

## COMPUTER SCIENCE (CS)

Computing is part of everything we do. The cars we drive, movies we watch, and how businesses and governments interact with us. Expertise in computing enables you to solve complex, challenging problems. CS offers rewarding and challenging possibilities for a wide range of people, regardless of their interests as it drives innovation in the sciences, engineering, and business: like the human genome project, AIDS vaccine research, environmental monitoring, and protection. Computing jobs are among the highest paid and have the highest job satisfaction, these jobs are here to stay, regardless of where you are located, actually there are more computing jobs than qualified people to fill them. Having a computing major will provide you with a foundation of knowledge, problem solving, and logical thinking that will serve as a competitive advantage to you in your career, in whatever field you choose.

We have carefully crafted the following course scheme to introduce you to the core of computing as well as advances in computing by virtue of AI (Artificial Intelligence), Design Project, Social Network Analysis and Capstone Project. Almost each course in this major has an associated lab component, which gives you depth in experimentation while you study theory and culmination is your Capstone Project, which is to be implemented by team of 3-4 students under the guidance of faculty mentor.

### Course Scheme

#### 15 Core Courses

<b>Core Courses: Year II – Sem III</b>	<b>Credits</b>
1. Computer Programming	4
2. Introduction to AI	3
3. Discrete Mathematical Structures	3
4. Probability and Statistics	4
<b>Core Courses: Year II – Sem IV</b>	
5. Operating Systems	4
6. Data Structures	4
7. Numerical Analysis	4
8. Software Engineering	4
<b>Core Courses: Year III – Sem V</b>	

9.	Design and Analysis of Algorithms	4
10.	Computer Networks	3
11.	Database Management System	4
12.	Software Project Management	3
13.	Engineering Design Project: Duckietown	4
<b>Core Courses: Year III – Sem VI</b>		
14.	Social Network Analysis	4
15.	Capstone Project	8
<b>15 Courses: 60 Credits</b>		

**Course Coordinator:** Dr. Maninder Singh (Computer Science and Engineering Department)

# Computer Science Minor

These 6 course each with 3 0 2 (4 credits) shall serve as minor in computer science.

1. Computer Programming
2. Operating Systems
3. Data Structures
4. Database Management System
5. Computer Networks
6. Software Engineering