



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY)

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www.sathyabama.ac.in

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

VALUE ADDED COURSE ACADEMIC YEAR 2016-2017

S.NO	Name of the value added courses (with 30 or more contact hours) offered	Course Code (if any)	Year of offering	No. of times offered during the same year	Duration of course	Number of students enrolled in the year	Number of Students completing the course in the year
1	C PROGRAMMING	SVA001	15.6.2016	1	35	135	132
2	JAVA PROGRAMMING	SVAC002	15.6.2016	1	35	118	115
3	WEB DEVELOPMENT	SVA003	15.6.2016	1	35	125	125
4	Fundamental of Computing	SVA004	2.7.2016	1	35	130	130
5	Photoshop Designing	SVA005	2.7.2016	1	30	100	100
6	C++ PROGRAMMING	SVA006	23.1.2017	1	35	120	120
7	ADVANCED JAVA PROGRAMMING	SVA007	23.1.2017	1	35	80	75
8	HARDWARE ENGINEERING	SVA008	23.1.2017	1	35	100	100
9	Cloud Computing	SVA009	28.3.2017	1	35	125	125
10	Data Structures using c and C++	SVA010	28.3.2017	1	30	140	140



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Course Name	C PROGRAMMING
Course Code	SVA001
Duration	35 Hours

COURSE OBJECTIVE

- ☐ To introduce the fundamental concepts of programming to the students and familiarize them with art of writing programs.

INTRODUCTION

Introduction: Algorithms & flowcharts - Overview of C - Features of C - Structure of C program - Compilation & execution of C program - Identifiers, variables, expression, keywords, data types, constants, scope and life of variables, and local and global variables – Operators: arithmetic, logical, relational, conditional and bitwise operators.

CONTROLS STRUCTURES AND FUNCTIONS

Control structures: Conditional statements – Looping statements – Functions: Library Functions - User Defined – Function Prototype - Function Definition – Types of Functions – Functions with and without Arguments- Functions with no return and with Return Values - Nested Functions - Recursion.

ARRAYS AND STRINGS

Arrays: Single and Multidimensional Arrays – Array Declaration and Initialization of Arrays – Array as Function Arguments.

Strings: Declaration – Initialization and String Handling Functions.

Structure and Union: Definition and Declaration – Nested Structures – Array of Structures – Structure as Function Argument – Function that Returns Structure – Union.

STORAGE CLASS AND POINTERS

Pointers: The ‘&’ and * Operators – Pointers Expressions – Arrays Using Pointers – Structures Using Pointers – Functions Using Pointer – Function as Arguments – Command Line Arguments.

MEMORY MANAGEMENT

DMA functions: malloc (), calloc(), sizeof(), free() and realloc(). Preprocessor directives.

Max. 35 Hours

TEXT / REFERENCE BOOKS

1. Balaguruswami. E., ‘Programming in C’, TMH Publications, 1997.
2. Yashavant P. Kanetkar, ‘LET US C’, Fifth Edition.
3. Gottfried, ‘Programming with C’, Schaums Outline Series, TMH publications, 1997.



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4. Mahapatra, 'Thinking in C', PHI publications, 2nd Edition.
5. Stevens, 'Graphics programming in C', BPB publication, 2006



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
ORGANIZES
VALUE-ADDED PROGRAM
ON



"C PROGRAMMING"

FROM JUNE 15, 2016 TO SEP 25, 2016

PROGRAM COORDINATOR
DR. AROUL CANNESENE



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Jeppiar Nagar, Rajiv Gandhi Salai, Chennai - 600 119, India



CERTIFICATE OF COMPLETION

This is to certify that

Ms. ALLA BHAVYA SREE

Has attended and successfully completed the course on

"C Programming" conducted by the Department of Computer Science and Engineering,

Sathyabama University from 15.06.2016 to 25.09.2016

DR. M LAKSHMI

Dean - School of Computing



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Course Name	JAVA PROGRAMMING
Course Code	SVAC002
Duration	35 Hours

COURSE OBJECTIVES:

To impart knowledge on

- The principles and practice of object-oriented analysis and design in the construction of robust,

maintainable programs which satisfy the requirements given

- Competence to design, write, compile, test and execute straightforward programs using a high-level language;
- Have an awareness of the need for a professional approach to design and the importance of good documentation to the finished programs.
- To be able to implement, compile, test and run Java programs comprising more than one class, to address a particular software problem.

COURSE OUTCOMES:

Upon completion of the course students will be able to

Demonstrate the ability to employ various types of selection constructs in a Java program.

1. Use built-in classes found in the Java API
2. Create Java programs that leverage the object-oriented features of the Java language, such as encapsulation, inheritance and polymorphism.
3. Apply error-handling techniques using exception handling
4. Provide solution to a given set of requirements using threads, multithreading and synchronisation.

MODULE 1: Java Fundamentals

Introduction to Java – Features of java – JVM – API document – Naming conventions and Data types -

Data types in java – Operators

MODULE 2: Declarations, Initializations and Scoping



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Accepting Input from the keyboard – Reading Input with Scanner class- Arrays – Single Dimensional Array – Two dimensional Array – Jagged arrays – Strings- String Buffer and String Builder class- Access specifier

MODULE 3: Flow Control

If else statement- do while loop – for loop – Nested for loops – for each loops – switch statement – break

statement- continue statement – return statement

MODULE 4: Object Oriented Concepts

Classes and objects – Methods in java – Relationship between objects – Inheritance – Polymorphism- Type

casting – Abstract Classes – Interfaces – Packages

MODULE 5: API Contents

Java 3D- Java Advanced Imaging – Java Mail – Java Message Service – Java Media Framework – Java

Naming and Directory Interface – Java OpenGL

MODULE 6: Exceptions, Generics and Collections

Errors in java Program – Exception handling mechanism – throw clause- Types of Exceptions – Generic

classes – Collection objects – Sets – Lists – Queues – Maps – Stack class- HashSet class – ArrayList class

– Vector class – StringTokenizer class – Calendar class- Date class

MODULE 7: Threads

Single tasking – Multi tasking – Uses of threads – Thread class methods – Deadlock of threads – Thread

Communication – Thread priorities – Thread group – Daemon threads – Application of threads

TOTAL: 35 HOURS

WEB REFERENCES:

1. http://www3.ntu.edu.sg/home/ehchua/programming/java/j2_basics.html
2. <http://beginnersbook.com/java-tutorial-for-beginners-with-examples/>



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3. <http://www.oracle.com/technetwork/java/index-138747.html>

4. http://www.tutorialspoint.com/java/java_basic_syntax.html.



