



Late Purushottam Hari (Ganesh) Patil Shikshan Sanstha's
MAULI GROUP OF INSTITUTION'S COLLEGE OF ENGINEERING AND
TECHNOLOGY, SHEGAON

Department of Computer Science and Engineering
Value Added Courses

CSE01- Hands on Programming Languages: C and C++

Overview:

C is the most commonly used programming language in industry. Academic institutions have a mission to teach technologies that are widely used in the real world so that students have the skills and knowledge that employers need. More than 90 percent of the programs running on our desktops, from operating systems and e-mail clients to Web browsers and word processors, are written in C or its relative, C++ which has extensions to C.

In university syllabus, it is not possible to include large number of content which are required in industry. This course focuses on the need of industry projects development and provides more knowledge than the regular curriculum.

Course Outcomes (COs)

Upon completion of this course students will be able to:

1. Work on either C or C++ or both the Languages
2. Understanding a functional hierarchical code organization.
3. Write a program for simple and complex applications of real life.
4. Use the basic object-oriented design principles in computer problem solving.

CSE02- Hands on Programming Language: Advanced Java

Overview:

This course provides advanced training in developing software using the Java Platform, Enterprise Edition, or Java EE. It is intended for students with solid experience in structured, object-oriented Java programming and web programming.

The course builds a strong understanding of Networking, JDBC and RMI Technology. It gives in to demonstrate why Servlets are the cornerstone of Java's Web platform. It then shows how JSP is built on the Servlet architecture. Additionally, the class shows students how to use JAVA API for processing XML. The class culminates in an exploration of Java MVC frameworks.

This is not a course that focuses on theory. Students will find the course is loaded with practical labs and simulations. After taking this advanced java course, Students will be able to build Web applications that perform well, are scalable, and that are easier to maintain.

Therefore, it is mandatory to all the third year B.E. students to enroll for this course even though it is not the part of the syllabus prescribed by S.G.B. Amravati University.

Course Outcomes (COs):

Upon completion of this course Students will be able to:

1. Develop client/server applications and TCP/IP socket programming.
2. Update and retrieve the data from the databases using SQL.
3. Develop distributed applications using RMI.
4. Develop a web-based application using Servlets & JSPs.
5. Process XML using Java APIs.

CSE03- Android Application Development Program

Overview:

Android is the most popular mobile phone technology in use today. In order to learn Android development one need to be trained in its fundamentals and methodologies. Developers need only develop for Android, and their applications will be able to run on different devices powered by Android. This particular asset gives Android endless possibilities. This means that and application that is designed to work on mobile phone devices can be also transferred to Android powered TV sets or Android Car systems.

This is why, Android is an exciting space to make apps that can help you in every aspect of your life, can help you communicate, organize, educate, entertain or just to make your life easier in every device that they might run on. This course help students to build bright future in Android market which is on high today.

Course Outcomes (COs):

Upon completion of course students will able to-

1. Demonstrate how to download and install all the required tools to develop Android applications and then test them on the Android Emulator.
2. Understand to link activities together to form a complete Android application using intents, the glue to links activities and one of the unique characteristics of the Android OS.
3. Learn about the various layouts to build the UI of your application, main groups of views & use a SQLite database in Android application.
4. Understand how Web services can be consumed in an Android application, & the steps to publishing and selling your applications On the Android Market

CSE04- Implementation of IOT using Raspberry pi and Arduino

Overview:

Expertise in the area of IoT requires a holistic understanding of the four building blocks of IoT – hardware, software, applications systems and data. This course aims to enable the learners to gain expertise in key areas of IoT such as end device development, Cloud Computing, Network Design & Management, Application Interface Design & UI, and Distributed & Big Data Management. The Internet of Things (IoT) is ushering a new era in science and technology, which will forever change our personal as well as professional lives, our habits and the way we do business. With the fast changing world, these latest inventions and innovations will become the norm by 2020 and we estimate more than 50 billion devices will be connected via the Internet. In order to create early adopters, we have introduced a one of its kind course on ‘Internet of Things’, the next big thing in the IT industry. The explosive growth of the “Internet of Things” is changing our world and the rapid drop in price for typical IoT components is allowing people to innovate new designs and products at home. In this first class in the specialization you will learn the importance of IoT in society, the current components of typical IoT devices and trends for the future. IoT design considerations, constraints and interfacing between the physical world and your device will also be covered. You will also learn how to make design trade-offs between hardware and software. We'll also cover key components of networking to ensure that students understand how to connect their device to the Internet.

Course Outcomes (COs):

Upon completion of course students will able to:

1. Understand the building blocks of IoT technology and explore the vast spectrum of IoT applications
2. Knowledge and skills of sensors, microcontrollers, processors and communication interfaces to design and build IoT devices.
3. Select appropriate hardware and software components for IoT applications and customize technologies for IoT applications
4. Connect the cyber world with the physical world of humans, automobiles and factories
5. Design and implement IOT applications that manage big data

CSE05- International Certification on Microsoft Technology Associate

Overview:

Preparing and motivating tomorrow’s technology workforce.

Designed by Microsoft Learning experts and professional educators and based on high-demand industry career tracks, Microsoft Technology Associate (MTA) helps institute to teach and validate fundamental technology knowledge, providing students with the confidence to succeed with more advanced studies and a solid foundation for their careers. The course would focus on innovative

technology curriculum while offering students an opportunity to earn a Microsoft certification right in the classroom. The curriculum is designed using Microsoft certification standards to match what the students need to learn in today's global ICT sector.

Course Outcomes (COs):

Upon completion of course students will able-

1. To understand the fundamental concepts HTML5 based application
2. To implement user interface by using various HTML5 tags
3. To implement and control the layout and formatting of web pages by using CSS
4. to create interactive effects within web browsers using JavaScript