**Introductory Algebra, Business Math, Survey Calculus, & Statistics Assessment Report**

**Introductory Algebra, MT0204,** is the first course in a two-course algebra sequence designed to prepare students for coursework in college level mathematics. Students will be introduced to basic algebra topics and applications. When successfully completed (grade C or better), the course satisfies the college's prerequisite for Intermediate Algebra.

The prerequisite for MT0204 is a minimum grade of "C" in [MT 0103](http://www.eastcentral.edu/programs/catalog/index.php?dept=MT#MT0103) (Pre-Algebra) or an appropriate math placement score, using Accuplacer as the placement test. Beginning fall 2015, ECC will use Compass as its placement test.

Introductory Algebra is taught by full-time and adjunct instructors at the main campus (Union campus) and at three satellite sites (Rolla, Sullivan, and Washington – Four Rivers). It is taught in a traditional format, as well as through a self-paced computer supported format, and one online section is also offered each semester. The course is overseen by the mathematics department and currently requires the use of a departmental syllabus, as well as a department mandated text, midterm, final, and departmental recommended grading practices. Beginning fall 2015, the department will require a departmental pretest that will be serve as a way to verify placement, as well as, provide pre and post testing assessment.

The retention and success rates for MT0204 are shown below (to the left) and the comparison of success rate based upon format of delivery (for the past two fall semesters) is also shown below (to the right). Since the conversion to the four credit hour format for Introductory Algebra, the overall success rate has diminished. Looking at the last four consecutive fall semesters (fall 2009, 2010, 2011, and 2012), the three hour Introductory Algebra course had enrollment of 1422 with an overall success rate of 49.7%. During the same time period the four hour Introductory Algebra course had an overall success rate of 53.1%. However, for the most recent academic years (fall 2013 through 2014), the overall success rate has fallen to 40.2%. Despite the overall decline in success rates in Introductory Algebra, the success rate in Intermediate Algebra (the course Introductory Algebra serves as the prerequisite for) has increased from 46% to 49% since the four credit hour conversion.

In addition to increasing the credit hours to four, the placement score required to enter Introductory Algebra was reduced (ACCE of 51 was reduced to 30). From fall 2013, this accounts for 256 of the student enrolled in Introductory Algebra in the past two academic years. This population accounted for 21.7% of the enrollment in MT0204 and had an overall success rate of 40.6%. The final exam average for MT0204 has held steady at 63.2% as compared to MT0203. The success rate based upon the mode of delivery is consistent with expectations; thus the online course has the lowest success rate and the self-paced computer supported format (in this format attendance is mandatory and a faculty member is assigned to the classroom).

As a result of the data, although the four credit hour offering of Introductory Algebra has not improved the success rate of the course, the math department will continue to collect and evaluate the data to determine the appropriate credit hours for Introductory Algebra given the slight improvement of the success rate in Intermediate Algebra. To address the success rate in the online offering, the department will continue to work with advisors to assist with enrollment practices that will promote the online format to students who are better matched with the independent learning style of the course. Additionally, the department will expose faculty teaching online courses with best practices in online learning through research and professional development.

**Fundamental Concepts in Mathematics, MT0904,** is a developmental mathematics course designed to prepare students for coursework in college level mathematics alternate to algebra based courses. Students will gain a background in geometry, analysis, and reasoning.

The prerequisite for MT0904 is a minimum grade of "C" in [MT 0103](http://www.eastcentral.edu/programs/catalog/index.php?dept=MT#MT0103) (Pre-Algebra) or an appropriate math placement score to enter MT0204.

Fundamental Concepts in Mathematics will be offered as a pilot for the first time fall 2015, so no data has been gathered. It is the potential first step in developmental education redesign as it applies to initiatives found throughout the state. For the pilot offering, the course will be offered in a traditional format and taught by a full-time instructor at the main campus. It will be taught in a traditional format, with one section being offered in a block format to accommodate the schedules of students in the culinary arts program. The course will be overseen by the mathematics department and will require the use of a departmental syllabus, text, midterm, final, and recommended grading practices which align with other developmental math courses.

