

Major Discipline

COMPUTER APPLICATIONS

PROGRAMME OUTCOME

PO1: Critical thinking

- Analyze information objectively and make a reasoned judgment
- Draw reasonable conclusions from a set of information, and
- Discriminate between useful and less useful details to solve problems or make decisions
- Identify logical flaws in the arguments of others
- Evaluate data, facts, observable phenomena, and research findings to
- Draw valid and relevant results that are domain-specific

PO2: Complex problem-solving

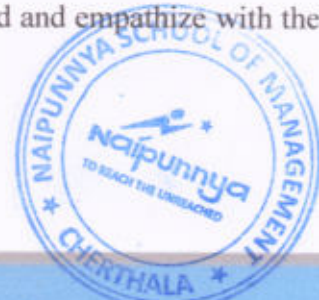
- Solve different kinds of problems in familiar and no-familiar contexts
- And apply the learning to real-life situations
- Analyze a problem, generate and implement a solution and to assess
- The success of the plan
- Understand how the solution will affect both the people involved and
- The surrounding environment

PO3: Creativity

- Produce or develop original work, theories and techniques
- Think in multiple ways for making connections between seemingly
- Unrelated concepts or phenomena
- Add a unique perspective or improve existing ideas or solutions
- Generate, develop and express original ideas that are useful or have
- Values

PO4: Communication skills

- Convey or share ideas or feelings effectively
- Use words in delivering the intended message with utmost clarity
- Engage the audience effectively
- Be a good listener who are able to understand, respond and empathize with the speaker
- Confidently share views and express himself/herself



PO5: Leadership qualities

- Work effectively and lead respectfully with diverse teams
- Build a team working towards a common goal
- Motivate a group of people and make them achieve the best possible solution.
- Help and support others in their difficult times to tide over the adverse situations with courage

PO6: Learning 'how to learn' skills

- Acquire new knowledge and skills, including 'learning how to learn' skills, that are necessary for pursuing learning activities throughout life, through self-paced and self-directed learning
- Work independently, identify appropriate resources required for further learning
- Acquire organizational skills and time management to set self-defined goals and targets with timelines
- Inculcate a healthy attitude to be a lifelong learner

PO7: Digital and technological skills

- Use ICT in a variety of learning and work situations, access, evaluate, and use a variety of relevant information sources
- Use appropriate software for analysis of data
- Understand the pitfalls in the digital world and keep safe from them

PO8: Value inculcation

- Embrace and practice constitutional, humanistic, ethical, and moral values in life including universal human values of truth, righteous conduct, peace, love, nonviolence, scientific temper, citizenship values
- Formulate a position/argument about an ethical issue from multiple perspectives
- Identify ethical issues related to work, and follow ethical practices, including avoiding unethical behavior such as fabrication, falsification or misrepresentation of data, or committing plagiarism, and adhering to intellectual property rights
- Adopt an objective, unbiased, and truthful actions in all aspects of work



PROGRAMMES SPECIFIC OUTCOME

- PSO1.** Demonstrate in-depth knowledge of core computer science and ethical principles and their application in developing modern software applications
- PSO1.** Cultivate proficiency in industry-standard programming languages and frameworks for building user-centric and innovative applications
- PSO2.** Gain hands on experience in diverse application domains with an emphasis on emerging technologies
- PSO3.** Employ advanced data analytics and methods for innovative research.



COURSE OUTCOME

SEMESTER - 1

UK1DSCCAP100 - FUNDAMENTALS OF IT & COMPUTERS

- CO1: Summarize the basic concepts about computer
- CO2: Illustrate internet basics and tools usage
- CO3: Make use of emerging technologies in Computer Science
- CO4: Identify some foundation level tools used in Artificial Intelligence

UK1DSCCAP101 – PROBLEM SOLVING USING C

- CO1: Illustrate the concepts and structure of a C program.
- CO2: Make use of control structures, arrays and strings.
- CO3: Develop programs using functions and pointers.
- CO4: Demonstrate the concepts of structures, union and files.

