T.Y.B.Sc.(Computer Science)-SEM V

Sr.No	Learning Objective	Learning Outcomes
Course: USCS501: Artificial Intelligence		
1	Artificial Intelligence (AI) and accompanying tools and techniques bring transformational changes in the world. Machines capability to match, and sometimes even surpass human capability, make AI a hot topic in Computer Science. This course aims to introduce the learner to this interesting area.	After completion of this course, learner should get a clear understanding of AI and different search algorithms used for solving problems. The learner should also get acquainted with different learning algorithms and models used in machine learning.
Course: USCS502:Linux Server Administration		
1	Demonstrate proficiency with the Linux command line interface, directory & file management techniques, file system organization, and tools commonly found on most Linux distributions. Effectively operate a Linux system inside of a network environment to integrate with existing service solutions.	Learner will be able to develop Linux based systems and maintain. Learner will be able to install appropriate service on Linux server as per requirement.
2	Demonstrate the ability to troubleshoot challenging technical problems typically encountered when operating and administering Linux systems.	Learner will have proficiency in Linux server administration.
Course: USCS503:Software Testing and Quality Assurance		
1	To provide learner with knowledge in Software Testing techniques. To understand how testing methods can be used as an effective tools in providing quality assurance concerning for software.	Understand various software testing methods and strategies. Understand a variety of software metrics, and identify defects and managing those defects for improvement in quality for given software.
2	To provide skills to design test case plan for testing software	Design SQA activities, SQA strategy, formal technical review report for software quality control and assurance.
Course: USCS504:Information and Network Security		
1	To provide students with knowledge of basic concepts of computer security including network security and cryptography.	Understand the principles and practices of cryptographic techniques. Understand a variety of generic security threats and vulnerabilities, and identify & analyze particular security problems for a given application.
2	To provide student knowledge about building security	Understand various protocols

	in an application	for network security to protect against the threats in a network
Course: USCS505: Architecting of IoT		
1	Discovering the interconnection and integration of the physical world. Learner should get knowledge of the architecture of IoT.	Learners are able to design & develop IoT Devices. They should also be aware of the evolving world of M2M Communications and IoT analytics
Course: USCS506: Web Services		
1	To understand the details of web services technologies like SOAP, WSDL, and UDDI. To learn how to implement and deploy web service client and server. To understand the design principles and application of SOAP and REST based web services (JAX-Ws and JAX-RS).	Emphasis on SOAP based web services and associated standards such as WSDL. Design SOAP based / RESTful / WCF services Deal with Security and QoS issues of Web Services
2	To understand WCF service. To design secure web services and QoS of Web Services	
Course: USCS507: Game Programming		
1	Learner should get the understanding computer Graphics programming using Directx or Opengl. Along with the VR and AR they should also aware of GPU, newer technologies and programming using most important API for windows.	Learner should study Graphics and gamming concepts with present working style of developers where everything remains on internet and they need to review it, understand it, be a part of community and learn.

T.Y.B.Sc. (Computer Science) - SEM VI

Sr.No	Learning Objective	Learning Outcomes
Course: USCS601:Wireless Sensor Networks and Mobile Communication		
1	In this era of wireless and adhoc network, connecting different wireless devices and understanding their compatibility is very important. Information is gathered in many different ways from these devices. Learner should be able to conceptualize and understand the framework.	After completion of this course, learner should be able to list various applications of wireless sensor networks, describe the concepts, protocols, design, implementation and use of wireless sensor networks
2	On completion, will be able to have a firm grip over this very important segment of wireless network	o implement and evaluate new ideas for solving wireless sensor network design issues
Course: USCS602:Cloud Computing		
1	To provide learners with the comprehensive and in-depth knowledge of Cloud Computing concepts, technologies, architecture, implantations and applications.	After successfully completion of this course, learner should be able to articulate the main concepts, key technologies, strengths, and limitations of cloud computing and the possible applications for state-of-the-art cloud computing using open source technology. L
2	To expose the learners to frontier areas of Cloud Computing, while providing sufficient foundations to enable further study and research.	Learner should be able to identify the architecture and infrastructure of cloud computing, including SaaS, PaaS, IaaS, public cloud, private cloud, hybrid cloud, etc. They should explain the core issues of cloud computing such as security, privacy, and interoperability.
Course: USCS603:Cyber Forensics		
1	To understand the procedures for identification, preservation, and extraction of electronic evidence, auditing and investigation of network and host system intrusions, analysis and documentation of information gathered	The student will be able to plan and prepare for all stages of an investigation - detection, initial response and management interaction, investigate various media to collect evidence, report them

		in a way that would be acceptable in the court of law.
Course: USCS604: Information Retrieval		
1	To provide an overview of the important issues in classical and web information retrieval. The focus is to give an up-to- date treatment of all aspects of the design and implementation of systems for gathering, indexing, and searching documents and of methods for evaluating systems.	After completion of this course, learner should get an understanding of the field of information retrieval and its relationship to search engines. It will give the learner an understanding to apply information retrieval models.
Course: USCS605: Digital Image Processing		
1	To study two-dimensional Signals and Systems. To understand image fundamentals and transforms necessary for image processing. T	Learner should review the fundamental concepts of a digital image processing system. Analyze the images in the frequency domain using various transforms.
2	To study the image enhancement techniques in spatial and frequency domain	s. Evaluate the techniques for image enhancement and image segmentation.
3	To study image segmentation and image compression techniques.	Apply various compression techniques. They will be familiar with basic image processing techniques for solving real problems.
Course: USCS606: Data Science		
1	Understanding basic data science concepts. Learning to detect and diagnose common data issues, such as missing values, special values, outliers, inconsistencies, and localization.	After completion of this course, the students should be able to understand & comprehend the problem;
2	. Making aware of how to address advanced statistical situations, Modeling and Machine Learning	After completion of this course, the students should be able to define suitable statistical method to be adopted.
Course: USCS607:Ethical Hacking		
1	To understand the ethics, legality, methodologies and techniques of hacking.	Learner will know to identify security vulnerabilities and weaknesses in the target applications. They will also know to test and exploit systems using various tools and understand the impact of

		hacking in real time machines.