EASTERN OREGON UNIVERSITY

Program Portfolio
Computer Science/Multimedia
2010-2011

Description of Program

Students in the Computer Science/ Multimedia Studies program prepare for a future in software development and the use of computer technology to solve complex problems, skills which are in high demand and for which demand is likely to continue. An initial core of classes introduces students to general principles of programming and multimedia development. Upon completion of the core students choose either a concentration in computer science, scientific and statistical computing, or multimedia studies.

Students in the computer science concentration will learn to design and develop software systems for industrial, scientific, and commercial applications. They will acquire an understanding of computer operating systems, programming, data structures and algorithms, and systems analysis. Graduates will be prepared to work in the private or public sectors as programmers, analysts, or software engineers, or to proceed to advanced study.

The statistical and scientific computing concentration focuses on applications development for chemistry, physics, biology and biochemistry along with newer disciplines such as geographic information systems, bioinformatics, genomics and business intelligence systems. Students in the SSC concentration are encouraged to minor in Mathematics.

Students completing a degree in the multimedia studies concentration will be prepared to design and develop interactive multimedia products for use in education, industry, or the non-profit sector. These graduates will be able to design and assemble CD, DVD, or Web delivered interactive titles, and will be prepared to work in publishing, training support, or many other areas.

How Program Serves the Mission of the University and Needs of the Region

The CS/MM program prepares students in the creative science of software development. Computer software plays an increasingly important role in every sector of modern US society, including business, industry, entertainment, education, and agriculture. The supply of individuals with skills in software design and development remains sufficiently low that US employers are frequently driven to seek workers abroad. Furthermore, the economy of the Eastern Oregon region is beginning to shift from timber to high tech, which means a local increase in demand for graduates of technological programs. In 2006 Google opened a datacenter in The Dalles, and within the last year Facebook opened a datacenter in Prineville. The city planner for Umatilla recently inquired about the annual number of CS graduates in as part of an effort to bring an unnamed major high-tech company to Umatilla, saying that a local source for programming skills is critical for the deal. Although the city planner did not disclose the company involved, Amazon Inc. has acquired land in the area.

Successfully attracting tech industry (and the economic growth that it brings) requires a ready supply of suitably-trained talent. This program strives to satisfy the need for capable software developers *from* the region who can *serve* the region.

In addition to its vital role in EOU's objective in supporting economic development in the region, course offerings by the CS/MM department serve other programs whose students need fundamental expertise in writing computer programs or technical skill with graphics or authoring tools as well as those programs whose that need technical proficiency with digital media such as still and moving graphics, digital video and digital audio.

Recent Programmatic Changes

In 2009 Assistant Professor Hettiarachchi, unable to resolve his immigration status, left to take a position at Southern Indiana University. A national search yielded Deborah Thomas, an all-but-dissertation doctoral student from Notre Dame University. She was given a fixed-term appointment, and in spring 2010 another national search resulted in Dr. Thomas receiving a tenure-track appointment.

The uncertain atmosphere at the institution resulting from Oregon's fiscal situation (as well as that of the nation) combined with some other factors led Dr. Thomas to accept an invitation to apply for a position at Bethel University in Minnesota, which position she has been offered and accepted.

In May 2011, as a part of an effort to develop a plan for sustainable progress for the institution, the administration offered an early retirement incentive to all faculty 58 years of age and older. Frederick Pratter, who has taught most of the upper division CS courses for the last nine years, accepted the offer.

For the sort-term the program will offer the minimum courses necessary to serve currently-enrolled students and the incoming freshman class. We anticipate conducting a search for a well-qualified replacement for Dr. Pratter's position during the 2011-20012 academic year to begin rebuilding the program.

Student and Program Accomplishments

In December 2010, the CSMM program hosted, for the seventh time, the Intel Oregon First Lego League Local Qualifying Tournament, a robotics tournament for children ages nine to fourteen. The tournament at EOU is one of the largest in the state, and provides participants with an opportunity to discover that working with technology is both rewarding and fun. Jadon Heron, one of the winning team members from the first tournament is now an EOU math student who was on a team awarded an "outstanding" score at the 2011 COMAP competition. CS students, with math and science faculty staff the tournament.

Recent graduates of the CSMM program have a variety of success stories. Some graduates have been accepted to graduate school at (for instance) University of Washington and Boise State University. Others, like Amy Hillecke, quickly found positions as programmers or company web managers.