UK1DSCCAP102 - DESKTOP MANAGEMENT

- CO1: Relate with the concepts of a desktop
- CO2: Experiment with desktop activities
- CO3: Illustrate general usage of systems
- CO4: Utilize the specifics on a desktop

UK1DSCCAP103 - OPEN OFFICE

- CO1: Use different types of software create, edit, format, save and print office documents.
- CO2: Learn advanced features of word processor
- CO3: Manipulate data using spread sheet software.
- CO4: Develop professional presentation using Presentation

UK1DSCCAP104 - INTRODUCTION TO CYBER LAW

- CO1: Understand the definition, origin, typology, and impact of cybercrimes and cyber security
- CO2: Interpret the methods and techniques of phishing, and identity thefts and devise countermeasures against them.
- CO3: Analyze the evolution, features, authorities and jurisdictions under IT Act, and understand penalties for offences
- CO4: Analyze legislative aspects of cyberspace, related to trademark and copyright laws.

UK1DSCCAP105 - WEB DESIGNING USING HTML

- CO1: Illustrate the basic features of HTML5
- CO2: Use advanced HTML features for web designing
- CO3: Develop basic stylesheets in various CSS levels
- CO4: Develop stylesheets for high level visual designs



UK1MDCCAP100 - WEB DESIGNING USING HTML5 AND CSS3

- CO1: Illustrate the basic features of HTML5
- CO2: Use advanced HTML features for web designing
- CO3: Develop basic stylesheets in various CSS levels
- CO4: Build websites using HTML and CSS

UK1MDCCAP101 - INTRODUCTION TO IT

- CO1: Summarize the basic ideas of Computer Technologies
- CO2: Identify Computer Hardware components
- CO3: Explain the basics of Software
- CO4: Discuss the tools and applications of Network

UK1MDCCAP102 - BASICS OF MICROPROCESSORS

- CO1: Describe the basic architecture and Instruction set of 8085 microprocessor.
- CO2: Discuss 8085 Instruction set, Learn Fetch, Decode and Execute operations and draw timing diagrams.
- CO3: Discuss 8086 architecture, instruction set and draw the timing diagram for 8086 microprocessors.
- CO4: Develop Assembly Language Programs

UK1MDCCAP103-DIGITAL MARKETING

- CO1: Infer about various types of digital marketing (DM) and marketing environment
- CO2: Discuss about the payment systems and security strategies adopted in e-banking
- CO3: Identify the challenges involved in digital marketing strategies
- CO4: Use different digital marketing techniques

UK1MDCCAP104 - INTRODUCTION TO ANIMATION

- CO1: Outline fundamental aspects of Blender
- CO2: Develop knowledge of Blender interface elements, such as panels, menus, and editor.
- CO3: Use basic modelling techniques in Blender
- CO4: Develop models of various objects

SEMESTER 2

UK2DSCCAP100 - OBJECT ORIENTED PROGRAMMING USING C++

- CO1: Understand the concepts of classes and object
- CO2: Apply the object initialization and destroy concept using constructors and destructors
- CO3: Apply the concept of polymorphism to implement compile time polymorphism in programs by using

CO4: Apply the concept of inheritance to reduce the length of code and evaluate the usefulness

CO5: Apply the concept of file I/O and exception

UK2DSCCAP101: E-COMMERCE

CO1: Outline E-commerce basics

CO2: Identify various types of E-commerce strategies

CO3: Explain E-commerce Technology Infrastructure

CO4: Differentiate between various digital commerce

CO5: technologies and tools

UK2DSCCAP102- INTRODUCTION TO MULTIMEDIA

CO1: Have an outline of multimedia concepts

CO2: Interpret the various multimedia representations

CO3: Develop basic multimedia content

CO4: Summarize programming aspects applicable for multimedia

UK2DSCCAP103: INTRODUCTION TO DATA STRUCTURES

CO1: Discuss about data structure classification and applications in searching and sorting

