Computer & Network Technology
Advisory Committee Meeting October 25, 2016
Minutes

Attending:
Don Campbell, Instructor
Mark Meuleners, Instructor
Karla Hammer, FDIC
Jeremy Ouren, Second-year Student
Mason Bjerke, Second-year Student
Jack Dyer, 1st Year Student

Absent:
Aaron Harlow
Bert Burkholder
Brian Woinarowicz
Bryan Trosen
Heidi Ballinger
Jeff Compton
Ken Satkunam
Matt Schumaacher

1. Reviewed and approved Minutes from March 22, 2016 Meeting

2. Reviewed Computer & Network Technology AAS program material

    a. Discuss of general program information

        i. Discussion about the Microcomputer Database course: Why Microsoft Access instead of SQL?

            1. Industry indicates a desire for SQL database experience in IT graduates.

            2. As an elective in the Computers & Networking program, the demand is low. Since MS Access is part of the MS Office certification program for Administrative Assistants, it is primarily an offering for that program.

        ii. Question: Could there be a Linux 2 class with a greater focus on script development?

            1. The current UNIX/Linux course provides experience with building and testing scripts from text, but does not challenge students to develop scripts, from scratch, to preform real-world administrative functions.

        iii. Question: Could Computer & Networking students be provided with a list of "preferred electives", recommended by the Computer & Networking instructors?

            1. As they are electives, the AASC holds that they should be truly student-selected choices.

      2. Students are free to discuss options with instructors, and receive feedback as to which options might best serve their interests.

  b. Discussion of additional programs/paths

    i. Draft of Information Technology A.S.

      1. The A.S. degree is intended to be preparation for those who will be seeking to continue their education in a 4-year program.

      2. The program includes more general studies to aid in the transfer process.

      3. Next Step: An articulation agreement must be established with a 4-year institution.

        a. Looking at UM-Crookston initially

        b. In the long term, agreements with Bemidji State University, MN State – Moorhead, and UND would be also be desireable.

    ii. Possible CISSP Network Security Program

      1. The program is in discussion with administration, and they are receptive to the idea

      2. Training staff to teach the subject is a challenge to implementation.

      3. Question: Would it be offered day/evening/online?

        a. Evening would make it available to professionals seeking advancement opportunities

        b. A CISSP would definitely be an advantage to graduates seeking employment.

        c. Nearest CISSP training opportunities are currently in Minneapolis.

        d. Online offering could have appeal over a wide geographic area

      4. Concern: Would providing advanced security techniques and knowledge to 2-year students represent a risk to the industry?

a. While many students enter college with the idea of becoming "hackers", that mentality fades as they progress through the program.

b. CISSP curriculum including security techniques are already available widely online or on the "darknet".

c. The actual Certification has high ethical requirements

5. A CISSP security program could eventually lead the offering of a forensics program.

6. The Average CISSP currently earns $122,000, making it a very desirable vocation.

iii. Other possible generalizations/specializations

1. As we consider other programs, we need to ensure that there is sufficient student "drawing power" in the offerings. Otherwise, we risk dilution of the student pool, and an inability to sustain programs that have too few students.

3. Discuss Industry Trends and Needs

a. The "Cyber-security" degree is a buzzword emerging in the industry

i. Using that term in a program could be good for marketing.

ii. Degrees are typically similar to the Security+ and similar Cisco program offerings.

b. Zero-Trust Networks

i. Devices are segregated onto separate subnets (computers on one, printers on another, servers on another, and so on), and only specific traffic types are permitted (by access control list) to travel between them.

ii. There is a white-paper available on them by Palo Alto

c. Internet of Things (IOT) attacks place focus on security

i. New vulnerabilities even include

1. DDOS attacks through DVR's, Surveillance Cameras, consumer grade routers, printers, etc.

2. Cyber stalking through smart-watches

3. Vehicle computer system attacks (a major concern as the industry progresses on autonomous vehicles).

ii. Virtualization education

1. Virtualization within the cloud keeps getting bigger. Are the programs continuing to expand the scope of virtualization training?