For his capstone, Riley Wortman completed a prototype product for on-line sharing and evaluating wildfire-fighting training exercises for the ODF Wallowa office, and the state office is now organizing a council (which will include Riley) to develop a similar system to use state-wide.

Adam Sullivan has developed a prototype system for reconciling transcripts with institutional and programmatic requirements to facilitate the processing of graduation applications. He plans to form a company and market a refined version of this product, which will save enormous amounts of work and eliminate any number of headaches.

Christopher Grove has prepared an initial version of a hierarchical reference educational tool for the End Creek Restoration web site. This product will serve as a shell to which any wildlife group may be added.

Finally, An Do, our outstanding student for the year, has prepared the prototype for a professional networking site that will permit secure sharing of proprietary code. Although he continues working on this product, he has interviewed with several major software developers and will be starting to work with one of them soon.

Vertical Curriculum Mapping: PLO—Computer Science & Multimedia Studies						
Course Levels	**Benchmark/ Expected Standard of Performance**	**1 Content Knowledge** (courses required of all majors)	**2 Critical Thinking** (courses required of all majors)	**3 Integrated and Applied Learning** (courses required of all majors)	**4 Teamwork** (courses required of all majors)	**5 Civic Engagement** (courses required of all majors)
	Program sets benchmark					
400-Level	Program sets scale	**CS 430 MM 419**	**CS 430**	**CS 401, 430 MM 401, 419**	**CS 407 MM 407**	**CS 401, 407 MM 401, 407**
300-Level		**CS 318, 335, 344, 360 MM 315, 319, 327, 352**	**CS 318, 360 MM 350**	**CS 318, 344 MM 319, 350**	**CS 370**	**MM 352**
200-Level		**CS 221, 248, 260 MM 225, 252**	**CS 260**	**CS 221, 248, 260**	**CS 260**	**MM 252**
100-Level		**CS 161, 162**		**CS 161, 162**	**CS 121, 161, 162**	

I. Program Objectives/Outcomes: CS/MM

All program graduates will demonstrate achievement in the following areas:

1. Integrated Learning and Communication: demonstrate the ability to incorporate learned skills design, develop, and evaluate software systems of varying complexity to meet desired user requirements;
2. Problem Solving: demonstrate proficiency in using one or more industry-standard programming languages and mark-up and scripting languages to solve problems;
3. Inquiry, Critical Thinking, and Analysis: demonstrate ability to apply conceptual knowledge for analysis and problem solving;
4. Teamwork and Civic Engagement: demonstrate teamwork ability to work collaboratively with end users and other developers;
5. Content Knowledge: demonstrate factual and conceptual grasp of the field of computing.

Possible courses for assessing the outcomes:

1. CS 401 and MM 401
2. CS 260
3. CS 318 and MM 319
4. CS 370
5. CS 161, CS 162

All CS/MM students take CS 161, MM 252, CS 370, and a 401 capstone. All CS students take CS 318, and all MM students take MM 319.

II. Four-Year Assessment Cycle: CS/MM

Year	Outcome to be Assessed
2008-2009 (Spring)	1. Integrated Learning and Communication: Capstone (CS 401)
2009-2010 (Fall)	5. Content Knowledge (CS 161)
2010-2011 (Winter)	4. Teamwork and Civic Engagement (CS 370)
2011-2012 (Fall, Winter)	3. Inquiry, Critical Thinking, and Analysis (CS 318, MM 319)
2012-2013 (Spring)	2. Problem Solving (CS 260)

In addition, outcome one will be assessed every year.

III. Curriculum Assessment Plan

Year	Outcome	Course	Assignment/ Task	Assessment Tool	Levels of Achievement
2008-2009	**Integrated Learning and Communication**	CS 401	Project	Rubric	**1-3**
2009-2010	**Content Knowledge**	CS 161	Final Exam	Scored Multiple Choice	**%**
2010-2011	**Teamwork & Civic Engagement**	CS 370	Term Project	Rubric	**1-3**
2011-2012	**Inquiry, Critical Thinking, and Analysis**	CS 318, MM 319	Various	Common Rubric TBD	**1-3**
2012-2013	**Problem Solving**	CS 260	Program 4	Rubric	**1-3**

