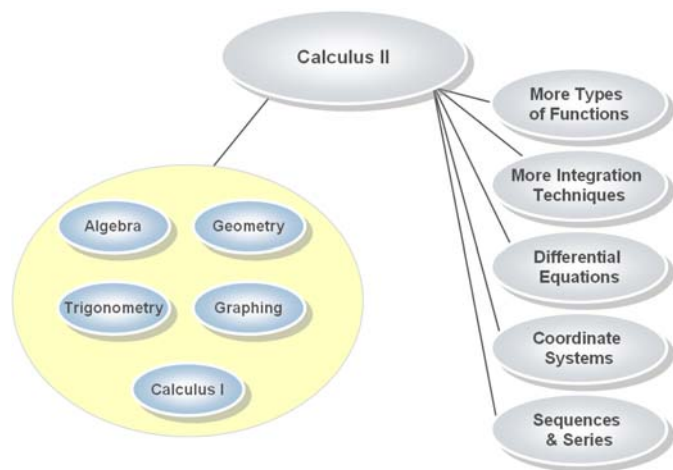


01: Introduction to Calculus II

What is Calculus II

Calculus is the study of how things change. In a first Calculus course, you learn topics such as Limits, Differentiation, and Integration. In **Calculus II**, you will extend your knowledge of Calculus to other types of functions and will learn additional techniques.

Concept Map



Calculus I Versus Calculus II

Much of Calculus II is a generalization of Calculus I.

In Calculus I, you learned:	In Calculus II, you will learn:
About derivatives and integrals of basic functions	How to extend differentiation and integration to more types of functions
What a derivative is and how to interpret it	How to solve equations that involve derivatives
What an integral is and how to use it	More advanced integration techniques
How to interpret derivative and integrals in the rectangular coordinate system	How to apply Calculus techniques to other coordinate systems

Topics In Calculus II

The general topics included in Calculus I are:

- Differentiation and Integration of Transcendental Functions
- Advanced Integration Techniques
- Differential Equations
- Different Coordinate Systems
- Infinite Sequences and Series

Study Tip

Know Prerequisite Knowledge

Mathematics in general is a cumulative subject. Calculus II is no exception. Knowing the prerequisite material will make Calculus II much easier.

Prerequisite Material Includes:

- Algebra
- Geometry
- Trigonometry
- Graphing
- Limits
- Differentiation
- Integration

Study Tip

Read Your Math Book

Remember that your math book is there to help you understand the content:

- Read your book carefully.
- Write down questions as you have them.
- Work through any steps that your book may skip over.

Study Tip

Ask Questions

If you have trouble understanding the material, ask questions.

Study Tip

Study With a Group

Your classmates are trying to learn the same material that you are. Take advantage of it.

- Organize a study group.
- Compare lecture notes.
- Work homework together.

Study Tip

Get Something Out of the Group

Remember that you will be tested individually. When studying with a group, be sure to get something out of it.

- Be an active member of the study group.
- Work some exercises alone.

Study Tip

Focus on the Concepts

Everything may not make sense all at once. Focusing on the concepts and how the procedures fit into the big picture will help you succeed in Calculus II.

How to Use This Cheat Sheet: These are the keys related this topic. Try to read through it carefully twice then recite it out on a blank sheet of paper. Review it again before the exams.