THEME AND APPROACH COURSES

LOGICAL AND QUANTITATIVE REASONING (LQR)
Logical and quantitative reasoning are among the fundamental ways of developing arguments and evidence in support of claims, theories, and hypotheses. These approaches utilize a combination of inductive, deductive, mathematical or statistical approaches. Courses meeting this requirement will expose students to the principles governing logical inference, the rationale behind prediction, risk, decision making, and estimation, and the fundamental mathematical principles governing physical and natural laws. Upon completing a course in this category, students should be able to do at least two of the following:

1. Analyze and evaluate mathematical or logical arguments.
2. Demonstrate an understanding of the scope and limitations of logical reasoning, including the nature of rational norms, formal languages, and logical paradoxes.
3. Describe and assess different methods of gathering information.
4. Demonstrate the ability to comprehend quantitative information embedded in common language and, conversely, to present quantitative information in well-written essays.
5. Acquire a basic understanding of the quantification of risk.
6. Propose and validate models, as well as use them for predicting future outcomes.
7. Formulate well-organized conclusions supported by quantitative evidence and statistical inference.

COURSES THAT FULFILL REQUIREMENT
50:120:283  Principles and Practices of Quantitative Biology (LQR)
50:198:100  A Tour Through Computer Science (LQR)
50:198:105  Introduction to Computer Engineering Science (LQR)
50:198:110  Introduction to Computing (LQR)
50:198:111  Programming Fundamentals (LQR)
50:198:171  Mathematical Foundations of Computer Science (LQR)
50:198:213  Data Structures (LQR)
50:198:271  Design and Analysis of Algorithms (LQR)
50:198:313  Software Design Comm App (LQR)
50:202:302  Statistics for Criminal Justice (LQR)
50:220:102  Microeconomic Principles (LQR)
50:220:103  Macroeconomic Principles (LQR)
50:615:336  Modern American Grammar (LQR)
50:640:121  Unified Calculus I (LQR)
50:640:130  Calculus for Business, Economics, and Life Sciences (LQR)
50:640:182  Elements of Probability (LQR)
50:640:237  Discrete Mathematics (LQR)
50:730:101  Introduction to Logic, Reasoning, and Persuasion (LQR)
50:730:201  Symbolic Logic (LQR)
50:790:203  Quantitative Methods in Political Science (LQR)
50:790:204  Political Methods (LQR)
50:790:307  Public Policy Analysis (LQR)
50:830:250  Statistics for Social Sciences (LQR)