

# Eastern Wyoming College

## Instructional Program Review 2011-2012

**Program:**  
Mathematics

**Prepared by:**  
Bob Creagar  
Ray DeWitt  
Cheryl Raboin

Date of Report: May 14, 2012

## EASTERN WYOMING COLLEGE Instructional Program Review

Program Name: Mathematics

Part 1: Statistical Data from the past three years:

	2008-2009	2009-2010	2010-2011*	5-Year Average
Annualized FTE Enrollment	87.4	104.1	120.8	97.3
Annualized FTE Faculty	8.6	10.2	9.8	9.3
#Students	174.8	208.2	241.6	194.7
#Graduated	0	0	0	0

FTE = Full-time equivalent      Notes:

Modes of Delivery:

online       compressed video       face-to-face

Advisory Committee Members and Title or Role: (if applicable) none

Community Partners or Internships: coordination with local high schools to sponsor and host the annual math contest

Revisions in Curriculum Since Last Review:

Math 860 has been moved to the GED/ABE level and is coordinated by our Adult Basic Education Director.

Math for Elementary Education Majors has been changed to a 3 semester sequence: Math 1100, 1105, & 2120

### Part II Narrative Analysis

Description of Community Need:

The Mathematics Department is a service-oriented department. The Department offers support for students seeking certificates, AAS, AA or AS degrees, and it also forms the basis for the Mathematics and Mathematics Education degrees. The Department has attempted to meet community needs by offering courses in the evenings and by distance learning as well as summer classes. In addition, when the need is shown, courses may be offered on an independent study basis to accommodate a student needing a certain course to graduate or whose schedule is not compatible with the published semester schedule. Further, the Department offers several courses on a concurrent enrollment basis so that high school students may better prepare themselves for college mathematics. Finally, the Department offers most of its courses in the outreach areas.

The goal of the Department is to provide students with the mathematical preparation necessary for successful transfer or career opportunities.

**Activities in Support of Student Recruitment and Retention (if applicable)**

Math Contest: tuition scholarship & book award

Division Scholarships

Advising

Learning Skills Lab tutoring and faculty serving on advisory board

**Assessment of Student Learning: Analysis of Student Learning--What has been learned?**

Over the past several years the Department has become more satisfied with the Capstone experience used to measure student learning. However, over the past three years there have been no graduates in either mathematics or mathematics education. As mentioned before, the math department provides the general education mathematics requirements to all programs at EWC. The FTE contribution by the math department has grown by 27.6 percent in the last three years.

The math faculty actively employ classroom Assessment Techniques and Course Assessments to improve the quality of student learning. This process each year leads to curriculum changes and improvements in instructional methodology. For instance, empty outlines have improved students' organizational skills.

**Strengths of the Program and Faculty:**

The Department has qualified staff members who care about students and facilitate their success. All full-time faculty have masters degrees and the adjunct and concurrent instructors also typically hold masters degrees or at least 18 graduate hours in the discipline areas.

The Department articulates each year with the University of Wyoming and the other Wyoming community colleges. Standardization of course curricula and discussions involving transferability are the topics of regular meetings with Chadron State College and other schools. For example, the ACT and COMPASS placement scores for math have been standardized within the last two years among Wyoming community colleges.

The math faculty works well as a team and provides a wide range of classes from developmental to advanced math courses. Many of these courses are required for other programs at Eastern Wyoming College.

**Part III Recommendations**

**Faculty Recommendations:**

**Continuous Improvement Plan--Strategic Action Plans Attached -**

The Mathematics faculty recommends that we continue to work on professional development in the area of developmental mathematics. As the percentage of our students who are prepared for college level mathematics declines, the need for instructors who can relate and teach remedial mathematics increases. Professional development in the current pedagogy and needs of these students is great. We do note that some monies have been devoted to professional development and we urge those funds to increase, or at least maintain current levels. The Math Department is concerned that its faculty have the time and incentive to improve teaching, including program development, travel to seminars, advanced training regarding use of technology in its courses, and perhaps time to develop grants. As a result of the increased number of students in developmental math courses, it is necessary for math faculty to receive training in new methods of teaching these courses.

