

Formal Evaluation and Subject Matter Expert Summary Report



Maine is IT!
INFORMATION TECHNOLOGY
A CONSORTIUM OF MAINE'S SEVEN COMMUNITY COLLEGES

SMCC INSC 280

*Submitted to Maine is IT in fulfillment of the
TAACCCT grant requirements*

*By
Emporia State University*

EMPORIA STATE
UNIVERSITY
■ INFORMATION TECHNOLOGY

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Developed by Anna J. Catterson, Ph.D., Emporia State University.

Course Review for: Maine is IT
Course: SMCC INSC 280 Ethical Hacking
Reviewed by: Mark Summey
Date: 6/9/17

Part 1: Course Review

A. Course Review & Introduction (16 points total)		
1.1 Instructions made clear how to get started and where to find various course components.	3	3
1.2 Learners are introduced to the purpose and structure of the course.	3	3
1.3 Etiquette expectations (sometimes called “netiquette”) for online discussions, email, and other forms of communication are clearly stated.	2	2
1.4 Course and or institutional policies with which the learner is expected to comply are clearly stated, or a link to current policies is provided.	2	2
1.5 Minimum technology requirements are clearly stated and instructions for use provided.	2	1
1.6 Prerequisite knowledge in the discipline and/or any required competencies are clearly stated.	1	1
1.7 Minimum technical skills expected of the learner are clearly stated.	1	1
1.8 The self-introduction by the instructor is appropriate and is available online.	1	0
1.9 Learners are asked to introduce themselves to the class.	1	1
	Total	14
Comments:		
<p>1.1: A link is provided to the Blackboard LMS. The class outline indicates an introduction to the Blackboard LMS will be covered in the first class session.</p> <p>1.2: The purpose of the course is clearly stated in the syllabus.</p> <p>1.3: Since the class does not include an online component, etiquette expectations (sometimes called “netiquette”) for online discussions, email, and other forms of communication are offered as suggestions. <i>Examples include:</i></p> <ul style="list-style-type: none"> • Be sensitive to the fact that there will be cultural and linguistic backgrounds, as well as different political and religious beliefs, plus other differences in general. • Use good taste when composing your responses in Discussion Forums. Swearing and profanity is also part of being sensitive to your classmates and should be avoided. Also consider that slang can be misunderstood or misinterpreted. • Don’t use all capital letters when composing your responses as this is considered “shouting” on the Internet and is regarded as impolite or aggressive. It can also be stressful on the eye when trying to read your message. • Be respectful of your others’ views and opinions. Avoid “flaming” (publicly attacking or insulting) them as this can cause hurt feelings and decrease the chances of getting all different types of points of view. • Be careful when using acronyms. If you use an acronym it is best to spell out its meaning first, then put the acronym in parentheses afterward, for example: Frequently Asked Questions (FAQs). After that you can use the acronym freely throughout your message. • Use good grammar and spelling, and avoid using text messaging shortcuts. 		

1.4 The syllabus covers course activities, grading policies, attendance, and academic dishonesty.

1.5: Hands-on equipment needed is addressed. Since the online component of the course is not mentioned, consider adding minimum requirements so students can access online content without difficulty.

1.6: Prerequisites are listed in the syllabus.

1.7: Minimal skills for students entering the course are listed.

1.8: An instructor introduction is not provided in the syllabus. It is assumed this will happen in the first class meeting. No links are provided to an online course site.

1.9: Nothing in the syllabus indicates explicitly that students are asked to introduce themselves. It is assumed this will happen during the introduction phase of the course. Consider setting up online discussions so that students can interact with each other online, outside the classroom.

B. Learning Objectives & Competencies (15 points total)

2.1 The course learning objectives, or course/program competencies, describe outcomes that are measurable	3	3
2.2 The module/unit learning objectives or competencies describe outcomes that are measurable and consistent with the course-level objectives or competencies.	3	2
2.3 All learning objectives and competencies are stated clearly and written from the learner's perspective.	3	2
2.4 The relationship between learning objectives or competencies and course activities is clearly stated.	3	1
2.5 The learning objectives or competencies are suited to the level of the course.	3	3
Total		11

Comments:

2.1: Learning objectives, competencies, and outcomes are listed in the syllabus.

2.2: Consider listing specific outcomes to each listed activity in the syllabus.

2.3: The course learning objectives/competencies are listed in the syllabus. Consider adding the specific assignment objectives.

