

**NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY
ITP 165 – GAMING AND SIMULATION (4 CR.)**

Course Description.

Introduces students to the concepts and applications of gaming and simulation through the use of gaming and simulation tools, as well as through basic programming skills. Lecture 4 hours. Total 4 hours per week.

General Course Purpose

This is a major course in the A.A.S. in Technical Studies: Modeling and Simulation.

Course Prerequisites/Corequisites

Prerequisite: MTH 154.

Course Objectives

Upon completion of the course, the student will be able to:

- Describe basic gaming and simulation terminology
- Analyze a given simulation problem and communicate its solution
- Examine uncertainty in gaming and simulation
- Model physical models to real world specifications
- Use discrete event simulation
- Implement basic simulations and games using a variety of software tools and programming skills.
- Explain object-oriented design

Major Topics to be Included

- Gaming Concepts and Terminology
- Problem Solving Logic using M&S
- Object Oriented Design
- Uncertainty in Simulation
- Monte Carlo Simulation
- Discrete Event Simulation
- Gaming and Simulation Tools
- Physical Modeling
- Behavioral Modeling
- Distributed Simulation Exploration
- Exploration of Career Opportunities and Skills Sets