The Department feels a need for an additional mathematics course to replace the COSC 1010 and COSC 1030 requirement in the catalog. We do not feel it is in the best interest of the college to tell students, "yes you can major in mathematics, but you need to take some of your classes from other colleges." Research and discussion needs to take place about a course similar to the University of Wyoming's Math 2800, Mathematics Seminar, which will be in place instead of the COSC courses. Since our last program review we have added a significant number of online courses, including Elementary Algebra, Intermediate Algebra, Business Calculus and Trigonometry. The Math Department also needs to look regularly at its course offerings with regard to independent study, distance education (Internet and compressed video) and night course offerings to make them as successful for students as possible.

We need to continue to work on developing courses that meet the needs of all our students, both on-campus and those at a distance. It is our recommendation that there be a policy developed that would discourage students who are on-campus taking online courses. We believe that classroom discussions add to the richness of a course and therefore are important to the overall learning process. The best setting for most students, especially most math courses, is in a face-to-face classroom.

Eastern Wyoming College has seen a decrease in college ready mathematics students. The student who arrives without adequate preparation creates difficulty in their attaining a degree in two years.

College ready students also face challenges at Eastern because they are often forced to take an independent study course as part of their degree because there are insufficient numbers to create face-to-face classes. The Department would like to see more recruitment geared towards college-ready students. Having more of these students will help the institution in many ways. First, it will increase our graduation rate. Secondly, having more college-ready students will provide the opportunity for a deeper pool of candidates for the Learning Skills Lab tutoring program. Finally, we believe Eastern Wyoming College needs to work with high schools in the service area regarding concurrent enrollment and taking EWC courses on campus.

Advisory Committee Recommendations: not applicable

Division Chair Recommendations:

The Math Department continues to provide a very solid Math curriculum for students at EWC. The curriculum is broad and diverse, offering developmental level through advanced courses. Following the retirement of a long time instructor in 2011, a new instructor was hired in March, 2012. My recommendations for the Department include:

- 1) Work closely with the new instructor to assist with his adjustment to teaching at EWC. It will be important to incorporate his strengths into the program offerings.
- 2) Continue to work on providing a strong Math curriculum that allows students the opportunity to be successful in college level courses. This should utilize the strengths and talents of the faculty to be successful at teaching the developmental level courses as well as the advanced courses. The department should pursue the necessary training to assist with teaching developmental Math classes, and Math for education majors.
- 3) Work with recruiters and marketing personnel to advertise Math as a major at EWC.
- 4) Continue efforts with area high schools and outreach sites to assure quality in both on-campus and concurrent Math courses.

- 5) Continue to attend articulation meetings to assure that EWC offerings are consistent with those throughout the state.

#### Vice President's Recommendations:

The math department faculty members at EWC are a strong and talented group of professionals who are dedicated to student success and contribute to that goal by helping students not only in their classes, but individually in their offices and serving as involved advisors. Furthermore, these faculty members have developed numerous distance courses, serve as ready volunteers for college committees and activities, and contribute to the college community by being student club advisors. I commend their involvement and leadership at the statewide articulation meetings and appreciate their help with working with the service area concurrent instructors. In recognition of the increased demand for math classes at all levels, the retirement of a three-quarter time instructor led to a request to the Board of Trustees to replace the position at a full-time level. Although the replacement was postponed for a year due to the timing of the opening, we have successfully hired a full-time instructor for the 2012-2013 school year. I concur with the recommendations from the division chair, and add the following few.

1. Work closely with the education faculty members to ensure that the math for education classes are meeting the needs for the elementary education majors and are offered via distance on a regular rotation schedule for outreach students.
2. Explore and develop retention initiatives for math classes in conjunction with the Learning Skills Lab staff members and outreach coordinators. For example, look for ways to bridge the math knowledge gaps with which students may enter college and explore ways to increase the retention and completion rate of online math students.
3. Work closely with service area high school counselors and the EWC recruiting office to encourage "math and engineering directed" students to start with us. Our caring and dedicated math faculty members represent our best "recruiting tool" which could encourage these students to consider EWC. Explore the possibility of a summer math and science camp initiative for area high school or middle-school students. This could represent a first step toward recruiting better "math prepared" students to attend EWC.