

SOFTWARE ENGINEERING TRACK

JAVA Technologies

QUARTER 1 – DESKTOP APPLICATIONS - ESSENTIALS

Module 1 - Office Applications

This subject enables users to acquire the necessary knowledge and skills to use Office Productivity Tools (MS Office) effectively.

This subject covers usage of applications for creating professional documents, spreadsheets, use of email, relational database, and preparation of screen-based presentations. Coverage includes MS Word, MS Excel, MS PowerPoint, MS Outlook and MS Access.

Total hours needed for acquiring the knowledge: 178

International Certification Mapping: ICDL/ECDL – International Computer Driving License

Module 2 - Fundamentals of Programming

This course will introduce the student to the exciting world of programming. The student will learn to depict the logic of the programs using Flowcharts and Algorithms.

Total hours needed for acquiring the knowledge: 60

International Certification Mapping: None

QUARTER 2 – NETWORKING AND OPERATING SYSTEMS ESSENTIALS

Module 1 - Understanding IT Applications

A beginner in the field of IT is invariably faced with extensive IT jargon. This subject addresses the need to understand the world of business and the world of IT in an organized way. It introduces the student to the exciting world of IT, the associated services, the entities involved in IT (like HW, SW, Networking etc.) and how the business organizations are structured today.

Total hours needed for acquiring the knowledge: 40

International Certification Mapping: None

Module 2 - Operating System Fundamentals

This course introduces participants to OS Fundamentals, providing basic knowledge of Command Line Prompt, Windows 9x and Windows 2000, Windows XP for installing, configuring, upgrading, troubleshooting, and repairing microcomputer systems. This is a part of the A+ certification. The other part (48 hrs) shall be an elective and will cover A+ (Hardware Fundamentals).

Total hours needed for acquiring the knowledge: 118

International Certification Mapping: CompTIA – A+ OS Technologies

Module 3 - Networking Fundamentals

The course deals with networking fundamentals, configuring, installing and troubleshooting network, and it also covers the knowledge and skills necessary to configure and install protocols as well as a wide range of vendor and product neutral networking technologies.

Total hours needed for acquiring the knowledge: 80

International Certification Mapping: CIW: Networking Fundamentals

QUARTER 3 – RELATIONAL DATABASE DESIGNER

Module 1 - Introduction to Relational Database Design

This module deals with the theory of Relational databases, relational database nomenclature and relational algebra. The course includes sections on E-R Diagrams and optimizing databases through Normalization

Total hours needed for acquiring the knowledge: 60

International Certification Mapping: CIW: Database Design Methodology

Module 2 - Implementing Databases using SQL Server 2000

The student will learn to understand and implement relational databases using SQL Server 2000. Students will also learn about creating and managing database objects in a relational database environment. This also provides an insight to creating and maintaining database integrity by implementing business rules.

Total hours needed for acquiring the knowledge: 178

International Certification Mapping: Microsoft – Implementing Databases Using SQL Server 2000 (70-229)

QUARTER 4– OBJECT ORIENTED WEB DEVELOPER

Module 1 - Introduction to Web Content Development

This course is designed to guide students through the Internet and its wide array of useful resources. Students learn how to use key Internet technologies, such as Web browsers, e-mail, newsgroups, File Transfer Protocol (FTP), Telnet, and search engines. Students gain experience configuring both Netscape Navigator and Microsoft Internet Explorer to access rich multimedia, including RealPlayer, Shockwave and Flash content. Students also use a variety of Web-based search engines to conduct advanced searches and learn the basics of electronic commerce and security issues. They also learn to design the web sites using tools like Flash and to program the same using DHTML and Scripts.

Total hours needed for acquiring the knowledge: 98

International Certification/Course Mapping: CIW – Internet Fundamentals; CIW – Web Page Authoring; CIW – JavaScript Fundamentals

Module 2 - Developing Object Based Client Server Applications

This course provides students with an excellent choice for beginning to learn to program using the Java programming language. This course is intended for students with little or no programming experience. This course teaches the significance of object-oriented programming, the keywords and constructs of the Java programming language, and the steps required to create simple Java programs.