Degree Program Outcomes Assessment

Winter 2011

Degree Program: CS/MM

Outcome Assessed: Teamwork and Civic Engagement

Course / Activity: CS 370, Interface3 Design

Summary of Assessment Results

Performance Criteria	Assessment Method	Measurement Scale	Minimum Accepted Performance	Results
1. Active participation in project team	Observation	yes/no	***yes***	20% at 1; 80% at 3
2. helped to recruit for a conduct usability tests	Observation	yes/no	***yes***	
3 participation in class presentation.	Observation	yes/no	***yes***	
4. well-written section of the final project report	Observation	yes/no	***yes***	
5 attended all team meetings	Observation	yes/no	***yes***	

Note: See "Supporting Documentation" tab or for detailed records of the summary. The assessment representative for each department must archive supporting student samples

Explanation of Assignment / Activity / Prompt

The faculty member who designed and conducted this assessment used observation of the five behaviors listed under “Performance Criteria” to rate each student as either “Developing,” “Adequate,” or “Proficient.” According to this system, 1/3 or the students were “Proficient” in the collected performance, and the other 2/3 were “Adequate.”

Analysis of Assessment Results

It is clear that the data collected provide inadequate information for evaluating the course or the program’s ability to satisfy this learning outcome. However, the faculty member who conducted this assessment has been aggressively resistant to all assessment efforts, and is **fortunately** retiring. There is every reason to believe that a younger, more nimble-minded replacement will be more helpful in improving the

quality of the program's educational offerings.

Closing the Loop: Strengths, Weaknesses, Conclusions, Recommendations

The CS/MM Program has had difficulties conducting some assessments and carrying out serious evaluation owing to resistance of some faculty. The hiring of new faculty who are open to new approaches to teaching and evaluation will, we hope, improve the programs record.

CS/MM Program Objectives/Outcomes (2011)

Objective 4: Demonstrate ability to work collaboratively with end users and other developers

Course suggested for assessing the outcome: CS 370 User Interface Design (3 cr., offered every year in the Winter term)

Means of assessment:

Every student enrolled in CS 370 is required to collaborate on a final project team with 2-3 other students. A copy of the assignment for this term can be viewed at http://cs.eou.edu/CSMM/fpratter/CS370.09/final.html.

Each term, the project teams are asked to redesign the interface for an existing web site; previous examples include the Granada Theater (at www.lagrandemovies.com) and the La Grande Public Library (at http://www.ci.la-grande.or.us/dept_library.cfm). The final project requires a 40-minute in class presentation as well as a written design document;

Rationale:

1. All CSMM students are required to take CS 370 as juniors or seniors, as part of the common core requirements.
2. The class is offered every year.

3. There is a seven year baseline for the proposed outcome measure, since the same final project topic has been assigned since 2002.
4. The students are asked to carry out usability testing with members of the EOU community, asking them to evaluate the proposed design; in this way ability to work collaboratively with users can be demonstrated.
5. In addition to the oral and written presentations, students are asked to evaluate their own participation as well as that of the other team members, in order to assess the level of effort of each individual.

Rubric for assessment:

1. *Proficient* – active participation in the project team, as recognized by the other team members; helped to recruit for and conduct usability tests; well-organized and cogent participation in the in class presentation; well-organized and well-written section of the final project report (all of the above).
2. *Adequate* – attended all team meetings; participated in usability testing; participated in the in class presentation; wrote a section of the final project report (all of the above).
3. *Developing* – missed some or all of team meetings; did not contribute to usability testing; poor oral and/or written work (one or more of the above).

Degree Program Outcomes Assessment

Spring 2009

Degree Program: CS/MM
Outcome Assessed (i.e. Critical Thinking): Integrated Learning and Communication
Course / Activity: CS 401, MM 401 Capstone

Summary of Assessment Results

Performance Criteria	Assessment Method	Measurement Scale	Minimum Accepted Performance	Results
1. Demonstrate understanding of software development			***50% at 2; 50% at 3***	20% at 1; 80% at 3
2. Product Revision			***50% at 2; 50% at 3***	
3 Communication.			***50% at 2; 50% at 3***	
4.				

Note: See "Supporting Documentation" tab or for detailed records of the summary. The assessment representative for each department must archive supporting student samples

Explanation of Assignment / Activity / Prompt

Students work on a software design project either for a real client (which rarely happens) or to design a product to satisfy some imagined niche. Over the course of several months students complete initial proposal documents, formal specifications, navigation diagrams, and screen layouts. Specifications may be very complex, including outlines of database files and catalogs of needed media. The process includes considerable opportunity for revision and it is the process students should focus on. If time permits, students may construct a prototype of the product to demonstrate its functionality.

