

Course Outcomes (CO) - Department of Artificial Intelligence Engineering

Course Outcomes are narrower statements that describe what students are expected to know, and be able to do at the end of each course/subject. While the POs define the departmental outcomes, the COs are more oriented towards the subjects and are mostly defined by the faculties consulting higher authorities. The COs are more like statements that relate to the skills, knowledge, and behavior the students acquire as they go through a specific course within a program. They collectively contribute to the program outcomes. They are to be mapped to the POs, and not necessarily to a single one.

II Year/III Semester

Subject Name: Advanced Engineering Mathematics

Subject Code: 3AI1-01

SUBJECT Course Outcomes	
C01	Compute the discrete and continuous random variables, probability distributions, expectations, moments, MGF, mean and variances.
C02	Define and explain the different statistical distributions like Binomial, Poisson, Normal, Uniform, Exponential Distribution and to compute the method of least squares, correlation and regression
C03	To apply the theory of optimization methods to develop and for solving various types of optimization problems.
C04	To make aware of the linear programming problem by solving techniques theoretically as well as applications of Linear Programming problem.
C05	To study the numerical interpolations for equal and unequal intervals, numerical differentiation, integration and solving ordinary differential equations by numerical methods.

Subject Name: Digital Electronics

Subject Code: 3AI4-02

SUBJECT Course Outcomes	
C01	Have a thorough understanding of the fundamental concepts and techniques used in digital electronics
C02	To understand and examine the structure of various number systems and its application in digital design.
C03	The ability to understand, analyze and design various combinational and sequential circuits.
C04	Ability to identify basic requirements for a design application and propose a cost-effective solution.
C05	The ability to identify and prevent various hazards and timing problems in a digital design.

Subject Name: Data Structures & Algorithms

Subject Code: 3AI4-03

SUBJECT Course Outcomes	
C01	Understanding the fundamental analysis and time complexity for a given problem.
C02	Articulate linear & non data structures and legal operations permitted on them.
C03	Applying a suitable algorithm for searching and sorting.
C04	Understanding graph algorithms, operations, and applications and the importance of hashing.
C05	Application of appropriate data structures to find solutions to practical problems.

Subject Name: Object Oriented Programming**Subject Code: 3AI4-04**

SUBJECT Course Outcomes	
C01	Understand the requirement and benefits of object-oriented programming languages.
C02	Understand basic concepts & structure of object-oriented programming language using C++.
C03	Understand the memory management in object-oriented paradigm.
C04	Understand and implement polymorphism using different ways such as function and operator overloading.
C05	Learn and implement exception handling mechanism for robust software development in C++.

Subject Name: Software Engineering**Subject Code: 3AI4-05**

SUBJECT Course Outcomes	
C01	Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
C02	Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
C03	Communicate effectively with a range of audiences.

Subject Name: Introduction to Artificial Intelligence**Subject Code: 3AI4-06**

SUBJECT Course Outcomes	
C01	Know the Essential concepts of Artificial Intelligence and its real time use.
C02	Solve basic AI based problems
C03	Select appropriately from a range of techniques when implementing AI systems.

Subject Name: Data Structures & Algorithms Lab**Subject Code: 3AI4-21**

SUBJECT Course Outcomes	
C01	Be able to design and analyze the time and space efficiency of the data structure.
C02	Understand the concept of static & Dynamic memory management.
C03	Be capable to identify the appropriate data structure for given problem.
C04	Have practical knowledge on the applications of data structures.

Subject Name: Object Oriented Programming using C++ Lab**Subject Code: 3AI4-22**

SUBJECT Course Outcomes	
C01	Hands on practice of basic C++ syntax
C02	Hands on practice of class, object and abstraction
C03	Hands on practice of inheritance using class hierarchy
C04	Hands on practice of function and operator overloading, Templates
C05	Hands on practice of exception handling mechanism for robust software development in C++

Subject Name: Linux and Shell Programming Lab

Subject Code: 3AI4-23

SUBJECT Course Outcomes	
C01	To experiment with various basic commands, redirection and input/output of UNIX based operating systems
C02	To develop shell scripts for various built-in commands of UNIX
C03	To experiment with fundamental concepts of programming like loops, conditions, operators etc specific to Shell Programming
C04	To develop shell scripts to perform tasks varying from simple to complex level

Subject Name: Digital Electronics Lab

Subject Code: 3AI4-24

SUBJECT Course Outcomes	
C01	Understand different Number systems, Codes, Logic Gates, Boolean laws & theorems
C02	Simplify the Boolean functions to the minimum number of literals
C03	Design & implement different types of combinational logic circuits using Logic gates
C04	Design & implement different types of sequential logic circuits using Flip Flops
C05	Design & implement different types of Counters, Registers, and Programmable Logic Devices

II Year/IV Semester

Subject Name: Discrete Mathematical Structure

Subject Code: 4AI1-01

SUBJECT Course Outcomes	
C01	Understand the language of logic
C02	Understand the concept of sets, relation, function and counting principle
C03	Understand different terminologies and theorem of Graph Theory
C04	Understand Algebraic Structures.