2.4: The specific assignment objectives are not listed.

2.5: The objectives are suited to the level of the course.

C. Assessment & Measurement (13 points total)

3.1 The assessments measure the stated learning objectives or competencies.	3	3
3.2 The course grading policy is stated clearly.	3	3
3.3 Specific and descriptive criteria are provided for the evaluation of learners' work and are tied to the course grading policy.	3	1
3.4 The assessment instruments selected are sequenced, varied, and suited to the learner work being assessed.	2	2
3.5 The course provides learners with multiple opportunities to track their learning progress.	2	2
Total		11

Comments:

3.1: The specific assignments/assessments are not listed. The syllabus states that participation, 13 case projects, 4 quizzes, and a final exam will be used for assessment.

3.2: The course grading policy is stated in the syllabus.

3.3: Specific criteria for assessments were provided for the final exam only.

3.4: The assessments (projects, quizzes and Final) appear to be sequenced and align with the course content.

3.5: Four quizzes and one final exam provide opportunities to track progress.

D. Instructional Materials (13 points total)

4.1 The instructional materials contribute to the achievement of the stated course and module/unit learning objectives or competencies.	3	2
4.2 Both the purpose of instructional materials and how the materials are to be used for learning activities are clearly explained.	3	1
4.3 All instructional materials used in the course are appropriately cited.	2	1
4.4 The instructional materials are current.	2	2
4.5 A variety of instructional materials is used in the course.	2	0
4.6 The distinction between required and optional materials is clearly explained.	1	0
Total		8

Comments:

4.1: It is assumed the materials align with the description of the course. No examples of materials (other than the final exam) were provided.

4.2: Examples of the learning materials (other than text information) were not provided.

4.3: The individual assignments do not contain citations. It is assumed the assignments/assessments are related to the text. Consider adding citations to point students to particular areas of the text/course content.

4.4: The text is current (2011).

4.5: Unable to measure this category. No materials were provided.

4.6: No mention is made of optional, or extra credit, assignments or activities.

E. Course Activities and Learner Interaction (11 points total)

5.1 The learning activities promote the achievement of the stated learning objectives or competencies.	3	1
5.2 Learning activities provide opportunities for interaction that support active learning.	3	3
5.3 The instructor's plan for classroom response time and feedback on assignments is clearly stated.	3	0
5.4 The requirements for learner interaction are clearly stated.	2	2
Total		6

Comments:

5.1: Specific learning activities were not listed in the syllabus.

5.2: The syllabus states that class participation is required.

5.3: No plan is provided for classroom response time or assignment feedback. Consider adding something to the effect: "I will try to return assignment feedback within 5 days." "I will answer email messages within 48 hours." Policies like these, for example, will cut down on student anxiety over feedback and relieve extraneous inquiries from students.

5.4: Specific requirements are not listed in the syllabus. Consider describing the expected participation behavior.

F. Course Technology (10 points total)

6.1 The tools used in the course support the learning objectives and competencies.	3	2
6.2 Course tools promote learner engagement and active learning.	3	2
6.3 Technologies required in the course are readily obtainable.	2	2
6.4 The course technologies are current.	1	1
6.5 Links are provided to privacy policies for all external tools required in the course.	1	1
Total		8

Comments:

6.1: The tools/equipment are not covered in the syllabus. Since the course is face-to-face, it is assumed all equipment will be provided.

6.2: Students are required to participate although no specific guidelines are provided.

6.3: Technology requirements are not listed in the syllabus. Again, it is assumed technology will be provided.

6.4: The technology is current, up-to-date (see above).

6.5: Links are not provided in the syllabus. It is assumed the various applications provide privacy policies. Consider researching each app for policies.

G. Learner Support (9 points total)

7.1 The course instructions articulate or link to a clear description of the technical support offered and how to obtain it.	3	3
7.2 Course instructions articulate or link to the institution's accessibility policies and services.	3	3
7.3 Course instructions articulate or link to an explanation of how the institution's academic support services and resources can help learners succeed in the course and how learners can obtain them.	2	0
7.4 Course instructions articulate or link to an explanation of how the institution's student support services and resources can help learners succeed in the course and how learners can obtain them.	1	0
Total		6

Comments:

7.1: Not specifically addressed in the syllabus. Since the class is face-to-face, it is assumed tech support is available. It is recommended that multiple channels of tech support communication be listed in the syllabus to ensure that no student is put behind due to technical difficulties.