CO2: Demonstrate the concept and usage of linked lists

CO3: Summarize about stack, queue and its applications

CO4: List various types of trees and operations

UK2DSCCAP104 - INTRODUCTION TO DATA SCIENCE

CO1: Discuss about the fundamentals of Data Science

CO2: Illustrate the usage of Data Pre-processing techniques

CO3: Use data science concepts in real world problems

CO4: Build Data Analytics and management Skill

UK2DSCCAP105- MODERN WEB TECHNOLOGIES

CO1: Illustrate the basic skills in JavaScript

CO2: Develop the client-side scripts using JavaScript

CO3: Illustrate the main ideas behind React JS

CO4: Develop interactive user interfaces using React JS

UK2MDCCAP100- OFFICE AUTOMATION

CO1: Use different types of software create, edit, format,

CO2: Learn advanced features of word processor

CO3: Manipulate data using spread sheet software.

CO4: Develop professional presentation using Presentation

UK2MDCCAP101- SOCIAL MEDIA MANAGEMENT

CO1: State the concepts in social media and relevance of popular social media platforms

CO2: Illustrate the role of social networks, microblogging and discussion boards

CO3: Summarize about Social news, Q&A sites, Mobile computing and Location marketing



CO4: Focus on the process of social media monitoring, tools used and Social Media Marketing Plan

UK2MDCCAP102- DIGITAL LOGIC SYSTEMS

- CO1: Summarize the concepts of number systems
- CO2: Illustrate the basic laws of Boolean algebra and concepts of logic circuits
- CO3: Develop sequential circuits, such as counters and flipflops.
- CO4: Design various combinational logic circuits and apply it

UK2MDCCAP103 - PYTHON FOR DATA SCIENCE

- CO1: Develop knowledge on Python
- CO2: Identify basic Data structures in Python
- CO3: Use Dictionaries and functions in Python
- CO4: Manipulate Data Using Numpy and Python Pandas

SEMESTER 3

UK3DSCCAP200: FOSS

- CO1: Differentiate Open Source and Proprietary software
- CO2: Explain the policies, licensing, and ethics
- CO3: Illustrate the open-source ecosystem and methodologies
- CO4: Compare the benefits, features and applications of Opensource technologies

UK3DSCCAP201 - DATABASE MANAGEMENT SYSTEMS

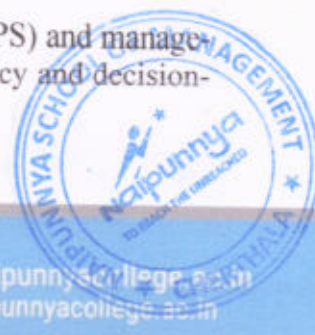
- CO1: Understand the concept of database.
- CO2: Create a database using SQL and perform operations in SQL.
- CO3: Build ER diagrams using ER design concepts
- CO4: Demonstrate the design concepts and normalization in the database.

UK3DSCCAP202 - PRINCIPLES OF SECURE CODING

- CO1: Describe the difference between C and C++ and to identify the problems in C and C++
- CO2: Explain dynamic memory management in C and C++ U PSO-1
- CO3: Explain the problems and solutions in Integer security, formatted output and concurrency
- CO4: Describe File/IO and access control

UK3DSCCAP203- MODERN INFORMATION SYSTEMS

- CO1: Understand the fundamental principles of information systems within contemporary organizational environments
- CO2: Analyze, evaluate and integrate transaction processing systems (TPS) and management information systems (MIS) to enhance organizational efficiency and decision-making processes.



- CO3: Evaluate the influence of decision support systems (DSS) and executive information systems (EIS) on organizational decision-making processes.
- CO4: Evaluate the functions, challenges, and effects of executive support systems (ESS) and knowledge management systems (KMS) within organizations.
- CO5: Create information systems by integrating various types by examining emerging technologies with ethical and legal considerations.

UK3DSCCAP204 - COMPUTER GRAPHICS

- CO1: Familiarize the basic principles of computer graphics, different input/output devices and graphic operations.
- CO2: Experiment with algorithms to generate computer graphic primitives, specifically straight line and polygon filling.
- CO3: Illustrate 2D transformations and clipping operations in computer graphics, different methods for transformations.
- CO4: Demonstrate 3D computer graphics techniques, the concept of projections and various surface detection algorithms.