Analysis of Assessment Results

A greater number of students paid appropriate attention to the process and the business of documenting their progress. In most cases the evolution of the design was clear in the final versions of documents and the prototypes. However, there were shortcomings in the extent of code documentation in several instances. It appears that in regular meetings with supervising faculty students are getting the message about

documenting revisions, but there is not sufficient stress on attention to documentation.

Closing the Loop: Strengths, Weaknesses, Conclusions, Recommendations

The quality of this project as an integrative learning opportunity is improving. However, it appears that even in their final year of study students still fail to pay sufficient attention to documentation. As a program we must examine all courses in which students write code and make documentation an explicit element of how student work is assessed. Faculty who teach programming intensive courses such as CS 161, CS 162, CS 221, CS 260, CS 360, MM 319, MM 419, and MM 420 will develop a consistent set of documentation requirements and make them explicitly clear to students.

2011 Update: The program will initiate a review of other disciplines' capstone classes and ascertain whether redesign of our approach may benefit students.

CS/MM Assessment Rubric and Data Collection Sheet

Outcome: Integrative Learning

Instructions
Complete this worksheet for each student after reviewing his or her capstone work. You will need to review the complete design documents and the finished product, and for some items you may need to reflect on meetings you have had with the student during the course of the work. Score each outcome area from 1 (developing) to 3 (proficient). Note the specific shortcomings you observe in each outcome area. The program will use the information thus collected to assess our performance in these areas and if necessary make curricular adjustments.

Criterion One—Demonstrate understanding of software development

Proficient: Design documents include detailed specifications that agree with the finished product. Interface appears to be designed for the intended user population, and the development environment is appropriate for the type of product and the intended users. Any code is well documented, and the product behaves consistently and quickly without errors.

Adequate: Design documents include specifications but there is not complete coherence between specs and the interface, OR code is weakly documented OR there are some non-fatal inconsistencies in product behavior.

Developing: Design documents are incomplete or fail to match the interface OR interface is not appropriate for audience OR documentation is missing OR product consistently fails under some circumstances.

Score (1, 2, or 3). _____

Specific Weaknesses: (Must list if the score is not 3).

Outcome Two—Product Revision

Proficient Design documents reflect a history of modification in response to user feedback or developer's discovery. Developer has throughout the project consulted with faculty advisor on revisions. If this project builds on previous work, product integrates seamlessly with original product.

Adequate One of the criteria listed for "Proficient" has not been met.

Developing Two or more of the criteria for "Proficient" have not been met.

N/A This project offered no opportunity for revision.

Score (N/A, 1, 2, or 3). _____

Specific Weaknesses: (Must list if the score is not 3 or N/A).

Outcome Three—Communication

Proficient Design documents show evidence of communication and collaboration with user community to develop specifications and design interface, and resultant product reflects the collaboration. User has signed off on product.

Adequate Design documents show little evidence of user input for design but user has signed of on finished product.
Developing Design documents show no evidence of collaboration with user, OR user has failed to sign off on product.
N/A The project did not involve working with other people.

Score (N/A 1, 2, or 3). _____

Specific Weaknesses: (Must list if the score is not 3 or N/A).

Degree Program Outcomes Assessment

Fall 2009

Degree Program: CS/MM
Outcome Assessed (i.e. Critical Thinking): Content Knowledge
Course / Activity: CS 161 Introduction to CS; Multiple Choice section of Final Exam

Summary of Assessment Results

Performance Criteria	Assessment Method	Measurement Scale	Minimum Accepted Performance	Results
Factual and Conceptual Knowledge of Computing	***Multiple Choice Section of Final Exam***	***22 questions***	***At least 75% correct overall***	***79%***

Note: See "Supporting Documentation" tab or for detailed records of the summary. The assessment representative for each department must archive supporting student samples

Explanation of Assignment / Activity / Prompt

The final exam for CS 161 (Foundations of Computer Science I) includes a section of 30 multiple choice questions, most of which test students' knowledge of facts or the ability to apply fundamental concepts—learning in the lower tiers of Bloom's Taxonomy. (eight questions

address problem-solving situations involving learning beyond basic knowledge). The number of correct answers for the 22 basic knowledge/applied concept questions served as the basis for assessment.