2. Discussion of requiring Computer & Networking students to buy the full version of VMWare Workstation as a part of the program.

a. It is a more full-featured product than the free VMWare player utilized in many of the courses.

b. It more closely simulates the control environment that professionals utilize.

c. Cost is about $200, plus annual upgrade costs of around $125

d. Students are amiable to the cost, if it is included in the cost of the course (enabling them to receive financial aid and grants to help cover the cost).

iii. Advanced Storage platforms training

1. Discussed the industry need for training in advanced storage systems such as SAN and cloud storage.

2. Typically, the offerings are very diverse amongst the various manufacturers, requiring specialized equipment and training. The requirements would likely be too specialized and capital intensive to include in a two-year program.

4. Questions/Answers – None offered.

Gratitude to the attendees / adjourn

Respectfully submitted by Mark Meuleners

(Proposed)
INFORMATION TECHNOLOGY – A.S.
East Grand Forks Campus
Fall Starts
60 credits – Credits Granted as shown:

Course#	Course Title	Credits	Lec/Lab/OJT
1st Fall Semester			
ENGL 1111	Composition I	3	3/0/0
CPTR 1131	Microcomputer Maintenance	4	2/2/0
CPTR 1136	Networking I	4	3/1/0
PSYC 1105	Intro to Psychology	3	3/0/0
		14	
1st Spring Semester			
ENGL 2207	Technical Writing	3	3/0/0
CPTR 1147	Networking II	4	3/1/0
CPTR 1148	Micro Operating System	3	2/1/0
CPTR 1138	Info System	2	2/0/0
	G4: Math/Logical Reasoning Elective	3	3/0/0
		15	
2nd Fall Semester			
CPTR 1171	Fund. of Net Security	3	2/1/0
CPTR 2214	Network Operating System	3	2/1/0
	MN Transfer Curriculum Elective	3	3/0/0
SPCH 1101	Intro to Public Speaking	3	3/0/0
MATH 2203	Statistics	4	3/0/0
		16	
2nd Spring Semester			
CPTR 2231	UNIX/Linux	3	2/1/0
ECON 2202	Macro Economics	3	3/0/0
	Tech Elective	3	
	G7: Human Diversity Elective	3	3/0/0
	G9: Elective	3	3/0/0
		15	

Commented [MM1]: Visual Basic, Help Desk, Micro Database

G4: Math/Logical Reasoning
MATH 1102	Contemporary Math
MATH 1110	College Algebra
PHIL 2000	Logic

G7: Human Diversity
SOCI 1101	Intro to Sociology
SOCI 1102	Social Problems in US

G9: Ethical/Civic Responsibility Electives
PHIL 1102	Intro to Ethics
PHIL 2240	Ethics and Business

Area of Interest Elective Course Options

Course #	Course Name	Credits
CPTR 1128	Help Desk Concepts	3
CPTR 2226	Networking III	3
CPTR 2227	Networking IV	3
CPTR 1110	Visual Basic	3
CPTR 2252	System Project	3
CPTR 1106	Microcomputer Databases	3
CPTR 1500	Intro Web Concepts	3
CPTR 1104	Intro to Computer Tech	3
CPTR 2294	Internship	3
ACCT 1100	Prin of Bookkeeping	3
ACCT 1124	Spreadsheet Concepts	3
ADMS 1116	Business Communications	3
BUSN 2210	Prin of Management	3
BUSN 2218	Legal Environment Busn	3
MKTG 2201	Prin of Sales	3
MKTG 2205	Prin of Retailing	3
MKTG 2306	Small Business Mgmt	3

Industry Trends and Needs:

Concept	Coverage
Cloud/Virtual Machine Concepts OpenStack CloudStack KVM Puppet	Exposure to Virtual Machines in Micro, Network, and Unix Operating System courses.
Mobile applications with ties to Enterprise Applications	
Unified (E-mail) Communications	
Patch Distribution Concepts	Briefly discussed in Network Operating System course.
Disaster Recovery	Backup concepts discussed in Network Operating System and Network Security Courses course.
Data Protection	Shadow Copies discussed in Network Operating System course. Security covered in Network security course.
Data Movement	
Network Monitoring Quarantine Client RMM – Remote Monitoring & Management	
Transition from unmanaged to managed clients	
Automated deployment, update, and management	Microsoft deployments discussed in Micro Operating System. FOG discussed in UNIX.
Business Partnerships for student-assisted projects	Capstone course composition. Internship programs
IP Telephony	Net II & Net III discuss QOS and VLAN concepts.
Zero-Trust networks	Net II & Net III discuss QOS and VLAN concepts.
Advanced storage technologies (SAN)	