Formal Evaluation and Subject Matter Expert
Summary Report

CPT240

Submitted to Maine is IT in fulfillment of the
TAACCCT grant requirements
By
Emporia State University

EMPORIA STATE UNIVERSITY
INFORMATION TECHNOLOGY

January 2017

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

Course Review for: Maine is IT
Course: CPT 240 Computer Aided Design II
Reviewed by: Anna J. Catterson, PhD
Date: January 18, 2017

EMPORIA STATE UNIVERSITY
INFORMATION TECHNOLOGY

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	**0**
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	**0**
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	**0**
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	**0**
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	**0**
Total	**6**	

Comments:

1.1: No link to the LMS was provided. Consider adding instructions on how to access the course in the LMS. Consider adding the link to the actual course.

1.2: The purpose and structure for the course was clearly explained in the syllabus.

1.3: Etiquette expectations (sometimes called "netiquette") for online discussions, email, and other forms of communication should be covered. Examples include:

- Be sensitive to the fact that there will be cultural and linguistic backgrounds, as well as different political and religious beliefs, plus just 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: Course and institutional policies were covered in the syllabus: Attendance Policy, Academic Dishonesty Policy, and Non-Discrimination were clearly described. There are dates listed by the headings that are between 4-7 years old, reviewer recommends adding a disclaimer such as, updated last 2013. Also some institutional policies do not list a specific email address or contact information. Please replace [email address] with correct and current information.

1.5: Technology requirements were not stated in the syllabus. Please include minimum requirements.

1.6: Prerequisite knowledge and competencies were covered in the section: Co-Requisites.

1.7: Minimum skills were not covered in course materials/syllabus. However, MAT218, Trigonometry is listed.

1.8: Even in a face-to-face course, it is desirable to have an instructor introduction/biography available for students to access online. A short introduction with some personal information will humanize the instructor in an online course and allow students to access the information at any time in a face-to-face course.

1.9: A link to a discussion thread is not provided for students to communicate, informally, with each other outside of the class meetings.

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	**3**
2.3 All learning objectives and competencies are stated clearly and written from the learner's perspective.	3	**3**
2.4 The relationship between learning objectives or competencies and course activities is clearly stated.	3	**2**
2.5 The learning objectives or competencies are suited to the level of the course.	3	**3**
Total	**14**	

Comments:

2.1: The course learning objectives are nicely written and are measureable.

2.2: The syllabus describes learning objectives using measurable language and verbs. Consider mapping these course-level learning objectives to the overall program outcomes/competencies. Those would be the outcomes required for accreditation. Also, reviewer suggests mapping the class activities to one of the three learning outcomes.

2.3: The course learning objectives clearly state what the learner is to accomplish by the end of the course. The Reviewer considers these to be well written.

2.4: The reviewer assumes the course activities relate to the learning objectives. This could be stated more clearly in the syllabus. For each course activity, consider expressing the accompanying course-level objective. eg., Objective 1 or Objectives 1.1

2.5: This assumed to be accurate. The course activities appear to support this requirement.

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	**3**
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	**0**
Total	**11**	

Comments:

3.1: Difficult to ascertain from the syllabus only. The assessments seem to be CAD projects, Quizzes, chapter Reviews and Drawings. These assessments are a direct link to the course learning objectives.

3.2: The grading policy is stated in the syllabus. The pie chart was a nice visual.

3.3: The criteria are descriptive and aligned with the grading policy.

3.4: There is a good variety of assessment strategies. However, the Reviewer wasn't able to determine much regarding the assignments, presentations, etc. The course outline was not detailed enough. The Reviewer recommends a separate section of the syllabus dedicated to assignment details. The reviewer suggests mapping the course activities to the course learning objectives. The course content could also be mapped to learning objectives.

3.5: I don't see any evidence of tracking learning progress. How will students receive feedback from the instructor? This should be documented somewhere. It's good practice to also include how an email turn-around policy (i.e. Instructor will respond to all emails within 24 hours).

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	**3**
4.2 Both the purpose of instructional materials and how the materials are to be used for learning activities are clearly explained.	3	**2**
4.3 All instructional materials used in the course are appropriately cited.	2	**2**
4.4 The instructional materials are current.	2	**2**
4.5 A variety of instructional materials is used in the course.	2	**2**
4.6 The distinction between required and optional materials is clearly explained.	1	**1**
Total	**12**	

Comments:

4.1: The instructional materials aligns with the course and unit objectives stated in the syllabus. There is a text, a web site, along with a 3D printer and digitizer provided by the college. The 3D printer is a great enhancement to this course that will allow students an opportunity to render their designs in 3D.