Analysis of Assessment Results

Of the 22 questions examined, ten were basic knowledge, eight required simple application of basic knowledge, and four required more advanced application of conceptual knowledge.
79 % of the students correctly answered the ten basic knowledge questions, 80 % answered the eight basic concept questions correctly, and the remaining four questions were correctly answered 76 % of the time.

Closing the Loop: Strengths, Weaknesses, Conclusions, Recommendations

One basic knowledge question was only answered correctly by 8 students, barely more than a third of the class. This question may be badly worded. However, examination of the remaining questions that were regularly missed suggests a need for more practice to make basic knowledge more memorable. I will develop further drill activities for students to use to rehearse the meanings of fundamental terminology and more in-class practice for problems that require application of basic concepts.

Key Programmatic Assessments

The outcomes for each class will be clearly stated on the syllabus. Assessments for courses will address both the conceptual and applied aspects of the class. Means of assessment include projects, quizzes and exams. The objectives for projects and other assigned work tie directly into course outcomes.

In addition to course-level assessment, the program provides for assessment of the students' abilities to integrate concepts from the entire spectrum off coursework. Each student is required to develop a capstone project prior to graduation. The precise nature of the capstones varies according to specific student interests, but generally include the complete design documents for a software product and the finished product itself. We have developed a rubric to use as a first cut for gathering data but we are certain that after applying this tool a few times we will discover necessary refinements to make.

Some benchmark courses in the concentrations include project assignments that may lend themselves to use for assessment of the primary outcome and concentration-specific outcomes. We will identify these projects and develop assessment tools to allow us to gather critical data.

We are also in the process of surveying all of our graduates (at least all for whom we have contact information) to determine if there are programmatic weaknesses that reveal themselves to students once they seek employment or enter graduate school).

Current Programmatic Assessment Data/Reflections/Recommendations of Curriculum and Instruction

As of June 2011, the CS/MM program is poised for reorganization and finally prepared to engage with evaluation of student learning from course to course from entry to the program to graduation. We have instituted changes to the multimedia concentration that better define it and which will make it easier to ascertain how well students progress and where we need to make changes when they have difficulties.

We have discussed revising the sequence of courses for the students in the CS concentration and will begin making these changes once staffing is stable.

We have begun preparing a broader avenue for students to enter the program by tentatively establishing a presence in Umatilla County to offer our freshman year sequence. If a cohort of students with coursework from Blue Mountain Community College joins our returning sophomores each Fall, it will give the program the strength to come closer to satisfy the growing demand for programmers and analysts in Eastern Oregon and beyond.

We do not have a large database of hard assessment data yet, but a search for a well-qualified Assistant Professor with dedication to quality teaching will provide solid progress.

Program and Course Scheduling Requirements

Owing to a relative shortage of FTE, the CS/MM program has since its inception kept most of the upper-division elective courses on a two-year rotation. In 2003, we reduced the number of sections of CS 161 from three to two each year. (CS 161 is required for CS, Math, Chemistry, Physics, and some Multidisciplinary Studies students, creating a higher demand

for this course than most others.) At the same time, we reduced the number of offerings of CS 260 (Data Structures) from twice a year to once. In 2010 the program instituted four certificate options to provide opportunities for already-educated individuals with obsolete skills to "re-tool." CS 161 and 162 serve as the entry point for all of these, and in order to widen the availability of these courses we offered a Umatilla County/BMCC on-site section of CS 161 in Fall 2010 to see how this would be received. The test was successful enough to suggest that maintaining a local adjunct instructor to deliver the freshman sequence would prove beneficial.

General Education and Service Course Schedule (Enrollment based on F 08 – S 11)

FALL YEAR 1

Course	Load Hours	Mean Enroll
MM125	3	17.3
MM264	3	13

FALL YEAR 2

Course	Load Hours	Mean Enroll
MM125	3	24
MM264	3	13

WINTER YEAR 1

Course	Load Hours	Mean Enroll
CS 390	2	13
MM364	3	7.7

WINTER YEAR 2

Course	Load Hours	Mean Enroll
CS 390	2	13
MM364	3	7.7

SPRING YEAR 1

Course	Load Hours	Mean Enroll
MM125	3	17.3
TOTAL	14	

SPRING YEAR 2

Course	Load Hours	Mean Enroll
MM125	3	24
TOTAL	14	

Minor/Major Course Requirements Schedule

Courses shown in **bold** are alternate-year electives.

