

Mathematics 4551 Vector Analysis Autumn, Spring 3 credits

Catalog Description:

Vector operations; Jacobian and change of variables; div, grad and curl; Green's Stokes', and divergence theorems; applications.

Prerequisite:

C- or better in 2153, 2162.xx, 2173, or 2182H; or credit for 254.xx, 263.xx or 263.01H.

Exclusions:

Not open to students with credit for Math 4182H, 264H, 513 or 551.

Text:

Advanced Calculus, 5th edition, by Kaplan, published by Pearson, ISBN: 9780201799378

Topics List:

- 1. Vector operations, multiple integrals, line and surface integrals.
- 2. Vector operators: div, grad, and curl.
- 3. Jacobians and change of variables.
- 4. Green's Theorem, Stokes theorem.
- 5. Divergence Theorem.
- 6. Applications.