(158-SCI-10-03) M.SC. - MATHEMATICS AND SYSTEMS MODELLING

Significance of the Program

Mathematical modelling is a process that uses math concepts to explain systems, functions and events. Nearly any industry can benefit from mathematical modelling, but it's most commonly used in areas such as engineering, computer science, social science and natural science. Depending on your career and job responsibilities, you might need to use this technique to solve problems, explain why things happen and make predictions. In this article, we explain the benefits and uses of mathematical modelling and provide a few examples you can use to understand how it works

Career Options

Pursuing a professional diploma course in Mathematics and System modelling, students can explore the following opportunities:

- Actuary
- Architect
- Budget Analysis
- CAD Designer
- Data Scientist
- Teacher
- Statistician
- Surveyor

Outputs:	Outcomes:
• Mathematical proficiency: Graduates of the program should be able to apply mathematical concepts and techniques to solve problems in a variety of contexts. They should be able to understand and apply concepts from algebra, calculus, statistics, and other mathematical disciplines. • Modeling skills: Graduates should be able to develop mathematical models of real-world systems. They should be able to identify the relevant variables and relationships in a system, and apply mathematical techniques to create a model that accurately represents the system's behavior. • Problem-solving skills: Graduates should be able to apply their mathematical and modeling skills to solve complex problems. They should be able to identify and analyze problems, formulate and evaluate mathematical solutions, and communicate their findings effectively.	• Developed critical thinking skills: Graduates should be able to think critically and creatively to solve problems. They should be able to analyze complex information, identify patterns and relationships, and generate new solutions. • Strong communication skills: Graduates should be able to communicate their ideas clearly and effectively to both technical and non-technical audiences. They should be able to write reports, presentations, and other materials that communicate their findings and conclusions. • Ability to work independently and as part of a team: Graduates should be able to work independently to solve problems and manage their own workload. They should also be able to collaborate effectively with others on projects and teams.

Major Course Outline

Here's is a list of major course modules for a diploma in Mathematics and System Modeling:

- Introduction to System Modeling
- Differential Equation Modeling
- Computer-Aided Modeling
- Mathematical Foundations for System Modeling
- Applications of System Modeling