UK3DSCCAP205- SYSTEM SOFTWARE

- CO1: Differentiate between various types of system software and their specific roles.
- CO2: Explain basic assembler and loader functions
- CO3: Identify basic functions of loaders and linkers
- CO4: Gain proficiency in macro processor functionalities, text editing tools, and interactive debugging systems

UK3DSCCAP206-LOW CODE APP DEVELOPMENT

- CO1: Understand the fundamentals of No-Code, Workflows and perform Web Scraping using a No-Code App
- CO2: Build a website using the popular No-Code Apps Web flow and Bubble.io
- CO3: Build Mobile Apps using the popular No-Code Apps Glide and Thinkable
- CO4: Build AI-powered apps using No-Code AI Tools

UK3DSECAP200- INTRODUCTION TO CYBER SECURITY

- CO1: Gain a solid understanding of the fundamental principles and concepts of cyber security.
- CO2: Identify best practices for securing digital assets.
- CO3: Demonstrate awareness of common cyber threats and techniques used by attackers.
- CO4: Identify measures for implementing cyber security.

UK3DSECAP201- DATA SCIENCE FUNDAMENTALS

- CO1: Discuss about the fundamentals of Data Science
- CO2: Illustrate the usage of Data Pre-processing techniques
- CO3: Use data science concepts in real world problems
- CO4: Build Data Analytics and management Skill

UK3DSECAP202- INTRODUCTION TO ARTIFICIAL INTELLIGENCE

- CO1: Infer basic ideas about Artificial Intelligence (AI) and Intelligent Agents



- CO2: Demonstrate the different searching techniques practised in
- CO3: Summarize knowledge representation and reasoning in the context of AI
- CO4: Illustrate AI Problems and different ways of problem solving

UK3DSECAP203- WEB DEVELOPMENT USING HTML 5

- CO1: Illustrate the basic features of HTML5
- CO2: Use advanced HTML features for web designing
- CO3: Develop basic stylesheets in various CSS levels
- CO4: Experiment with stylesheets for high level visual designs

UK3VACCAP200- ENTREPRENEURSHIP IN IT

- CO1: Summarize basic concepts of Entrepreneurship
- CO2: Categorize entrepreneurs and features of enterprises
- CO3: Explain the principles and tools that support building a startup
- CO4: Identify concepts that provide legal protection to startups and enterprises

UK3VACCAP201-PROFESSIONAL ETHICS IN COMPUTER SCIENCE

- CO1: Cite the core values that shape the ethical behaviour of a professional.
- CO2: Adopt a good character and follow an ethical life.
- CO3: Explain the role and responsibility in technological development by keeping personal ethics and legal ethics.
- CO4: Solve moral and ethical problems through exploration and assessment by established experiments.

SEMESTER 4

UK4DSCCAP200- GAME DEVELOPMENT

- CO1: Understand the principles of game design and development.
- CO2: Learn the fundamentals of designing interactive and engaging gameplay experiences.
- CO3: Explore the stages of the game development process.
- CO4: Gain proficiency in using Unity for game creation and development.

UK4DSCCAP201-SOFTWARE ENGINEERING

- CO1: Apply the software development life cycle models in various project contexts.
- CO2: Infer the role of software project management and software requirement specification (SRS) document.
- CO3: Illustrate the concepts of structured and object-oriented analysis & design.
- CO4: Demonstrate the principles of coding, testing and the need for software quality management and maintenance.

UK4DSCCAP202-DATA MINING

- CO1: Understand data mining concepts, applications and their usage.
- CO2: Apply data mining techniques and methods to datasets



- CO3: Illustrate the concept of classification algorithms and their applications
- CO4: Interpret different cluster analysis methods

UK4DSCCAP203-PYTHON PROGRAMMING

- CO1: Discuss basic concepts of Python Programming
- CO2: Summarize about mutable and immutable data types in Python
- CO3: Illustrate flow control techniques in python programming
- CO4: Apply object-oriented concepts in python programming

