

MATH 226
Final exam preparation guide

Date: Wednesday, December 6, 2-4 pm.

Location: VKC 100.

You can bring one formula sheet in your own handwriting. No other notes, books or calculators are allowed.

The final exam will be cumulative, with a slight emphasis on the material of chapter 13.

An efficient way to prepare is to solve problems from old final exams:

<https://dornsife.usc.edu/mathcenter/226/>

In addition to the material of the chapters 10-12, the final exam will cover the following topics:

- Conservative vector fields: potential function.
- Fundamental theorem for line integrals, path independence of conservative vector fields.
- Green's theorem and its vector forms in terms of curl and divergence. Application of Green's theorem to area computation (exercise 19 of section 13.4)
- Curl and divergence. Suggested exercises:
Section 13.5: 11-16, 17, 19,
- Surface integrals of vector fields. Suggested exercises:
Section 13.6: 15-22, Section 13.7: 5-20, 21-31
- Stoke's theorem. Suggested exercises:
Section 13.8: 1-4, 5-8, 11, 14, 15
- Divergence theorem. Suggested exercises:
Section 13.9: 5-15, 17