Total hours needed for acquiring the knowledge: 140

QUARTER 5– SOFTWARE DEVELOPMENT PROCESS

Module 1 - Essentials of Linux Operating System

This module introduces the students to get sufficient exposure to the Linux environment. The student gets to understand the fundamentals of Linux in terms of the desktop environment, command line statements and shell scripts etc... and would have the basic understanding of the Linux Operating System.

Total hours needed for acquiring the knowledge: 98

International Certification Mapping: None

Module 2 - Understanding Business Processes and Software Development Life Cycle

This module introduces the concept of SDLC and at each stage the various aspects of SDLC and factors on which solution development decisions made shall be discussed. The decision on technology features and platforms to be used in a software solution (including .Net and J2ee platforms) shall be discussed at the appropriate stage of the SDLC. This module also covers the concepts on various enterprise level technologies available in the market today. This module attempts to provide an enterprise level view/depth of the entire SDLC with emphasis on each stage and models of software development in an enterprise.

Total hours needed for acquiring the knowledge: 140

International Certification Mapping: None

QUARTER 6– SYSTEM ANALYSIS & DESIGN

Module 1 - Developing portable web applications using XML Technologies

This course covers the basics of using XML in web-based applications, understanding and developing web services using XML and XML processing and rendering.

Total hours needed for acquiring the knowledge: 120

International Certification/Course Mapping: IBM – XML and related Technologies (Test – 141)

Module 2 - Understanding Object Oriented Analysis and Design

This course teaches object-oriented analysis and design techniques using UML in the context of the Unified Software Development Process. The course provides an introduction to object-oriented theory and the software development life cycle. Students learn proper analysis and design procedures, and their roles in the development process. Students gain hands-on experience in depicting designs at all phases of the development process: requirements, analysis, design, construction, and testing.

Total hours needed for acquiring the knowledge: 118

International Certification/Course Mapping: IBM – Object Oriented Analysis and Design with UML (Test – 486); CIW: Object Oriented Analysis and Design

QUARTER 7– ENTERPRISE APPLICATION DEVELOPER – PART 1

Module 1 - Developing Enterprise Wide Applications – Part I

This course provides the student with the concepts of Network Socket Programming, Javabeans Components concepts, JDBC, RMI, CORBA (Java IDL), JNDI, JMS, Java Mail so that the student has sufficient requisite knowledge at the platform level to further understand and implement enterprise level applications in the j2ee environment.

Total hours needed for acquiring the knowledge: 120

International Certification Mapping: None

Module 2 - Developing Enterprise Wide Applications – Part II

This course provides students with knowledge to build and deploy a server side application in the J2EE framework by using Java Server Pages (JSP). The student, at the end of this course is conversant in understanding and implementing the JSP Technology Model, using the J2EE Framework and tools, using java XML libraries and developing Web Services in Java.

Total hours needed for acquiring the knowledge: 118

International Certification Mapping: Sun – Sun Certified Web Component Developer for Java 2 Platform

QUARTER 8– ENTERPRISE APPLICATION DEVELOPER – PART 2

Module 1 - Developing Enterprise Wide Applications – Part III

This course provides students with knowledge of benefits and features of EJBs and using Enterprise Java Beans, EJB Architecture and types of EJB, implementation of session beans and entity beans, EJB-QL, Transactions, Exceptions and Security Management.

Total hours needed for acquiring the knowledge: 80

International Certification Mapping: SUN - Sun Certified Business Component Developer for J2EE 1.3

Module 2 - Understanding Application Development Life Cycle and Architectures

This course provides students with the knowledge and skills to model business requirements in order to create a software solution on the .Net framework. This module would provide the skills for bridging business to the technology environment of .Net platform.