UK4DSCCAP204-CRYPTOGRAPHY AND NETWORK SECURITY

- CO1: Summarize the Basic Concepts of Security
- CO2: Compare the working and use of Cryptographic Algorithms
- CO3: Infer about public key infrastructure in cryptography
- CO4: Present the Various Authentication Systems

UK4DSCCAP205 - TRENDS IN COMPUTING

- CO1: Outline on Grid Computing
- CO2: Summarize basic concepts on Cloud Computing
- CO3: Identify challenges faced in Edge Computing
- CO4: Explain ideas behind Quantum Computing

UK4DSECAP200- ETHICAL HACKING

- CO1: Describe the ethics, legality, methodologies and techniques of hacking
- CO2: Explain the types of attacks and their common prevention mechanisms
- CO3: Apply various tools for hacking in real time machines
- CO4: Illustrate Systems Hacking and Applications Hacking.

UK4DSECAP201 - PYTHON FOR DATA ANALYTICS

- CO1: Familiarize Data Analytics Lifecycle and Python basics
- CO2: Comprehend various Python Data Structures and Modules
- CO3: Effectively handle data processing using Pandas library, data frames, and data extraction methods.
- CO4: Experiment with Python libraries Matplotlib and Seaborn for data visualization of both categorical and continuous variables.

UK4DSECAP202-KNOWLEDGE REPRESENTATION AND INTELLIGENT AGENTS

- CO1: Interpret the efficiency of different algorithm design methods
- CO2: Apply heuristic search techniques
- CO3: Represent and manage knowledge effectively using various structures, enhancing problem-solving skills
- CO4: Distinguish between the types of intelligent agents



UK4DSECAP203-WEB SCRIPTING USING JAVASCRIPT

- CO1: Illustrate the basic skills in JavaScript
- CO2: Develop the client-side scripts using JavaScript
- CO3: Illustrate the main ideas behind React JS
- CO4: Develop interactive user interfaces using React JS

UK4VACCAP200 - ETHICAL HACKING

- CO1: Describe the ethics, legality, methodologies and techniques of hacking
- CO2: Explain the types of attacks and their common prevention mechanisms
- CO3: Apply various tools for hacking in real time machines
- CO4: Illustrate Systems Hacking and Applications Hacking.

UK4VACCAP201- SOFTWARE QUALITY MANAGEMENT

- CO1: Summarize software quality management concepts, principles.
- CO2: Relate knowledge, skills, and tools necessary to implement metrics-driven quality improvement initiatives.
- CO3: Make use of knowledge, skills, and tools necessary to effectively plan, execute, and manage software testing activities.
- CO4: Identify tools necessary to implement continuous improvement methodologies, process improvement frameworks.

UK4VACCAP202- ETHICAL AI AND RESPONSIBLE COMPUTING

- CO1: Summarize main concepts of AI with a focus on the ethical implications.
- CO2: Identify AI governance issues and outcomes
- CO3: Explain professional codes of conduct.
- CO4: Identify the ethical issues, and standards used in AI.

UK4VACCAP203-PREFACE TO CYBER LAWS

- CO1: Summarize the concepts of cyberlaws and cyberspace.
- CO2: Outline Information Technology Act 2000, including its amendments,
- CO3: Illustrate various types of cybercrimes, their legal implications.
- CO4: Explain the concepts of digital signatures

UK4SECCAP200-CONTENT MANAGEMENT

- CO1: Understand the fundamental concepts of Content Management Systems (CMS) and their importance in web development.
- CO2: Demonstrate proficiency in installing, configuring, and customizing WordPress for different website requirements.
- CO3: Create and manage various types of content such as posts, pages, media, and menus using WordPress.
- CO4: Utilize themes and plugins to enhance the functionality and design of WordPress websites.



