Advanced Quantitative/Scientific Reasoning (AQSR)

Courses in the AQSR category have Mathematics or Natural Science prerequisites and often additional prerequisites. For the full list of prerequisites, see the course description section of this catalog.

ONE COURSE from

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| ANTH 235 | Bones and Stones: How Archaeologists Know | 4 | Annually |
| ANTH 237 | Measuring Inequality, Analyzing Injustice | 4 | Annually |
| ANTH 306 | Primate Ecology and Social Behavior | 4 | F, Sp |
| ANTH 307 | Human Nature: Evolution, Ecology, and Behavior | 4 | F, Sp |
| BIOL 314 | Genetics | 4 | F |
| BIOL 335 | Human Physiology | 4 | F, Sp, Su |
| CHEM 104 | General Chemistry II | 4 | F, Sp, Su |
| CHEM 106 | General, Organic, and Biological Chemistry II | 4 | F, Sp, Su |
| CSCI 423 | Analysis of Algorithms | 4 | F (odd years), Sp |
| GEOG 201 | Mapping Our Changing World | 4 | F, Sp |
| GEOG 205 | Earth's Physical Environments | 4 | F, Sp |
| HIST 207 | Quantitative History Through Applied Statistics | 4 | Sp (alternate years) |
| HSCI 232 | Human Genetics | 4 | F |
| MATH 213 | Calculus II | 4 | F, Sp, Su |
| MATH 239 | Contemporary Topics in Mathematics II | 4 | F, Sp, Su |
| MATH 241 | Statistical Methods II | 4 | As needed |
| MATH 245 | Principles of Data Science | 4 | F, Sp |
| MATH 248 | Business Statistics I | 4 | F, Sp, Su |
| MATH 324 | College Geometry | 4 | F, Sp |
| PHIL 220 | Logic and Probability in Scientific Reasoning | 4 | F, Sp |
| PHYS 102 | Physics for Science and Mathematics II | 4 | F, Sp, Su |
| PHYS 120 | The Extraordinary Physics of Ordinary Things | 4 | Sp |

MATH 240 - Statistical Methods I (4)

Descriptive statistics; confidence intervals and hypothesis testing; random variables; estimations and tests of significance; and correlation and regression are studied. Students cannot receive credit for both MATH 240 and MATH 248.

General Education Category: Mathematics.

Prerequisite: Completed college mathematics competency or appropriate score on the mathematics placement exam.

Offered: Fall, Spring, Summer.

MATH 241 - Statistical Methods II (4)

Continuation of MATH 240 at elementary level. Covers analysis of variance, multiple regression, and non-parametric statistics. Emphasis on large data sets being analyzed through computer software, and interpretation of results. Students cannot receive credit for both MATH 241 and MGT 249, nor for MATH 241 if credit was received for MATH 445.

General Education Category: Advanced Quantitative/Scientific Reasoning

Prerequisite: MATH 240

Offered: As needed.

MATH 245 – Principles of Data Science (4)

Students will be introduced to statistical computing using an appropriate software package. Topics include techniques for visualizing and managing data, statistical modeling including regression, and ANOVA.

General Education Category: Advanced Quantitative/Scientific Reasoning

Prerequisite: Math 240 or MATH 248

Offered: Fall, Spring

MATH 248 - Business Statistics I (4)

Topics include descriptive statistics, probability distributions, expected values, sampling distributions, and an introduction to estimation and hypothesis testing. Students cannot receive credit for both MATH 240 and MATH 248.

General Education Category: Gen. Ed. Advanced Quantitative/Scientific Reasoning.

Prerequisite: MATH 177 or consent of department chair.

Offered: Fall, Spring, Summer.