**Subjects Introductions**

**Group 90**

**AI (Artificial Intelligence)**: (**2 credits**) AI is a branch of computer science that focuses on creating intelligent machines capable of performing tasks that typically require human intelligence. It involves developing algorithms and models to enable machines to learn, reason, perceive, and make decisions. AI has applications in various fields, including natural language processing, computer vision, robotics, and data analysis.

**Data Structures**: (**3 credits**) Data structures refer to the way data is organized, stored, and managed in computer memory. They provide efficient ways to store and retrieve data, ensuring optimal performance in various operations. Examples of common data structures include arrays, linked lists, stacks, queues, trees, and graphs. Understanding data structures is crucial for efficient algorithm design and problem-solving in programming.

**Java Development**: (**3 credits**) Java is a widely used programming language known for its platform independence and versatility. It provides a robust framework for developing software applications, ranging from web and mobile applications to enterprise systems. Java offers features like automatic memory management, strong type-checking, and extensive libraries, making it popular for building scalable and secure applications. It supports object-oriented programming principles and is widely used in backend development, Android app development, and enterprise software development.

**Advanced Mathematics**: (**5 credits**) Advanced Mathematics is a course that builds upon foundational mathematical concepts and delves into more advanced topics. It covers topics such as calculus, differential equations, linear algebra, probability theory, and mathematical analysis. This course aims to develop students' problem-solving skills and their ability to apply mathematical principles to real-world problems in fields such as physics, engineering, computer science, and economics.

**Linear Algebra**: (**3 credits**)Linear Algebra is a branch of mathematics that focuses on the study of vector spaces, linear transformations, and systems of linear equations. It provides essential tools for solving problems involving multiple variables and dimensions. Topics covered in this course include matrix operations, vector spaces, eigenvalues and eigenvectors, linear transformations, and applications in fields such as computer graphics, data analysis, and cryptography.

**Computer Networks**: (**3 credits**) Computer Networks is a course that explores the principles and protocols underlying the communication and connectivity of computer systems. It covers topics such as network architectures, network protocols, data transmission, routing algorithms, network security, and network management. This course aims to provide a solid understanding of how data is transmitted and shared between devices, and how networks are designed, implemented, and secured.

**Operating Systems:** ((**3 credits**))Operating Systems is a course that focuses on the fundamental concepts and principles behind the management and operation of computer systems. It covers topics such as process management, memory management, file systems, input/output management, and device drivers. The course also explores concepts like concurrency, scheduling algorithms, virtualization, and security. Understanding operating systems is essential for efficient and secure utilization of computer resources and the development of reliable software applications.

窗体顶端

窗体底端