UK4SECCAP201- COMPUTER HARDWARE MAINTENANCE

- CO1: Understand the fundamental principles of computer hardware components.
- CO2: Learn techniques for hardware installation, upgrading, and configuration.
- CO3: Develop skills to diagnose and troubleshoot common hardware problems.
- CO4: Implement preventive maintenance strategies to prolong the lifespan and optimize performance of computer

UK4SECCAP202 - ANDROID PROGRAMMING USING KOTLIN

- CO1: Understand and set up the Android Eco system through Android Studio and Kotlin, following essential OOP
- CO2: Master the basics of Kotlin with emphasis on control structures, data types and operators.
- CO3: Demonstrate comprehensive knowledge of Functions and Object-Oriented Programming concepts in Kotlin.
- CO4: Design and develop Android applications, understanding components like layouts, user interactions, intents, shared
- CO5: Publish a fully-fledged Android application on Google Play, demonstrating real-world

SEMESTER 5

UK5DSCCAP300-PHP AND MYSQL

- CO1: Discuss features, Basics and building blocks of PHP
- CO2: Restate object object-oriented paradigm
- CO3: Employ web designing and integrate it with PHP
- CO4: Develop skills to manage front end and back end.

UK5DSCCAP301- COMPUTER NETWORKS

- CO1: Infer basics of Computer Networks and the role of network reference models.
- CO2: Demonstrate error detection, error control and flow control in the data link layer.
- CO3: Explore the different protocols used in network and transport layer
- CO4: Summarize the features and operations of various application layer protocols.

UK5DSCCAP302- ARTIFICIAL INTELLIGENCE

- CO1: Infer basic ideas about Artificial Intelligence (AI) and Intelligent Agents
- CO2: Demonstrate the different searching techniques practised in
- CO3: Use concepts of knowledge representation and reasoning in the context of AI
- CO4: Illustrate AI Problems and different ways of problem solving
- CO5: List major learning techniques used in AI

UK5DSCCAP303-OPERATING SYSTEM

- CO1: Summarize the basic functions and services of operating system.



CO2: Compare various process scheduling methods and to demonstrate deadlock handling.

CO3: Demonstrate the memory management techniques and page replacement algorithms

CO4: Sketch file allocation methods and disk scheduling

UK5DSCCAP304-SOFTWARE PROJECT MANAGEMENT

CO1: Outline the importance of Project Management

CO2: Develop Project Schedules

CO3: Identify Project risks

CO4: Relate with the project procurement process

UK5DSCCAP305- PROGRAMMING IN JAVA

CO1: Discuss about the core concepts of Java U PSO-1,2,3

CO2: Illustrate advanced features of Java in programming context

CO3: List Java methods in Packages, Exception Handling & Multithreading

CO4: Summarize Applet concepts and its use in event handling

UK5DSECAP300-CRYPTOGRAPHY AND NETWORK SECURITY

CO1: Summarize the Basic Concepts of Security

CO2: Compare the working and use of Cryptographic Algorithms

CO3: Infer about public key infrastructure in cryptography

CO4: Present the Various Authentication Systems

UK5DSECAP301-CYBER FORENSICS

CO1: Outline the key concepts in cyber forensics.

CO2: Summarise network forensics techniques and investigation of cyber attacks

CO3: Explain about various kinds of Internet related crimes

CO4: Identify various types of violations

UK5DSECAP302-DATA MINING

CO1: Cite the fundamentals of data mining

CO2: Summarize about pre-processing techniques

CO3: Illustrate the data integration, transformation and reduction techniques

CO4: Experiment with classification and prediction models.

UK5DSECAP303-DATA VISUALIZATION

CO1: Define between physical and abstract types

CO2: Understand Visualization, data maps, time series and text visualization

CO3: Apply design for visualization

CO4: Compare different data and image models

UK5DSECAP304-INTRODUCTION TO MACHINE LEARNING USING PYTHON

CO1: Summarize the definition and significance of machine learning R



- CO3: Develop cluster management system using Apache Ambari
- CO4: Restate HDFS, NoSQL and Apache Spark

UK6DSECAP304: RECOMMENDATION SYSTEMS

- CO1: Summarize Recommendation system concepts
- CO2: Apply data mining methods
- CO3: Make use of skills in Content-based Recommender Systems
- CO4: Explain different techniques for collaborative filtering

UK6DSECAP305: DEEP LEARNING

- CO1: Understand the concepts of deep learning
- CO2: Apply deep neural networks in various real-world problems
- CO3: Apply various methods in convolutional neural networks
- CO4: Illustrate the working various learning methods

UK6DSECAP306-MOBILE APPLICATION DEVELOPMENT

- CO1: Outline the fundamentals of mobile applications and their significance in the current digital landscape.
- CO2: Summarize mobile app development process from ideation to deployment, including design considerations, development stages, and testing.
- CO3: Experiment in Flutter framework, its architecture, widgets, and features.
- CO4: Develop a basic mobile application using Flutter.

