Mathematics 5576H **5 credits** **Honors Number Theory**
Au, of odd numbered years

Catalog Description:
Elementary analytic and algebraic number theory, tracing its unifying role in the development of mathematics through history.

Prerequisite:
C or better in 4182H, or in both 2182H and 3345; or credit for 264H, or for both 263H and 345; or permission of department.

Text:
An Introduction to the Theory of Numbers, 6th edition, by Hardy, Wright, Heath & Brown, published by Oxford, ISBN: 9780199219865.
Problem-Solving & Selected Topics in Number Theory: In the Spirit of the Mathematical Olympaids, by Rassias, published by Springer, ISBN: 9781441904942.

Topics List:
1. Ancient Egyptian and Mesopotamian mathematics, the Greek tradition.
2. Famous irrationalities.
3. Continued fractions and applications.
4. Prime numbers and their asymptotic properties.
5. Quadratic reciprocity.
6. p-adic numbers, Ostrowski's Theorem.
7. Fermat's last theorem: a glimpse into modern developments.

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