We have designed a series of steps for you to take as you select the appropriate math course based on your background and intended major.

1. Consider your **math background**.

   Looking at the courses listed below, consider which of these courses you have taken, the level of each course, and your performance.

   - **Algebra II-** Did you take this at the College Prep, Honors, or Advanced Level? Did you do well? If you struggled with Algebra II in high school, you should probably take *MATH 123 College Algebra*. If you did well in an honors Algebra II, you should try *MATH 180 Precalculus*.
   - **Precalculus-** Did you take this at the College Prep, Honors, or Advanced Level? Did you do well? If you struggled with Precalculus in high school, you should probably retake it at the college level. If you did well in an honors Precalculus course, you could try *Math 219 Calculus I*.
   - **Calculus-** Did you take this at the AP Level? Did you do well? If you struggled with Calculus in high school, you should retake Precalculus then try Calculus. If you did well in your Calculus class in high school, you can move into Calculus. When your AP scores come in, you might be able to move to Calculus II or Calculus III.

2. Consider your **intended major**.

   Different majors have different graduation requirements. This might influence your decision to take a more advanced course. However, don't feel in a rush to take a more advanced course if you feel that you are not ready. You are much better off successfully completing a prerequisite course first and then moving on to the next level, rather than rushing into a course for which you are not prepared.

   - **Biology-** The biology major requires that you successfully complete Precalculus. Those interested in graduate programs (such as medical school, physician's assistant, Ph.D.) will require at least Calculus I.
   - **Biochemistry-** The biochemistry major requires that you successfully complete Calculus II.
   - **Chemistry-** The chemistry major requires that you successfully complete Calculus II.
   - **Computer Science**- The computer science major requires that you complete Finite Math or Discrete Math. These courses have a pre-requisite of Precalculus.
   - **Earth System Science-** The earth system science major requires that you successfully complete Precalculus.

- **Food Science-** The food science major requires that you successfully complete Calculus I. The Food Science and Technology concentration requires Calculus II.
- **Mathematics-** The math major requires courses beyond Calculus III.
- **Pre-Engineering-** The pre-engineering program requires successful completion of Calculus III.

3. Take a **self-assessment**.

   In order to estimate your current math ability, please follow the link below to complete a self-assessment prior to orientation.

   Self Assessment Test

   Begin by taking the Algebra assessment. Based on your performance, you will be given a course recommendation or advised to take the Precalculus assessment to see if you are ready for a higher-level course.

   Take the assessment using only pencil and paper to get the best estimate of the appropriate level for you.

4. Consider the following **Course Descriptions**.

Courses in the Calculus Sequence are required for most STEM majors. You will want to be in one of the following three courses. Read the descriptions carefully; below each are links containing additional information on each course, including example exercises. If you feel **confident** with the material covered in College Algebra, enroll in Precalculus. If you feel **confident** with the material covered in Precalculus, enroll in Calculus. Please note that MATH 219 Calculus I covers in one semester an entire year's material from a typical AP high school class.

MATH 123 College Algebra

An exploration of numerical, graphical, and symbolic approaches to algebraic concepts with emphasis on real-world applications, modeling, and problem-solving skills. Topics include polynomials, rational expressions, equations and inequalities, systems of linear equations, matrices, and the connection between functions and their graphs. Prerequisite: Satisfactory score on the mathematics placement examination.

Additional Information and Sample Exercises for MATH 123 College Algebra

MATH 180 Precalculus

A thorough preparation in the skills and topics needed to study calculus. After a review of polynomial and rational functions and their graphs, topics include inverse functions, exponential and logarithmic functions, and trigonometric functions. Prerequisite: Completion of MATH 123 College Algebra with a

minimum grade of C (2.00) or better, or a satisfactory score on the mathematics placement examination.

Additional Information and Sample Exercises for MATH 180 Precalculus

MATH 219 Calculus I

A study of functions, limits, continuity, the derivative, rules of differentiation of algebraic, trigonometric, exponential and logarithmic functions, applications of differentiation, definite and indefinite integrals, and the Fundamental Theorem of Calculus. Prerequisite: Completion of MATH 180 Precalculus with a minimum grade of C (2.00) or better, or a satisfactory score on the mathematics placement examination.

Additional Information and Sample Exercises for MATH 219 Calculus I

Completion of the four steps above will provide you with an idea of the most appropriate math course for you. You will still have a chance to discuss your choice with an advisor during summer orientation. In the meantime, if you would like more information, please contact Dr. Julie Levandosky, Chair of the Mathematics Department, at jlevandosky@framingham.edu.

Best,

Dean Carroll

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