FALL YEAR 1

Course	Load Hours	Mean Enroll
CS 121	1	18.7
CS 161	4	25.0
CS 221	4	10.7
CS 318	4	5.0
CS 344	3	6.0
CS 401	1	1.25
CS 430	3	5.3
MM 225	3	17.3
MM 252	3	20.3
MM 315	3	20.3
MM 368	3	6.0
MM 401	1	3.0

FALL YEAR 2

Course	Load Hours	Mean Enroll
CS 121	1	18.7
CS 161	4	25.0
CS 221	4	10.7
CS 318	4	5.0
CS 344	3	6.0
CS 401	1	1.25
CS 430	3	5.3
MM 225	3	17.3
MM 252	3	20.3
MM 315	3	20.3
MM 368	3	6.0
MM 401	1	3.0

WINTER YEAR 1

Course	Load Hours	Mean Enroll
CS 161	4	25.0
CS 162	4	11.5
CS 248	4	7.7
CS 360	4	6.0
CS 380	4	3.3
CS 390	2	13.0
CS 401	1	1.25
CS 427	**4**	**4.0**
CS 428	3	5.0
CS 440	**4**	**3.33**
MM 319	3	6.3
MM 352	3	9.0
MM 360	3	12.7
MM 362	3	7.5
MM 364	3	7.7
MM 401	1	3.0
CSMM407	2	7.0

WINTER YEAR 2

Course	Load Hours	Mean Enroll
CS 161	4	25.0
CS 162	4	11.5
CS 248	4	7.7
CS 360	4	6.0
CS 380	4	3.3
CS 390	2	13.0
CS 401	1	1.25
CS 428	3	5.0
CS 321	**3**	**8.0**
MM 319	3	6.3
MM 352	3	9.0
MM 360	3	12.7
MM 362	3	7.5
MM 364	3	7.7
MM 401	1	3.0
CSMM407	2	7.0

SPRING YEAR 1

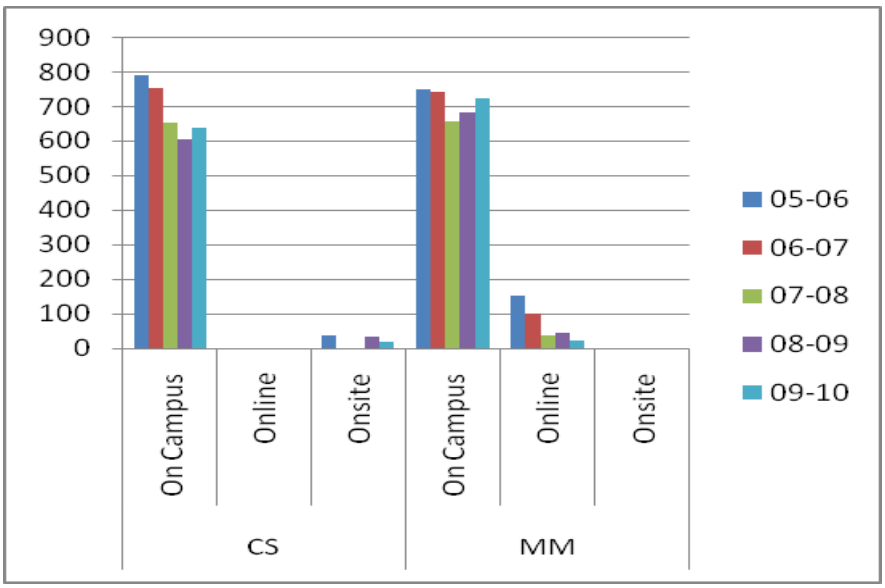
Course	Load Hours	Mean Enroll
		11.5
CS 162	4	11.5
CS 260	4	11.7
CS 311	3	5.0
CS 335	4	5.3
CS 370	3	6.7
CS 401	1	1.25
MM 350	4	9.0
MM 366	4	5.0
MM 410	3	*
MM 419	3	5
MM 401	1	5.1
MM 410	**3**	*****
MM 460	3	6
TOTAL	135	

SPRING YEAR 2

Course	Load Hours	Mean Enroll
CS 162	4	
CS 260	4	11.7
CS 311	3	5.0
CS 335	4	5.3
CS 370	3	6.7
CS 401	1	1.25
MM 350	4	9.0
MM 366	4	5.0
MM 410	3	*
MM 419	3	5
MM 401	1	5.1
MM 420	**3**	*****
MM 460	3	6
	135	

