Industrial Training

in

Software Development

(Live Project)

A Corporate Member of FITT-IIT Delhi

An Initiative by Industry Experts from Cadence, Atrenta & Patni with qualification from IITs and BITS-Pilani

Technology Partners of Cadence Design Systems,

Questa Vanguard Partner of Mentor Graphics,

HEP Partner of Mentor Graphics

DKOP Labs Pvt. Ltd.

Knowledge, Operations and Practices

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PROGRAMS

There are different programs available in Industrial Training in software development. Students can choose the programs they are inclined to pursue.

S.No.	Program Title	Fee* (Rs)	Total Fee* (Rs)
1.	Linux OS, Shell Scripting & TCL-Tk	12,000	24,000
	Engineering Applications using C/C++	12,000	
2.	Core JAVA & Advanced JAVA (J2EE)	12,000	24,000
	Mobile Apps Development for Android	12,000	
3.	Web Application using PHP & MySQL	12,000	24,000
	HTML5, CSS3 & Javascript	12,000	

** Plus Service Tax as applicable.*

Batches Commence on: Jan 2nd and July 15th every year

Total Seats : 30 per batch (max)

Duration : 3 hrs/day, 5 days/week for 5 months

Project starts from second month along with the training!

PROGRAM DETAILS

SOFTWARE AWARENESS SEMINAR

1. **Geeks Rule**

PROGRAM 1: ENGINEERING APPLICATIONS USING C/C++

MODULE 1: LINUX OPERATING SYSTEM & SHELL SCRIPTING

1. **Introduction to Linux OS**
2. **Managing files and directories**
3. **Securing Files in Linux**
4. **Managing documents**
5. **Creating files using the vi editor**
6. **Automating tasks using shell scripts**
7. **Using conditional execution in shell scripts**
8. **Managing repetitive tasks using shell scripts**
9. **Advanced features – functions, sed, awk, signal and traps**

MODULE 2: TCL/TK

1. **Introduction**
2. **Data types, variables, assignments and expressions**
3. **Lists, arrays and associative arrays**
4. **Subroutines or Procedures**
5. **Control structures**
6. **File Input and Output**
7. **The world of regular expressions**
8. **More on TCL - trace, eval, exec, info, history, format**
9. **Tk –frame, label , entry, check button, radio button, message box, scales, list box, scroll bar, text, menu, top level**
10. **Tk – binding, packing, grid, canvas**
11. **Tk – window manager commands, input focus, selection, update, grab, tkwait**
12. **Project in TCL-Tk**

MODULE 3: ALL ABOUT C LANGUAGE & DATA STRUCTURES

1. **Introduction to C language**
2. **C language building blocks – data types, type conversions, operators**
3. **Control Flow – if, if-else, case, for, while, do-while, break-continue, labels, goto**
4. **Modular Programming – variables – external, global, local, static, registers, functions, macros, header files & C pre-processor directives**
5. **Advanced Data Types – strings, enums, structure, union, pointers, arrays, user defined types**
6. **I/O basics – file, standard I/O**
7. **C standard libraries and their related functions**
8. **Compiler optimizations and switches**
9. **Advanced features – debugging (valgrind, gdb), inter process communication, multi threaded programming (sockets & semaphores)**
10. **Basics of Data Structures**
11. **Building basic data structures in C – arrays, hash tables, linked lists, stacks, queues & priority queues, doubly linked lists, circular doubly linked lists, trees, weighted trees, balanced trees**

MODULE 4: DESIGN, ANALYSIS & OPTIMIZATION OF ALGORITHMS

1. **Design & Analysis of Efficient Algorithms**
2. **Methods commonly used in Practice**
3. **Searching Algorithms – linear, binary**
4. **Sorting algorithms – bubble sort, insertion sort, merge sort, quick sort, heap sort**
5. **Binary/Balanced Tree Traversal – in-order, pre-order, post-order, search**
6. **Divide & Conquer**
7. **Union-Find Algorithm**
8. **Graphs – Terminology - directed, undirected, cyclic, acyclic, weighted, Algorithms – depth/breadth first search**
9. **Minimum Spanning Trees – Prim’s, Kruskal, Dijkstra’s algorithms**
10. **Shortest Path Algorithms**
11. **Greedy Algorithms**
12. **Dynamic Programming**

PROGRAM 2: CORE JAVA & ADVANCED JAVA (J2EE)

MODULE 1: WEB TECHNOLOGY INTERNALS AND N-TIER APPLICATION ARCHITECTURE

1. **Internet Unleashed**
2. **Components of Internet and how they interact**
3. **Understanding the Data Transfer Methodology used in Internet**
4. **Three Tier Architecture – Web Applications**
5. **N-tier Architecture – Web Applications**
6. **Designing each layer of the Web Application Architecture**
7. **Integrating all the pieces together to make it work**

