Computability/Recursion theory

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Prerequisites: This course is a natural successor to 402 (Mathematical Logic). Students will need the same background as required for 402 (but not need 402 itself).

Objectives: Students will be introduced to the theory of recursive functions and its connections to other areas of mathematics. In addition to standard introductory computability theory, the course will also consider more advanced topics such as degree structures, forcing, priority methods, determinacy, and complexity theory as time permits.

Text and sections covered:

"Computability Theory: An Introduction to Recursion Theory" by H. Enderton.

        Ch 1: The Computability Concept
        Ch 2: General Recursive Functions
        Ch 3: Programs and Machines
        Ch 4: Recursive Enumerability
        Ch 5: Connections to Logic
If time allows, we will include:
        Ch 6: Degrees of Unsolvability
        Ch 7: Polynomial-time Computability