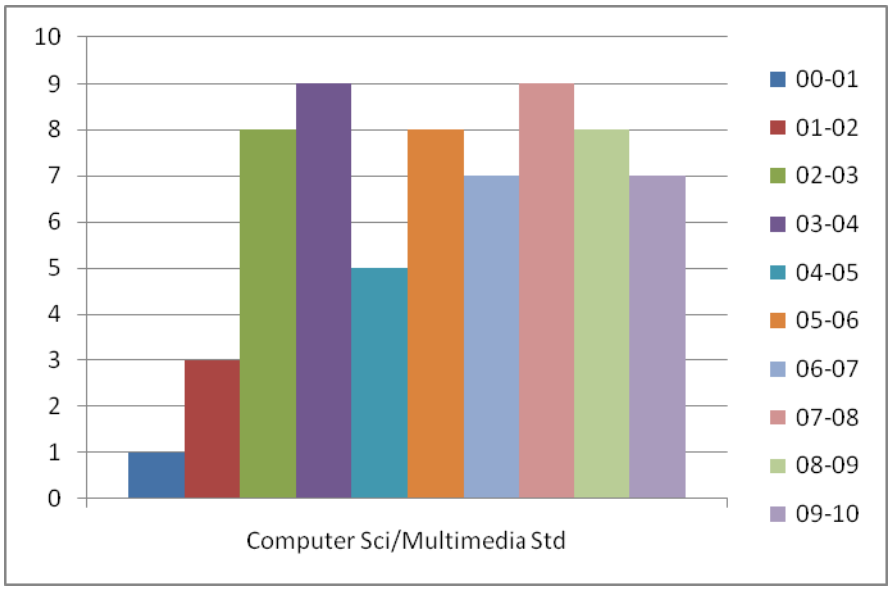
Enrollment Program Performance

		Data				
Prefix	Campus	05-06	06-07	07-08	08-09	09-10
CS	On Campus	792	753	652	604	640
	Online	0	0	0	0	0
	Onsite	36	0	0	34	18
CS Total		828	753	652	638	658
MM	On Campus	749	741	655	684	725
	Online	154	102	39	45	24
	Onsite	0	0	0	0	0
MM Total		903	843	694	729	749
Grand Total		1731	1596	1346	1367	1407



5-Year Graduation by Major

	Data									
Bachelors	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10
Computer Sci/Multimedia Std	1	3	8	9	5	8	7	9	8	7
Grand Total	1	3	8	9	5	8	7	9	8	7



Staffing

Dr. Richard Croft is the senior member of the program and teaches a combination of multimedia development and computer science courses. His background includes working as a programmer/analyst in the defense industry, teaching in education, math, and computer science, and the design and development of educational software products used in forestry and veterinary medicine.

Dr. Frederick Pratter, whose professional background includes many years of consulting in the insurance industry as an analyst and software developer, joined the faculty in 2002 and teaches a wide variety of computer science courses as well as the advance web authoring course offered as a multimedia elective. Dr. Pratter is retiring at the end of 2011.

Professor Kevin Roy teaches the graphics applications course and the introductory and intermediate web development courses for the multimedia concentration. The program shares his time with EOU's Media Arts program, for which he teaches digital audio and digital film production courses.

Summary Recommendations/Observations

At present, the program is served by one full FTE tenured professor on-campus plus another tenured faculty member shared equally with the Media Arts program. For one term of the

coming academic year, we will have a full-time (but retiring) faculty member delivering required courses on-line.

Given the importance of skills in computer technology in supporting economic development, the short supply of and high demand for these skills, it seems imperative that the program work to re-stabilize and prepare to meet a continuing need for skilled software developers. Necessary immediate steps include:

- Recruiting a qualified assistant professor with a sound teaching philosophy and the energy and willingness to deliver required computer science courses;

- Developing and executing a marketing plan to increase awareness in the populations of regional middle and high schools of the opportunities afforded computer professionals; and

- Employing on-site instructors to deliver critical first-year programming classes to inspire interest in the profession in students who may then continue studies on campus.

Additional measures that will follow as the situation merits would be:

- Reviewing the sequence of the entire curriculum and required courses and revising as necessary;

- Adding another on-campus CS faculty member;

- Evaluating second- through fourth-year courses to assess potential for distance delivery; and

- Re-introducing gateway course in computer literacy and effective computer use.

Administrative Review of Program

Based on all of these data, the Dean and Provost will provide some direction for each program .