7.2: A general ADA compliance statement is made, along with a statement directing any student with special needs to contact the correct SMCC office, with the contact information provided. No listing of broader policies is included. Consider adding a link to SMCC's disability services.

7.3: Consider adding a link to the Student Success Center.

7.4: Consider adding a link (see above).

H. Accessibility and Usability (12 points total)

.1 Course navigation facilitates ease of use.	3	0
.2 Information is provided about the accessibility of all technologies required in the course.	3	0
.3 The course provides alternative means of access to course materials in formats that meet the needs of diverse learners.	2	0
.4 The course design facilitates readability.	2	0
.5 Course multimedia facilitate ease of use.	2	0
Total		0

Comments:

***The following are suggestions for an online component to this course**

.1: No link to the online site was provided. This rater is unable to comment on the actual content. The following are suggestions for best practice in course design.

.2: Information regarding the accessibility of technology used is not included. This would include instructions on how to obtain and install any programs used.

.3: In addition to varying the modality of content through text, audio, and video instruction, the Americans with Disabilities Act requires institutions to make accommodations for student who identify as having a disability. Work closely with your institution's office for disability services to identify resources to assist in making your course ADA compliant. For videos, a transcript or videos that are captioned are required as an effective means of communication.

.4: Pay special attention to fonts, text color, and background color. Most learning management systems have default appearance that is ADA compliant. Also, be aware that screen reader software will not recognize old or italicized fonts. Check with your office of disability services before changing the appearance of your course.

.5: When possible, embedding multimedia within the course LMS ensures ease of access and limits student issues that may arise when leaving the LMS to access outside resources.

Part II: Employment Data

Stakeholder Involvement and Employment Opportunities

Items Reviewed include:

- Internships, Job Shadowing Opportunities that exist with the outcomes and objectives with this course.
- Employment opportunities for these skills.
- Outcomes/Objectives are current and relate to job market.

- See Subject Matter Expert review for specific feedback.

Part III: Creative Commons

Items Reviewed include:

- All course materials presented in Creative Commons?
- Creative Common license (including graphic) is represented on course materials.

Findings include:

The syllabus indicates that all course materials other than the syllabus are subject to a copyright held by Microsoft, and thus, may not be shared in Creative Commons. The syllabus includes Creative Commons license information and the corresponding CC graphic.

Part IV: Subject Matter Expert (SME) Findings & Review

Course: SMCC: INSC280
Course Name: Ethical Hacking
Reviewed by: Mark Summey
Date: June 9, 2017

Background

Funded by a \$13 million grant from the U.S. Department of Labor, *Maine is IT!* is building new educational and career pathways in information technology at all seven of Maine's community colleges. The programs funded by the grant are designed to support Maine workers eligible for the Trade Adjustment Assistance (TAA) program, un/underemployed adults, and workforce needs in Maine's growing IT sector. They have been built to serve individuals with a range of experience, from those interested in gaining basic IT skills to IT professionals looking to advance their careers through new industry certifications.

Overall Remarks and Reviewer Summary

In reviewing CST221 several processes and data collections tools were noted and identified. This reviewer took in account the Dynamic Skills Audit conducted in 2014-2015. Both qualitative and quantitative data was identified in the report that provides the key elements:

1. Career opportunities do exist within 100 miles of SMCC for graduates possessing a these skills. It was also found by this reviewer that the skills mastered in INSC280 relate to specific job openings.
2. Current job openings list specific duties that relate to network security. The current Advisory Board indicates it contributes to the labor market data.

There are several current job openings available for Network Security (as of 5/14/17) within a 100-mile radius of SMCC. A Systems Administrator is currently being sought in Portland, ME. Job description calls for "They are attentive to requirements such as performance, high availability, disaster recoverability, information systems security, data protection and integrity, etc."

The Dynamic Skills Audit outlined the following process, which this reviewer took into consideration when compiling this the formal SME report:

1. Local industry needs were assessed through the program Advisory Board. Minutes from those Advisory Board meetings were reviewed and suggestions from the partnerships were adopted into this summary.
2. Burning Glass data was reviewed to identify themes and trends in the current job market. The Burning Glass report helped identify skills demanded by employers to curriculum outcomes and learning objectives.

A formal SME was conducted with the above reports and compiled in the next section of this report.