4.2: The purpose of the instructional materials in the course is somewhat explained and aligns with each unit assignment.

4.3: The instructional materials were properly cited.

4.4: The instructional materials are current.

4.5: The instructional materials by unit and assignment.

4.6: Optional materials are not part of this course.

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	**3**
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	**0**
Total	**6**	

Comments:

5.1: The learning activities directly support the course/unit learning objectives. Reviewer only had the course syllabus for this course to review, no direct review of particular assessments.

5.2: There are opportunities for interactive learning. This is an applied course with opportunities to develop 3D models and prototypes using CAD software.

5.3: A plan for feedback is not specified.

5.4: Requirements for expected learner interaction is not specified.

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	**3**
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	**0**
Total	**9**	

Comments:

6.1: The tools in the course support the unit/weekly objectives. The assignments loosely state or imply what tools/applications are needed to successfully complete the work. The syllabus would benefit from further detail.

6.2: The tools promote engagement and active learning. The assignments promote active student engagement by requiring interaction with the technology to build content for assignments.

6.3: The tools will likely be provided by the college.

6.4: The course technologies are current and up-to-date for the required work.

6.5: Certain policies (eg, ADA, Codes of Conduct, etc.) are provided via links and URLs. However, the Reviewer was unable to locate links to privacy policies (eg, HIPAA, FERPA, etc.)

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	**0**
7.2 Course instructions articulate or link to the institution's accessibility policies and services.	3	**2**
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	**2**	

Comments:

7.1: Providing students access to technology support is very important. Don't assume that students know how to obtain support from the institution. Provide instructions/links for students to access the technology help services available to them. Reviewer suggests providing the help manuals (links to) the product website.

7.2: The syllabus contains an excerpt from the institution website pertaining to accessibility. Consider providing a direct link to the accessibility site or instructions for students to access the services. Currently, a link [to the main web site] is provided, but it is broken.

7.3: Access to the institutional academic support services is critical. Consider providing instructions/links to tutoring and other academic support services.

7.4: As with academic support, student wellness and support is also critical. Consider providing instructions/links to the institutional student support services. These might include tutoring services, the Writing Center, etc.

H. Accessibility and Usability (12 points total)		
8.1 Course navigation facilitates ease of use.	3	**3**
8.2 Information is provided about the accessibility of all technologies required in the course.	3	**2**
8.3 The course provides alternative means of access to course materials in formats that meet the needs of diverse learners.	2	**2**
8.4 The course design facilitates readability.	2	**2**
8.5 Course multimedia facilitate ease of use.	2	**2**
Total	**11**	

Comments:

8**.1:** Make sure navigation is easy and intuitive (minimum clicks to reach destination). The Reviewer assumes this has been considered.

8.2: If students must download/install technology, make sure clear instructions are provided. The Reviewer assumes this has been considered.

8.3: Text files, audio files, video files. Consider multiple delivery systems for course materials. 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. The Reviewer assumes this has been considered. Microsoft software includes an Accessibility Checker. Certain Learning Management Systems also include accessibility checkers.

8.4: The Reviewer assumes this has been considered. (This review is the syllabus only)

8.5: The Reviewer assumes this has been considered. (If required. (This review is the syllabus only.)

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.
Findings include: • See Subject Matter Expert review for specific feedback relative to this finding.

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: • This material is licensed under the Creative Commons Attribution 4.0 International License. • Creative Commons graphic is included on the footer.

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

Course: CPT 240
Course Name: Computer Aided Design II
Reviewed by: Anna J. Catterson, PhD
Date: January 18, 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 CPT 240 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 in Somerset County for graduates from an AAS in Information Technology or those completing a certificate program. It was also found by this reviewer that the skills mastered in CPT 240 relate to specific job openings.
2. Current job openings list specific duties that relate to CPT 240.
3. The current Advisory Board indicates CPT 240 contributes to the labor market data.

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 CPT 240 course learning outcomes and objectives align with the program mission and goals. This reviewer found that the CPT 240 course has listed measurable outcomes which can be stacked and latticed. The industry sector for CPT 240 has been categorized as: *541420 Industrial Design Services*. (See: https://www.census.gov/svsd/www/services/sas/sas_summary/54summary.htm#sectordescription)

Those completing this course would enter the Bureau of Labor Statistics occupation classification of *SOC: 27-1021 Commercial and Industrial Designers*. (See: https://www.bls.gov/soc/2010/soc271021.htm) The Reviewer finds that this classification is correct. The job outlook for this classification is considered moderate: https://www.bls.gov/ooh/arts-and-design/industrial-designers.htm#tab-6

The NCES CIP (Classification of Instructional Programs) is referenced as: *50.0404: Industrial and Product Designs*. (See: https://nces.ed.gov/ipeds/cipcode/cipdetail.aspx?y=55&cipid=88699)
This is also an accurate classification.