MODULE 2: DATABASE & SQL

1. **Database Basics**
2. **Designing relational database**
3. **SQL – Structured Query Language**

MODULE 3: JAVA

1. **Core JAVA**
2. **Struts2**
3. **Spring**
4. **Hibernate**
5. **File Handling**
6. **Exception Handling**
7. **Multithreading**
8. **Assembly & Deployment**

MOBILE APPS DEVELOPMENT FOR ANDROID

MODULE 1: INTRODUCTION TO ANDROID AND JAVA

1. **Installing Android**
2. **Creating Hello World**
3. **Running on Emulator**
4. **Introduction to Java Data types, Loops, Conditionals and Operators**

MODULE 2: ANDROID ARCHITECTURE AND OOPS

1. **Building Blocks of Android**
2. **Java Classes and Objects**
3. **Class Methods and Instances**
4. **Inheritance and Polymorphism in Java**
5. **Interface and Abstract class**

MODULE 3: ANDROID LAYOUTS AND CONTROLS

1. **Intent and Activity**
2. **Layouts In Android**
3. **Android Form Widgets**
4. **Image and media**

MODULE 4: ANDROID UI AND ADVANCE JAVA

1. **Using resources**
2. **Debugging Android Code**
3. **Settings**
4. **Java I/O**
5. **Threads and Synchronization**

MODULE 5: ANDROID GRAPHICS AND MULTIMEDIA

1. **Basic Graphics**
2. **Input Handling**
3. **Playing Audio**
4. **Playing Video**

MODULE 6: PERSISTENCE IN ANDROID

1. **Accessing Internal Files system**
2. **Accessing SD cards**
3. **Introduction to SQLite**
4. **Data Binding**
5. **Content Provider**

MODULE 7: NETWORK AWARENESS

1. **Accessing the Internet**
2. **Using Web services**
3. **Using Java and Java Script**
4. **Location Sensing**

MODULE 8: WIDGETS AND THE WAY AHEAD

1. **Android Widget Development**
2. **The Path Ahead for Android**
3. **Running Application on device**
4. **Android Market Some Do’s and Don’ts**

MODULE 9: LIVE PROJECT

1. **Design and Requirement analysis support**
2. **Implementation and QA support**

PROG 3: WEB APPLICATION DEVELOPMENT USING PHP & MYSQL

MODULE 1: WEB TECHNOLOGY INTERNALS AND N-TIER APPLICATION ARCHITECTURE

1. **Internet Unleashed**
2. **Components of Internet and how they interact**
3. **Understanding the Data Transfer Methodology used in Internet**
4. **Three Tier Architecture – Web Applications**
5. **N-tier Architecture – Web Applications**

6. **Designing each layer of the Web Application Architecture**
7. **Integrating all the pieces together to make it work**

MODULE 2: DATABASE & SQL

1. **Database Basics**
2. **Designing relational database**
3. **SQL – Structured Query Language**

MODULE 3: PHP

1. **Orientation and First Steps**
2. **Working with Text and Numbers**
3. **Making Decisions and Repeating Yourself**
4. **Working with Arrays**
5. **Functions**
6. **Making Web Forms**
7. **Storing Information with Databases**
8. **Remembering Users with Cookies and Sessions**
9. **Handling Dates and Times**
10. **Working with Files**
11. **Parsing and Generating XML**
12. **Debugging**
13. **What Else Can You Do with PHP?**

HTML5, CSS3 & JAVASCRIPT

MODULE 1: WEB TECHNOLOGY INTERNALS AND N-TIER APPLICATION ARCHITECTURE

1. **Fundamental Syntax and Semantics**
2. **Progressive Markup and Techniques**
3. **Forms**
4. **Native Audio**
5. **Native Video**
6. **Microdata and Custom Data**
7. **Javascript**
8. **CSS3**

COMMON MODULE: SOFT SKILLS

1. **Resume Writing**
2. **Interview Facing Skills**
3. **Presentation Preparation & Delivery**
4. **Aptitude preparation**

BENEFITS FOR YOU

5. Helps you in understanding the **practical** and **industrial applications** of academic curriculum
6. Build your knowledge to develop **innovative projects** during your **final year** of engineering

7. Enhances the Skill-Set in your resume for **better placement prospects** within the **semiconductor industry**
8. Helps the aspirants of **higher studies abroad** to face the stiff competition from students of other countries
9. Build your confidence through **hands on exposure** to various **tools & technologies**

TEAM OF TRAINERS

DKOP Labs is proud to have highly qualified and experienced professionals from Industry, Research and Academics. For details, click here.

PLACEMENTS

We have been providing excellent placement platform to our trainees in companies like Cadence, Xilinx, ST Microelectronics, Samsung, Synopsys, Mentor Graphics, SmartPlay, TrueChip, Agnisys, DKOP Labs, etc. For detailed list, click here.