UK6DSECAP307: EMERGING TRENDS IN WEB DEVELOPMENT

- CO1: Summarize the fundamentals of web hosting and publishing
- CO2: Develop Progressive Web Apps (PWAs) integrating Web App Manifest and Service Workers effectively.
- CO3: Develop secure Web Assembly modules, comprehending its structure, languages, and known sections
- CO4: Make use of skills in GraphQL effectively

UK6DSECAP300: MOBILE APPLICATION DEVELOPMENT

- CO1: Outline the fundamentals of mobile applications and their significance in the current digital landscape.
- CO2: Summarize mobile app development process from ideation to deployment, including design considerations, development stages, and testing.
- CO3: Experiment in Flutter framework, its architecture, widgets, and features.
- CO4: Develop a basic mobile application using Flutter

UK6SECCAP301: GAME APPLICATION DEVELOPMENT

- CO1: Understand the principles of game design and development.
- CO2: Learn the fundamentals of designing interactive and engaging gameplay experiences.



- CO3: Explore the stages of the game development process.
CO4: Gain proficiency in using Unity for game creation and development.

UK6SECCAP302-CLOUD COMPUTING

- CO1: Outline the basics of cloud computing
CO2: Differentiate between the various technologies of cloud computing.
CO3: Recognize the applications of Cloud
CO4: Compare various Cloud Services

UK6SECCAP303: ENTREPRENEURSHIP IN IT

- CO1: Summarize basic concepts of Entrepreneurship
CO2: Categorize entrepreneurs and features of enterprises
CO3: Explain the principles and tools that support building a startup
CO4: Identify concepts that provide legal protection to startups and enterprises

SEMESTER 7

UK7DSCCAP400: CLOUD ARCHITECTURE

- CO1: Summarize on cloud computing architecture and infrastructure
CO2: Infer about various cloud computing solutions. U PSO-1
CO3: Relate with the core issues of cloud computing such as risks, security, privacy, and disaster recovery
CO4: Explain about new trends in cloud computing

UK7DSCCAP401: MOBILE AND WIRELESS SECURITY

- CO1: List the security threats in Mobile and Wireless Networks.
CO2: Explain the different security measures in Mobile and Wireless Networks.
CO3: Identify the various advantages and disadvantages of different security measures.
CO4: Explain the various types of security issues in wireless networks.

UK7DSCCAP402: DEVOPS

- CO1: Understand the fundamentals of DevOps culture, principles, and practices. U
CO2: Learn about key DevOps tools and technologies for automation, configuration management, and monitoring.
CO3: Students will gain proficiency in using DevOps tools and technologies such as Git, Jenkins, Docker.
CO4: Students will have acquired the knowledge, skills, and abilities to effectively implement DevOps practices in software development environments.

UK7DSCCAP403 - FULL STACK DEVELOPMENT

- CO1: Summarize basic concepts of full stack development
CO2: Develop Applications using Express and Angular



CO3: Build Applications with REACT

CO4: Construct a MERN Stack

UK7DSCCAP404: NETWORK ADMINISTRATION

CO1: Outline on the network components, OSI model, TCP/IP suite, Ethernet standards, and security principles

CO2: Differentiate wired and wireless media, install cables, configure network addresses, and perform subnetting for IPv4 and IPv6.

CO3: Configure switching, VLANs, DNS, and wireless networks, adhering to IEEE 802.11 standards while ensuring security and basic network design principles.

CO4: Experiment with routing concepts, and configure them for efficient data transmission.

UKDSCCAP405: AUGMENTED REALITY

CO1: Identify, examine, and develop software that reflects fundamental techniques for the design and deployment of VR and AR experiences.

