

CALCULUS II Aircraft

201-203

3-2-3

2 2/3 credits

Prereq: 201-103

Introduction In Calculus II, Integration (already briefly introduced in Calculus I), will be explored more deeply. Indeterminate Forms, Infinite Series, and Volumes of Solids of Revolution are also included in the main body of the course. The remainder of the course will consist of Series Applications and Solution of Differential Equations. Emphasis is on development of an intuitive but accurate feeling for the subject and on secure technical competence.

Course Objectives (References are to Washington)

26-3 Volumes- Disks and Shells #1-24
27-3 Derivatives of Inverse Trig Functions #1-32
27-4 Applications: Newton's Method #9-12

28-4 Basic Trig Integrals- Review #1-28
28-5 Other Trig Integrals, Root Mean Square #1-28, 37-38
28-6 Inverse Trig Integrals #1-24

Methods of Integration

Substitution recalled
28-7 Parts #1-16
28-8 Trig Substitution #1-16
28-9 Partial Fractions #1-14
28-10 Ugly Partial Fractions #1-12
Improper Integrals (Instructor's notes)

Expansion of Functions in Series

29-1 Infinite Series #13-30
29-2 Maclaurin Series #1-16
29-3 Operations #1-12
29-5 Taylor Series #9-16

Differential Equations

30-1 Solutions of Differential Equations #1-16
30-2 Separable Variables #1-20
30-3 Integrable Combinations #1-8
30-4 First Order #1-20
S-7 Euler's Method of Numerical Solution #1-1-8

Bibliography Allyn J. Washington, *Basic Technical Math with CALCULUS, 7th Edition* Cost: Approximately \$115 (Suggested)

Methods This course meets twice a week for 1 1/2 hours and once for 2 hours. Classes are primarily lectures with problem solving and discussion. Use a scientific calculator. Graphing and programmable calculators are not permitted on tests and the final exam.

Math Dept. Regulation Regular attendance is expected. Missing six classes is grounds for automatic failure in this course. Many failures are due to students missing classes.

Evaluation *** The Class Mark is based on homework (25%) and class tests (75%). This is a change. ***
There will be 4 class tests and about 10 homework.



A student must write the Final Exam if the student's class mark is 50% or more. The Final Grade is the better of:

1. 50% Class Mark, 50% Final Exam
2. 25% Class Mark, 75% Final Exam.

A student whose class mark is < 50% may choose whether or not to write the Final Exam. If the student writes the Final Exam, then the Final Grade is obtained as above. Students choosing not to write the final examination will receive a failing grade of 50% or their class mark, whichever is less.

College Policy on Cheating and Plagiarism Cheating and plagiarism are not accepted. For information on student rights and responsibilities see the Institutional Policy on the Evaluation of Student Achievement (IPESA). In the event you wish a grade review, you must keep the test at least one month past the grade review deadline.