THE OHIO STATE UNIVERSITY

Mathematics 5529H
Honors Combinatorics
Autumn (even numbered years)
5 credits

Catalog Description:
Techniques of combinatorial mathematics; connections with geometry, algebra, analysis, and probability.

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:
Vary, for example:

- *Discrete Mathematics*, by Lovasz, Pelican & Vestergombi, published by Springer, ISBN: 9780387955858
- *Proofs from the Book*, 4th edition, by Aigner, Ziegler & Hofmann, published by Springer, ISBN: 9783642008559
- *Combinatorics: Topics, Techniques, Algorithms*, by P. Cameron, published by Cambridge University Press, ISBN: 9780521338936

Topics List:

1. Counting principles.
2. Generating functions.
3. Combinatorial probability.
4. Finite fields and applications.
5. Theory of partitions.
6. Famous graphs.
7. Ramsey theory.
8. Permutation groups.