A. Program and Course Overview and Objectives

Items Reviewed include:

- Dynamic Skills Audit Summary Report (Academic Years 2014-2015)
- Burning Glass Labor Market Data reports (Compilation)
- Advisory Board Minutes

Findings include:

The INSC280 course learning outcomes and objectives align with the program mission and goals. This reviewer found that the INSC280 course has listed measurable outcomes which can be stacked and latticed with other coursework. Those completing this course would enter the Bureau of Labor Statistics occupation classification of 15-1152 Network Computer Support.

(See: <https://www.bls.gov/soc/2010/soc151152.htm>)

The NCES CIP (Classification of Instructional Programs) is referenced as: 10-9999 Communications Technologies/Technicians and Support Services.

(See:

<https://nces.ed.gov/ipeds/cipcode/searchresults.aspx?y=55&aw=graphic,designer&sw=1,2,3&ct=1,2,3&ca=1,2,5,3,4>)

This is also an accurate classification.

This course was designed for community college students or equivalent. There are two course prerequisites listed, INSC160 and CMIT225.

Listed course objectives include:

- Identify Network and Computer Attacks
- Describe Footprinting and Social Engineering
- Describe Port Scanning
- Describe Enumeration
- Identify Desktop and Server OIS Vulnerabilities
- Identify Embedded Operating Systems
- Analyze Hacking Web Servers
- Apply Hacking Wireless Networks
- Apply Cryptography
- Describe Network Protection Systems

The content of these course objectives aligns with the topics listed in the course syllabus and the required textbook. This alignment also correlates to items found within the Dynamic Skills Audit and Burning Glass baseline skills as listed in the labor market data.

Specific review standards are listed in the table referenced below:

Table: Standard Reviewed Standards for Course Outcomes

Standard Reviewed	N/A	Satisfactory	Not Satisfactory
A.1 The learning outcomes are clearly stated and mapped to specific objectives and/or assignments.		X	
A.2 Prerequisites and/or any required competencies are clearly stated.		X	
A.3 Learning objectives for each course describe outcomes that are measurable.		X	
A.4 Learning objectives are appropriately designed for the level of each of the course.		X	
A.5 Instruction, activities, and assignments in courses are scaffolded from course to course, and throughout the program.		X	

B. Relevancy

Items Reviewed include:

- Dynamic Skills Audit Summary Report (Academic Years 2014-2015)
- Burning Glass Labor Market Data reports (Compilation)
- Advisory Board Minutes

Findings include:

Course competencies are relevant to students, industry, and employers. Strong evidence was found in the Dynamic Skills Audit Summary Report. Direct ties were found through interviews with stakeholders and in Advisory Board minutes.

The table that follows is a clear matrix of how the course outcomes are relevant to students, industry, and employers:

Table: Matrix of evidence-based skills mapped to students, industry, and employers

Standard Reviewed	N/A	Satisfactory	Not Satisfactory
B.1 Course competencies represent industry's expectation of the overarching knowledge, skills, and abilities that 1 st year college students should possess.		X	
B.2 Core course competencies are relevant to industry and employers .		X	
B.3 Instruction, activities, and assignment in individual courses are relevant and engaging to students .		X	

C. Resources & Materials

Items Reviewed include:

- Dynamic Skills Audit Summary Report (Academic Years 2014-2015)
- Burning Glass Labor Market Data reports (Compilation)
- Advisory Board Minutes

Table: Instructional materials and their direct link to course outcomes

Standard Reviewed	N/A	Satisfactory	Not Satisfactory
C.1 The instructional materials contribute to the achievement of the stated course learning objectives.		X	
C.2 The purpose of the instructional materials is clearly explained.		X	
C.3 The instructional materials present a variety of perspectives and approaches on the course		X	
C.4 The instructional materials are appropriately designed for the level of the course.		X	

D. Assessment & Measurement

Items Reviewed include:

- Dynamic Skills Audit Summary Report (Academic Years 2014-2015)
- Burning Glass Labor Market Data reports (Compilation)
- Advisory Board Minutes

Findings include:

Table: Measurement of effective learning

Standard Reviewed	N/A	Satisfactory	Not Satisfactory
D.1 The course evaluation/criteria/course grading policy is stated clearly on each syllabus.		X	
D.2 Course-level assessments (those that can be delivered) measure the stated learning objectives and are consistent with course activities and resources.		X	
D.3 Specific and descriptive criteria are provided for the evaluation of students' work and participation and are tied to the course grading policy.		X	
D.4 The assessment instruments (that can be delivered) are sequenced, varied, and appropriate to the content being assessed.		X	