Total hours needed for acquiring the knowledge: 80

International Certification Mapping: Sun – Sun Certified Enterprise Architect for Java 2 Platform

Module 3 - Understanding Site Design Methodology and Management

Students will implement the latest strategies to develop Web sites, evaluate design tools, discuss future technology standards, and explore the incompatibility issues surrounding current browsers. The course focuses on theory, along with information on architecture concepts, Web project management, scenario development and performance evaluations.

Total hours needed for acquiring the knowledge: 78

International Certification/Course Mapping: CIW – Site Designer – Design Methodology and Technology (1D0 – 420)

QUARTER 9– ECOMMERCE SPECIALIST

Module 1 - Understanding e-Commerce Business and Strategies

This course teaches students how to conduct business online and how to manage the technological issues associated with constructing an electronic-commerce Web site. It also examines strategies and products available for building electronic-commerce sites, how such sites are managed, and explore how they can complement an existing business infrastructure.

Total hours needed for acquiring the knowledge: 118

International Certification/Course Mapping: CIW : Ecommerce strategies and practices (1D0 – 425)

Module 2 - Understanding, Developing and Implementing eCommerce Solutions

This course will enable candidates to understand basic concepts and key drivers of ebusiness and help identify major market/enterprise issues that impact e-Business and address critical technology issues that enable business transformation. The students shall understand and build some critical components of a web application server to implement eCommerce solutions.

Total hours needed for acquiring the knowledge: 120

International Certification Mapping: None

QUARTER 10– SOFTWARE PROJECT MANAGER

Module 1 - Understanding Quality Management in Software Development and Software Quality Assurance

This course will take the student through the route of Quality Management in Software Development. It will cover the various aspects of Testing, Debugging etc. in a software project. It will also explain the necessity of Software Quality Assurance in the software projects.

Total hours needed for acquiring the knowledge: 118

International Certification/Course Mapping: Quality Assurance Institute - Certified Software Test Engineer

Module 2 - Understanding IT Project Management

This course covers the business, interpersonal and technical skills required to successfully manage IT projects, as defined by experts in the industry.

Total hours needed for acquiring the knowledge: 120

International Certification/Course Mapping: CompTIA – IT Project+

QUARTER 11– MOBILE APPLICATIONS DEVELOPER

Module 1 - Introduction to Information Systems Security

This course covers the basics of Information Security highlighting the issues and the solutions for the same. It also talks about operational issues in this domain.

Total hours needed for acquiring the knowledge: 118

International Certification/Course Mapping: CompTIA – Security+

Module 2 - Developing and Implementing Mobile Applications

This course focuses on using the available technologies to develop wireless (mobile) applications. It teaches WAP and WML along with the environments available to develop these applications using J2ME.

Total hours needed for acquiring the knowledge: 120

International Certification Mapping: Sun - Sun Certified Mobile Application Developer (CX-310-110)

QUARTER 12– ENTERPRISE MANAGER

Module 1 - Introduction to Business Intelligence

This course provides the student with the knowledge of Business Intelligence as a process for increasing the competitive advantage of a business by intelligence use of available data in decision making. It covers Data sourcing, Data analysis, Situation Awareness, Risk Assessment and Decision support in detail.

Total hours needed for acquiring the knowledge: 118

International Certification: None

Module 2 - Enterprise Application Integration

This course provides the student with an introduction to the need for enterprise application integration. The course covers basic concepts involved in thinking for a strategy to integrate all processes in an enterprise in an effective manner and provide a complete business solution. EAI technologies help in achieving integration between various disparate systems on different software's, hardware set up, different architectural frameworks etc ,both within and across the enterprises. Furthermore, the course provides insight into the concept of implementing a framework that would help in the movement and exchange of information between various business processes between the enterprise applications that would span across enterprise boundaries and enable cross-platform integration.

Total hours needed for acquiring the knowledge: 120

International Certification: None