

**BA124 Mathematics II**

**COURSE INFORMATION**

Prerequisites	Academic Year & Level		Teaching Methods			Credit Hrs.
	Year	Semester	Lecture	Tutorial	Lab.	
BA123	1	2	2	2		3

**COURSE AIM**

Developing the student skills in the art of integration by studying different methods for solving integration problems, using these methods to deal with some application in engineering, like finding the area of a bounded region, finding volumes of revolution. Moreover, this course aim at informing the students with the field of linear algebra and how to use it to solve a system of linear equations which is the heart of mathematical modeling in different fields, like physics, biology, etc...

**COURSE WEEKLY CONTENTS**

- 1 Integration by Parts
- 2 Integration by Parts and Reduction Formulas
- 3 Integrals Involving Powers of Trigonometric Functions
- 4 Trigonometric Substitution
- 5 Integration of Rational Function using Partial Fractions
- 6 Integration of Rational Expressions of Trigonometric
- 7 Midterm Exam
- 8 Improper Integrals
- 9 Area between Curves
- 10 Volume of Revolution using Disks and Washers
- 11 Length of curves - surface Area of Revolution
- 12 Matrix Algebra - 12th week Assessment
- 13 Solution of system of linear equations.
- 14 Eigenvalues and Eigenvectors.
- 15 General Revision

**STUDENT GRADING & ASSESSMENT**

Weeks	Exams	Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	20 Midterm	←	10	MARKS		→	30
To be freely distributed among possible assessments							
8 to 12	←		20	MARKS		→	20
13 to 15	←		10	MARKS		→	10
16 or 17	40 Final						40
Total	Exams	Assign.	Quizzes	Reports	Present.	Lab.	100

**REFERENCES**

Textbook Roland Minton, Robert T Smith, "Calculus: Early Transcendental Functions", McGraw-Hill Education, 2011.

Other