

# QUANTITATIVE SKILLS REQUIREMENT

A student may satisfy the Quantitative Skills option of the Liberal Skills Requirement by successfully completing a **First Course** and a different **Second Course** drawn from the lists below. When planning a program, be aware that many courses in the second course list have prerequisite courses. Some courses appear on both lists.

Any student who completes a calculus course numbered 284 or higher with a grade of C or better is thereby exempt from the need to take an additional course to complete the Quantitative Skills Requirement. Calculus courses numbered 285 or higher may simultaneously be used to partially satisfy the Natural Sciences and Mathematics Divisional Requirement. MAT 284 cannot be used to meet both the Quantitative Skills Requirement and the Natural Science and Mathematics Divisional Requirements. It can only be used to meet one of these requirements.

## First Course:

- MAT 121 Probability and Statistics for the Liberal Arts I
- MAT 183 Elements of Modern Mathematics
- MAT 193 Algebra-Infused Precalculus (to be followed by MAT 285 Life Sciences Calculus I or MAT 295 Calculus I)
- MAT 194 Precalculus (to be followed by MAT 285 Life Sciences Calculus I or MAT 295 Calculus I)
- MAT 221 Elementary Probability and Statistics I
- MAT 285 Life Sciences Calculus I
- MAT 295 Calculus I

## Second Course:

(Note: Some of these courses have prerequisites)

- GEO 386 Quantitative Geographic Analysis
- MAT 122 Probability and Statistics for the Liberal Arts II
- MAT 222 Elementary Probability and Statistics II
- MAT 284 Business Calculus
- MAT 285 Life Sciences Calculus I
- MAT 295 Calculus I
- MAT 286 Life Sciences Calculus II
- MAT 296 Calculus II
- MAX 201 Quantitative Methods for the Social Sciences
- PHP 223 Public Health Data & Decision Making
- PSC 202 Introduction to Political Analysis
- PSY 252 Statistical Methods II
- SOC 318 Introduction to Research
- SWK 361 Foundations of Social Work Research\*

\*Apply as Non-Arts & Sciences credit

Many students will satisfy the Quantitative Skills Requirement by taking a pair of statistics courses. MAT 121 Probability and Statistics for the Liberal Arts I provides introductions to statistics with emphasis on the analysis of real data sets. It does not assume any prerequisite mathematical preparation, although it is desirable that students have a reasonable level of competence in high school algebra. Students who complete MAT 121 may consider completing the sequence with one of the following: GEO 386 Quantitative Geographic Analysis, MAX 201 Quantitative Methods for the Social Sciences, PHP 223 Public

Health Data & Decision Making, PSC 202 Introduction to Political Analysis, PSY 252 Statistical Methods II, SOC 318 Introduction to Research, or SWK 361 Foundations of Social Work Research. Consult your advisor.

Only students who have mastered high school algebra should contemplate any of the remaining options for satisfying the quantitative skills requirement.

## FOR STUDENTS NOT MAJORING IN SCIENCES

The sequence MAT 221 Elementary Probability and Statistics I-MAT 222 Elementary Probability and Statistics II are designed for non-science majors and introduces basic concepts of probability and statistics and their applications. It is more mathematically rigorous than MAT 121 Probability and Statistics for the Liberal Arts I-MAT 122 Probability and Statistics for the Liberal Arts II.

## FOR STUDENTS INTERESTED IN PROGRAMS OUTSIDE OF ARTS AND SCIENCES

Students should consult with their academic advisor to determine which sequence will work best for them.

## FOR STUDENTS WITH STRONG MATHEMATICS BACKGROUNDS

Students with strong mathematics backgrounds should consider taking calculus. MAT 285 Life Sciences Calculus I is designed for students planning to major in the social or life sciences, whereas MAT 295 Calculus I is designed for engineering students and science and mathematics majors. Students with a weak background in trigonometry and analytic geometry should take one of the sequences MAT 194 Precalculus-MAT 285 Life Sciences Calculus I or MAT 194 Precalculus-MAT 295 Calculus I.

## EXEMPTIONS AND ALTERNATIVES

**Calculus.** Any student who completes with a grade of C or better any one calculus course numbered 284 or above has satisfied the Quantitative Skills requirement.

**Advanced Credit Exam.** Any student receiving 3 or more credits in calculus by advanced credit exam satisfies the Quantitative Skills requirement.

**Transfer Credit.** Courses transferred to Syracuse need not be retaken for the purposes of the Quantitative Skills requirement. In very exceptional circumstances, e.g., students who have completed courses at a non-accredited institution may petition to take a competency examination in any of the courses offered by the Mathematics Department. Students who pass such an examination are deemed to have passed the corresponding course for the purposes of the requirement. Petitions for such examinations should be submitted to the chair of the Mathematics Department.

## PLACEMENT

To determine the appropriate course for you:

Take the Mathematics Placement Test as indicated in the first term enrollment selection information provided.

Consult the descriptions of mathematics courses and discuss your objectives with your advisor.

Follow the placement advice of the Mathematics Department on the basis of your placement test.

**Transfer Students:** If you are planning to take any mathematics course numbered 121 or above and have not been granted transfer credit for

any such course, you should take the Mathematics Placement Test and consult with your advisor.