to see if this would work with other programs (one online and two in class if students are full time)

Hopefully, students can get the bachelor’s in 18 months.

**Slide 6: Quarter 1**

NTEC&321: Enterprise Networking Foundation – wide ranging networking in the enterprise environment; shows what the students will be able to do by the end of the course. The language is pretty conservative in terms of the alignment with the industry certification.

NTEC&361: Cybersecurity Programming Foundation – scripting and programming – using PYTHON, which is the most popular in the hacking community and cyber world. This will be the first of a three part series. This also aligns with an industry certification for PYTHON programming.

PHIL&120: Symbolic Logic – ties into programming and higher level thinking of symbolism and logic.

**Slide 7: Quarter 2**

NTEC&364: IoT Foundation: Connecting Things – use the scripting – every object can be connected to the internet and teaching programmable sensors (intelligent thermostats, refrigerators, etc.). Students will have to learn how to secure the sensors. This course will involve critical thinking, trouble shooting and problem solving. The program will need to buy a sensor kit and electronic component. This course does not tie to an industry certification.

PSYC&315: Organizational Behavior – Soft skills.

ENGL&235: Technical Writing – documentation – siting resources and using APA format.

**Slide 8: Quarter 3**

NTEC&365: Big Data & Analytics Foundation – learn how to harness big data services and being able to data mine big data for intelligence and infer results out of it.

CMST&230: Small Group Communication – follows organizational behavior.

ECON&110: Introduction to the Global Economy – learn industry and big business.

**Slide 9: Quarter 4**

NTEC&371: Cybersecurity Foundation – concepts and emphasis on mitigating specific security issues. This course does tie to an industry certification.

CMST&310: Organizational Communication – dynamics of an organization.

ENVS&109: Integrated Environmental Science – big push in environmentalism (trying to go green). This course covers a wide range of questions in scientific problem solving; how to investigate and state hypotheses.

**Slide 10: Quarter 5**

NTEC&472: Cybersecurity Penetration Testing – determine the resiliency of a network against attacks. The students will test the network to demonstrate that it’s secure.

NTEC&473: Cybersecurity Analyst –looking at logs and intrusions, and trying to detect them and prevent them. This course tracks to two different certifications.

ENVS&430: Sustainability & environmental Practices – lab science class; also used in management BAS degree.

**Slide 11: Quarter 6**

NTEC&475: Cybersecurity Operations – this course is more for the career orientated. This course also aligns with CISCO certifications.

NTEC&49: Capstone Project – uses the technical writing skills to write a lengthy research paper. Students are given a cyber-problem currently facing enterprise. Hopefully the advisory committee members will help with coming up with different situations. The students will be assigned out a project topic where they will have to research it and mock up a demonstration of both the vulnerability and how to mitigate it.

PHIL&420: Ethics in Management – teaches students how to be ethical.

**Slide 12: Cyberseek.org**

This is a website by NICE that shows career pathways (shows different roles and the pathways they can go). It also shows the top skills requested and what level of degree is required for each type of role. The site also has interactive maps (supply and demand for our local folks) that show the locations of where there are job openings.

Eric Olmsted asked about a CEH (Certified Ethical Hacker) certification. Dwight stated that it could be tied into the ethics class, but that is shared with BASAM. Security fundamentals are important but haven’t designed a specific teachable course to it.

Steven Bohling discussed the types of tools and hands on exercises that would be used for pen testing. Dwight mentioned the Kelly (?) Program, which has 40 tools the penetration testing. It’s created to be vulnerable and hacked. It actually has known weaknesses built in so that students can actually see the hacks. The degree would start fall 2019 and this particular course would occur in fall 2020. The hope is to hire a tenure track faculty for the BAS degree that will work with the committee to dial in individual tools and products.

Cathy asked what happens after the program; what can they go? Dwight stated that Western Governor’s University has an online program for a masters, however jobs are still low because the industry is still new. The WGU bachelor’s is more focused on forensics (recovering deleted files) and Clark’s program is more operations. Eventually, the committee will need more folks as it will have to split into two committees; one for the two and one for the BAS. Each committee will members that are inclusive of managers and employees.

The college is going to have to spend about $100,000 (very conservative number) in equipment; mainly around virtualization capabilities.

The goal is to only run on cohort for the first two years. Hopefully after three years, there will be two cohorts with one of them online.

Brian motioned for a vote on the new CBAS degree. Eric Cowen moved to approve the new courses and degree. Eric Olmsted seconded and was unanimously approved.

**MICRO-CREDENTIALING AND STACKABLE CERTIFICATIONS**

Dwight discussed the possibility of credentialing small skill-sets; ones that would benefit the industry. It is less than a course and more like something students learn in 2-3 weeks. Stackable certifications are usually 30-40 credits; a grouping of 5-6 courses, which might be worth something to an employer or on a resume. CISCO has a stackable certification. Many students have nothing to show for their studies until they get a degree. If they get a certificate in the process after they finish through a specific course, it can be a great resume enhancer. Some suggestions given were:

* Program
* Security
* Database
* Operating Systems
* Acute Fundamentals
* Microsoft Office 365; Eric Olmsted mentioned seeing a lot of movement into the use of it. Also a ton of demand for SDwin (?) SDLan (?)
* Amazon Web Services; not a lot of job openings
* Vulnerability management; being able to identify where vulnerabilities are, prioritize them, and fix them
* Slack or Teams or Yammer; collaboration tools

**NEW BUSINESS**

October is Cyber Awareness Month.

The meeting was adjourned at 6:56pm.

Prepared by SueAnn McWatters