

B.Sc. Mathematics Pass Course

Program Specific Outcomes

The main goal of the Mathematics in educating majors is to provide them with a disciplinary training that will be of use to them in a variety of different careers. Also it helps

1. To recognize that mathematics is an art as well as a powerful foundational tool of science with limitless applications.
2. To demonstrate an understanding of the theoretical concepts and axiomatic underpinnings of mathematics and an ability to construct proofs at the appropriate level.
3. To demonstrate competency in mathematical modeling of complex phenomena, problem solving and decision making.
4. To demonstrate a level of proficiency in quantitative and computing skills sufficient to meet the demands of society upon modern educated women as global leaders.

Course Outcomes

B.Sc. 1st year

S.No	Subject code	Subjects	Subject Category	Course Outcome
1.	MATH101TH	Differential Calculus	CORE COURSE-III	After completing the course one will be able Compare and contrast the ideas of continuity and differentiability. To find maxima and minima, critical points and inflection points of functions and to determine the concavity of curves. To able to calculate limits in indeterminate forms by a repeated use of L' Hospital rule.
2.	MATH102TH	Differential Equations	CORE COURSE-VI	After studying this course one will be able to explain The concept of differential equation. Concept of linear and non-linear partial differential equations . Classifies the differential equations with respect to their order and linearity. Solves the homogeneous linear differential equations with constant coefficients. Able to solve first order higher degree equations solvable for x, y, p .

B.Sc. 2nd Year

S.No	Subject code	Subjects	Subject Category	Course Outcome
3.	MATH201TH	Real Analysis	DSC	After studying this course one will be able to demonstrate an understanding of the theory of sequences and series. Describe the concept of Cluster points, Leibnitz's test, M test .
4.	MATH202TH	Algebra	DSC	After completion of this course, students will be able To classify groups, subgroups, normal

				<p>subgroup.</p> <p>To differentiate between order of a group and order of an element of a group.</p> <p>Concept of fields ,integral domain and rings.</p>
5.	MATH309TH	Integral Calculus	SEC-1	<p>After completing this course, students will be able to</p> <p>Evaluate indefinite and definite integrals. Use definite integrals to solve application problems.</p> <p>Use various integration techniques to evaluate integrals.</p> <p>Communicate mathematical ideas using correct and appropriate notation.</p>
6.	MATH310TH	Vector Calculus	SEC-2	<p>The objective of this course is to familiarize students with</p> <p>The scalar and vector product of three and four vectors</p> <p>The Gradient, divergence and curl of sums and products</p> <p>Vector integration.</p>

B.Sc. 3rd Year

S.No	Subject code	Subjects	Subject Category	Course Outcome
7	MATH301TH	Matrices	DSE	<p>After studying this course one will be able to</p> <p>solve a system of linear equations by row-reducing its augmented form</p> <p>perform the matrix operations of addition, multiplication and transposition and express a system of simultaneous linear equations in matrix form</p> <p>determine whether or not a given matrix is invertible and if it is, find its inverse</p> <p>evaluate the determinant of a 2 x 2 or 3 x 3 matrix and use the determinant to determine whether</p>

				or not a given 2 x 2 matrix is invertible.
8	MATH304TH	Numerical Methods	DSE	<p>The course aims to provide basic knowledge to the students with numerical methods of solving the non-linear equations, interpolation, differentiation, and integration.</p> <p>To improve the student's skills in numerical methods by using the numerical analysis in software and computer facilities.</p>
9	MATH313TH	Probability and statistics	SEC-3	<p>After completing the course the students will be able to</p> <p>Explain the concept of a random event.</p> <p>Express the probability definitions.</p> <p>Define the sample space.</p> <p>Formulate theorems about the concept of probability.</p> <p>Calculate probabilities using Conditional probability, Rule of total probability and Bayes' theorem.</p> <p>explain the concept of a random variable and the probability distributions.</p> <p>Formulate the distribution functions.</p>
10	MATH317TH	Transportation and Game Theory	SEC-4	<p>The objective of the course is to acquaint students with the construction of mathematical models for managerial decision situations and to use computer software packages to obtain the solution whenever applicable.</p>