CO2: Describe how VR and AR systems work.

CO3: Explain the use of designs for AR and VR experiences.

CO4: Illustrate the benefits and drawbacks of specific AR and VR techniques on the human body.

UK7DSCCAP406: MAN, MACHINE INTERFACE

CO1: Summarize the fundamental concepts and principles of good man-machine interface design

CO2: Explain design goals and principles to plan, organize, order and design screen elements effectively.

CO3: Illustrate integration of various interface components in interface designs based on various considerations.

CO4: Use interactive interface designs for software applications.

UK7DSCCAP407: RESEARCH METHODOLOGY

CO1: Understand the distinction between research methods and methodology and apply them effectively in their research projects.

CO2: Demonstrate competency in various methods of data collection, such as observation, interviews, questionnaires, schedules, and others, and apply them according to the research objectives.

CO3: Demonstrate proficiency in editing raw data, coding variables, classifying data into meaningful categories, and tabulating data for analysis.

CO4: Develop skills in the various steps involved in preparing scientific reports, including layout, structure, and language considerations.

UK7DSCCAP408-HASKELL PROGRAMMING

CO1: Discuss the foundational concepts in Functional Programming



- CO2: Explain about Numbers and Lists in Functional Programming
- CO3: Predict the relevance of proofs and efficiency through various methods
- CO4: Summarize the concepts in Imperative Functional Programming

UK7DSCCAP409: ACADEMIC WRITING AND PUBLISHING

- CO1: Identify ethical considerations in research including matters of falsification, fabrication, plagiarism and the principles of transparency in scholarly publishing,
- CO2: Explain open access initiatives, familiarise with software tools for reference management and antiplagiarism.
- CO3: Prepare academic documents using latex editors using document class, sectioning, environment, basic type setting commands, tables and figure
- CO4: Produce documents having charts, index, bibliography & citation, presentation slides and posters

UK7DSCCAP410: BIG DATA ANALYTICS

- CO1: Summarise map reduce concepts
- CO2: Implement data processing in Hadoop and apply Hive to YARN administration
- CO3: Develop cluster management system using Apache Ambari
- CO4: Restate HDFS, NoSQL and Apache Spark

UK7DSCCAP411: E-GOVERNANCE

- CO1: Summarize concepts of E-Governance
- CO2: Relate with the various phases of E-Government
- CO3: Interpret E-Governance Principles
- CO4: Identify E-Governance Architecture and challenges faced.

UK7DSCCAP412: PROMPT ENGINEERING

- CO1: Summarize prompt engineering principles
- CO2: Develop effective prompts
- CO3: Illustrate prompt engineering strategies
- CO4: Make use of prompt engineering technologies

UK7DSECAP400: CLOUD COMPUTING AND SECURITY

- CO1: Outline risks in Cloud Computing
- CO2: Analyze issues in Cloud Security
- CO3: Plan appropriate Cloud security services
- CO4: Identify an effective Secure Cloud architecture

UK7DSECAP401: SOCIAL MEDIA ANALYTICS

- CO1: Acquire knowledge on the fundamentals of social media data
- CO2: Articulate data aggregation, key metrics, and usage of proper analytical tools for discerning insights.



CO3: Illustrate the methods to analyze keywords, sentiments and campaigns in social media.

CO4: Compare the use of dedicated and hybrid tools in social media analytics

UK7DSECAP402: COMPUTER VISION

CO1: Summarize the fundamental concepts and principles of computer vision, including image formation, transformations, and photometric image formations.

CO2: Illustrate the concepts of linear and non-linear filtering techniques, their role in image enhancement and noise reduction, model fitting and optimization methods

CO3: Experiment with feature detection and matching algorithms, including feature detectors, descriptors, matching techniques, and edge detection.

CO4: Demonstrate the principles and techniques of image alignment and stitching in computer vision and image processing.

UK7DSECAP403: FULL STACK DEVELOPMENT

CO1: Summarize basic concepts of full stack development

CO2: Develop Applications using Express and Angular

CO3: Build Applications with REACT

CO4: Construct a MERN Stack



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