**Business Math, MT1023,** is a course in business and financial applications of mathematics such as discounts, markups, interest, installment buying and credit cards, payroll, depreciation, taxes, etc. This course is intended for students in several AAS degree programs.

The prerequisite for MT1023 is a minimum grade of "C" in [MT 0103](http://www.eastcentral.edu/programs/catalog/index.php?dept=MT#MT0103) (Pre-Algebra) or an appropriate math placement score to enter MT0204. Beginning fall 2015, ECC will use Compass as its placement test, prior to this, Accuplacer was the placement tool.

Business Math is taught by adjunct instructors at the main campus. It is taught in a traditional format, with one section being offered in a block format to accommodate the schedules of students in the culinary arts program. Although the course is overseen by the mathematics department, it does not have a departmental syllabus or exams. The mathematics department has begun the process of departmentalizing the course by opening the previous section reserved for culinary students to all students, requiring a departmental exam, and creating a departmental syllabus. It will continue the process of departmentalizing in the fall through the creation of departmental exams.

The retention and success rates for MT1023 are shown in the graph to the right. The average enrollment for the spring and fall semester is 28, while the summer semester is 14. The course has not been offered in the summer since 2012 due to lack of enrollment. As the mathematics requirement for many AAS degrees, including business, culinary arts, health information management, and graphic design, the department will continue to have collaborative meetings with other departments to review course objectives, as well as the schedule and mode of offerings, to insure the course meets the broader needs of various programs. It will also continue the work of departmentalizing the course for consistency.

**Survey of Calculus, MT2013,** is an introductory study of the techniques of differential and integral calculus. The course focuses on functions and the application of calculus to the life, social, and managerial sciences, with particular emphasis on business application.

The prerequisite for MT2013 is a minimum grade of "C" in [MT 1403](http://www.eastcentral.edu/programs/catalog/index.php?dept=MT#MT0103) (College Algebra) or MT1505 (PreCalculus) or an appropriate math placement score to enter MT1605. Beginning fall 2015, ECC will use Compass as its placement test; prior to this, Accuplacer was the placement tool.

Survey of Calculus is taught by one full-time instructor at the main campus during the spring semester. When the course is offered, it is taught in a traditional format. Unfortunately, due to low enrollment the course is often cancelled.

The enrollment numbers (for the past three academic years) for MT2013 are shown in the graph to the right. Unfortunately, although MT2013 will meet the degree requirement for the AA Business Administration, most students prefer to enroll in Statistics. The department will need to take this next reporting cycle to determine if MT2013 should continue to be offered. If the department determines the need to continue the course, it will need to create a feasible rotation of offerings and work with the business department and advisors to promote the benefits and the transferability of MT2013.

**Statistics, MT2103,** is an introductory course which studies the proper methods of collecting data, organizing, describing and presenting data, and drawing conclusions from data.

The prerequisite for MT2103 is a minimum grade of "C" in [MT 1403](http://www.eastcentral.edu/programs/catalog/index.php?dept=MT#MT0103) (College Algebra) or an appropriate math placement score to enter MT1505. Beginning fall 2015, students with a minimum grade of “B” in MT1303 (Intermediate Algebra) will also be allowed to enroll in MT2103. Additionally ECC will use Compass as its placement exam instead of Accuplacer.

Statistics is taught by full-time instructors at the main campus and the satellite location in Rolla, and one dual credit instructor at one dual credit high school. It is taught in a traditional format during the fall and spring semesters and as a hybrid in the summer semester. The course is overseen by the mathematics department and currently requires the use of a departmental syllabus, as well as a department mandated text and final exam.

The retention and success rates for MT2103 is expressed in the chart to the right. MT2103 was predominantly a spring and summer course offered at the main campus. In fall 2014, MT2103 was offered in Rolla for the first time and delivered via ITV to Union. The average enrollment for the course is 30.

With Statistics being a focus of pathways driven mathematics reform, the department will focus on the effects of potential redesign on success and retention rates of MT2103, as well as course transferability. Additionally, over the next reporting cycle the department will continue to departmentalize the course, including grading recommendations, as it is offered at more locations and by dual credit schools and collect data to monitor the effects of the prerequisite changes starting in fall 2015.