Subject Name: Microprocessor and Interfaces

Subject code: 4AI4-02

SUBJECT Course Outcomes	
C01	Basic understanding of 8085 microprocessor, timing diagram and memory mapping.
C02	Understand ISA for 8085 and also How to design ISA for some other microprocessors.
C03	Write basic program in assembly language and concept of other Programmable peripheral devices.
C04	Interface I/O devices, interrupt controller and DMA.
C04	Basic understanding of design ISA and further design their own processor.

Subject Name: Theory of Computation**Subject Code: 4AI4-03**

SUBJECT Course Outcomes	
C01	Able to classify Language and Grammar in Type0, Type1, Type2 and Type3. Design the Grammar for given string or languages.
C02	Able to design the FA, PDA and TM for given string and languages.
C03	Able to convert PDA to CFG. Able to apply the pumping lemma for regular languages
C04	Able to demonstrate that a grammar is ambiguous. Simplification of the CFG, representations of grammars in CNF and GNF.
C05	Understanding the concepts of LBA, NP Complete and NP Hard.

Subject Name: Database Management System**Subject Code: 4AI4-04**

SUBJECT Course Outcomes	
C01	Describe DBMS architecture, physical and logical database designs, database models, entity-relationship model.
C02	Understand relational algebra, relational calculus importance and query writing
C03	Apply Structured query language (SQL) for database definition, database manipulation, data control.
C04	Understanding of normalization theory and apply it to normalize databases.
C05	Understand various transaction processing, concurrency control mechanisms and database protection mechanisms.

Subject Name: Introduction to Python Programming**Subject Code: 4AI4-05**

SUBJECT Course Outcomes	
C01	Know the Essential concepts of Python Programming and its real time use
C02	Design algorithms and source code
C03	Use of suitable data structure and logic for problem solving.

Subject Name: Introduction to Java Programming**Subject Code: 4AI4-06**

SUBJECT Course Outcomes	
C01	Understand the features of Java such as operators, classes, objects, inheritance, packages and exception handling
C02	Learn latest features of Java like garbage collection, Console class, Network interface, APIs
C03	Acquire competence in Java through the use of multithreading, applets
C04	Get exposure to advance concepts like socket and database connectivity

Subject Name: Database Management Systems Lab**Subject Code: 4AI4-21**

SUBJECT Course Outcomes	
C01	Installation of Backend and front end
C02	Writing DDL queries effectively
C03	Writing advance DML queries in MySQL
C04	Writing DCL queries, triggers and views
C05	Developing a web-based or client server-based application

Subject Name: Microprocessor and Interfaces Lab**Subject Code: 4AI4-22**

SUBJECT Course Outcomes	
C01	Ability to write assembly language program for data transfer and control instructions.
C02	Ability to write assembly language program for Arithmetic calculation using register pair
C03	Ability to Write assembly language program for interfacing with Programmable peripheral devices.
C04	Assembly language programming for general purpose problems like traffic light controller, control the speed of step motor etc.
C05	To make live projects using assembly language and interfacing with PPI and see outputs on CRO and other electronic devices.

Subject Name: Python Programming Lab**Subject Code: 4AI4-23**

SUBJECT Course Outcomes	
C01	Demonstrate and understanding of programming language concepts
C02	Identify and abstract the programming task involved for a given problem
C03	Design and develop modular programming skills
C04	Trace and debug a program.

Subject Name: Java Programming Lab**Subject Code: 4AI4-24**

SUBJECT Course Outcomes	
C01	Implement the features of Java such as operators, classes, objects, inheritance, packages and exception handling
C02	Design problems using latest features of Java like garbage collection, Console class, Network interface, APIs
C03	Develop competence in Java through the use of multithreading, Applets etc
C04	Apply advance concepts like socket and database connectivity, and develop project based on industry orientation