This course was designed for 1st year community college level students or equivalent. This reviewer found that there are no prerequisites for this course.

Course objectives include:

1. Demonstrate an in depth understanding of the features associated with using the CAD software
2. Demonstrate the use of several of CAD software settings.
3. Utilize, edit, create, and manipulate the features found in the various toolbars and on screen menus.
4. Develop complete set of prototype drawings
5. Create a presentation of shapes and drawings created
6. Create view and isometric drawings
7. Create basic Third Dimension drawings

These course objectives have been aligned to the course outline; the Reviewer finds a direct correlation to the Dynamic Skills Audit and Burning Glass baseline skills as listed in the labor market data.

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	

A.1 – CPT 240 articulates specific learning outcomes. **
A.2 - This course prerequisites are indicated.
A.3 - Course objectives are measurable and well described.
A.4 - Learning objectives are aligned to industry standards.
A.5 – Activities are scaffolded and appear to build on one another.

****Reviewer Note:** While the course outcomes are clearly stated and contain very specific measurable measures, it would also be recommended to include the program mission or goals in the course syllabus for clear assessment measuring. A deeper assessment could possibly be conducted that would match the course learning outcomes to specific program outcomes (or certificate). This would illustrate a direct impact on student learning.

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 1st year college students should possess.		X	
B.2 Core course competencies are relevant to **industry and employer**s.		X	
B.3 Instruction, activities, and assignment in individual courses are relevant and engaging to **students**.		X	

B.1 - Yes. The specific course objectives clearly represent industry expectations and also are current and relevant.

B.2 - Yes. Core competencies are relevant to industry and employers and evidence of this was verified using the Burning Glass labor market data relative to STEM occupations (http://burning-glass.com/research/stem/) and the Dynamic Skills Audit Summary. This Reviewer took the interview summaries from Advisory Board members, current job openings and descriptions and matched them directly to all ten of the listed course objectives.

B.3 – Yes. Activities and instruction defined in the course outline offer real-world application in design and modeling that are required of any person seeking employment in this field. The 3D printer adds exceptional value to the course and allows students to create engaging and relevant activities.

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

Findings include:

Instructional materials being delivered achieve stated course objectives and learning outcomes. A formal course review was conducted that address more specifically course content and instructional design processes. However, in this SME report, specific findings in this section relate specifically to the overall instructional materials which contribute to the course outcomes.

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 content.		X	
C.4 The instructional materials are appropriately designed for the level of the course.		X	

C.1 - Yes. The course materials contribute to the achievement of the stated learning objectives, although the alignment can and should be strengthened. This course reviews only the syllabus, no particular assignments were reviewed.

C.2 - No. The purpose of the instructional materials is not clearly explained. It is implied. The Reviewer recommends strengthening this language.

C.3 - Yes. A variety of projects were identified. The reviewer recommends small group projects to satisfy particular learning outcomes. The 3D printer maps directly to industry requirements.

C.4 - Yes. The rigor matches 1st year college entry students. Reviewer also noted the rigor would be acceptable for all students from all demographics.

There were no specific points indicated for activities. This Reviewer recommends defining those activities and activity points.

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

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	

Findings include:

Assessment strategies use established ways to measure effective learning, evaluate student progress by reference to stated learning objectives, and are designed to be integral to the learning process. The Reviewer compared and contrasted the learning outcomes listed for CPT 240 to affect best practices in assessing student learning. Those items have been identified and listed in the table below.

Table: Measurement of effective learning

D.1 - Yes. Grading is broken into several components and provides opportunity for a variety of course activities, including presentations. The pie chart was a great visual aid for students.
D.2 - Yes. This is somewhat implied. The assessments appear to align with stated course-level objectives. This alignment can be strengthened through describing this alignment.
D.3 – This Reviewer did not find any specific or descriptive criteria that was provided for the evaluation of student work. As mentioned previously, this could be solved with a simple outline listing each assignment, the due date, total points possible, and a grading rubric. In order to encourage students, especially in this particular field, it would be best practice to list assignments and due dates early so students are prepared for their learning.