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"JAVA PROGRAMMING"

FROM JUNE 15, 2016 TO SEP 25, 2016

PROGRAM COORDINATOR

Dr. K.Mohanan Prasad

ORACLE WORKFORCE
DEVELOPMENT PROGRAM

AWARD OF COMPLETION

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Aatisha cyrill

HAS SUCCESSFULLY COMPLETED

(WDPIN) Java IoT Developer

AS PART OF ORACLE'S WORKFORCE DEVELOPMENT PROGRAM

Sathyabama University

AUTHORIZED ORACLE WORKFORCE DEVELOPMENT PARTNER

50404621

ENROLLMENT ID

2017-05-25

DATE

Dr.Siva Sangari A

INSTRUCTOR NAME

DAMIEN CAREY
SENIOR VICE PRESIDENT AND GENERAL MANAGER,
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Course Name	WEB DEVELOPMENT
Course Code	SVAC003
Duration	35 Hours

COURSE OBJECTIVES

To effectively design with a range of technologies.

- To develop static websites & dynamic web applications.
- To learn new emerging web technologies.
- To gain knowledge and skills required for web development careers.

COURSE OUTCOMES

On completion of the course the student will be able to

1. Able to work with XML technologies.
2. Design web page to perform form validation using client-side scripting language.
3. Implement new technologies such as Angular JS & jQuery.
4. Develop web applications using server-side scripting language.
5. Understand the differences between usability and user experience.
6. Effectively select and utilize design thinking processes and UX/UI tools.

HTML

Introduction To HTML- DHTML ,

XML

XML – Structuring XML document using DTD – Schemas – XML parsers – DOM – SAX presentation technologies – XSL – XFORMS – XHTML – Transformations – XSLT – XLINK – XPATH – XQuery.

Responsive Web Design-Intro-Fluid Grid-Viewport-Media Queries-Images.

CSS

Introduction to CSS-Syntax, Selectors-Types of style sheets.



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CLIENT SIDE SCRIPTING

Java Script – Advantages – Data types – Variables – Operators – Control statements – Functions
– Objects and arrays – Windows and frames – Forms.

SERVER SIDE SCRIPTING

Introduction To PHP – Data Types – Control Structures – Arrays - Function – Html Form with
PHP –Form Handling & Validation - File Handling – Cookies – Sessions – Filters – Exception
Handling - Database Connectivity With MySQL.

TEXT/ REFERENCE BOOKS

1. Jeffrey C. Jackson, WebTechnologies: A Computer Science Perspective, Pearson Education, 2009
 2. Kogent Learning Solutions Inc., Web Technologies Black Book, Dreamtech Press, 2009.
 3. Ken Williamson, Learning AngularJS: A Guide to AngularJS Development, O'Reilly, 2015
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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
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VALUE-ADDED PROGRAM
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"WEB DEVELOPMENT"

FROM JUNE 15, 2016 TO SEP 25, 2016

PROGRAM COORDINATOR
Mr. Murrari Kamalesh



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Jeppiar Nagar, Rajiv Gandhi Salai, Chennai - 600 119, India



CERTIFICATE OF COMPLETION

This is to certify that

Mr. SHIVAM CHOUDHARY

Has attended and successfully completed the course on "**WEB DEVELOPMENT**" conducted
by the Department of Computer Science and Engineering, Sathyabama University from
15.06.2016 to 25.09.2016

DR. M LAKSHMI
Dean - School of Computing



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Course Name	Fundamental of Computing
Course Code	SVAC004
Duration	35 Hours

Course objectives:

Upon completion of the course, the students will be able to:

- Bridge the fundamental concepts of computers with the present level of knowledge of the students.
- use standard word, and spreadsheets, graphics generation packages.
- Demonstrate the building up of Sequential and combinational logic from basic gates.
- explain the representation of data and information in computer systems

Course Content

Module 1:

Introduction to computers: computer systems, classifications of computers. Computer hardware: computer organization, CPU Structure and functions, input/output devices, storage devices, computer memory. Computer software: operating system and utility programs, application software.

Module 2:

Data representation, computer arithmetic and number systems. Computer network and communication: data communications, network topology, network software, communication applications.

Module 3:

Information system development: information Systems: components, types and uses, system development lifecycle.

Module 4:

Document Creation in MS-WORD, Table Creation in Ms-Word, Ms-PowerPoint, Ms-Excel, Graphs and Charts. internet and the World Wide Web: history of the internet, internet service providers, Browser, World Wide Web.



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"Fundamentals of Computing"

FROM JUNE 15, 2016 TO SEP 25, 2016

PROGRAM COORDINATOR
Dr. Ankayarkanni



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CERTIFICATE OF COMPLETION

This is to certify that

Mr. VIKASH CHAURASIA

Has attended and successfully completed the course on **"Fundamental of Computing"**
conducted by the Department of Computer Science and Engineering, Sathyabama University
from 15.06.2016 to 25.09.2016

DR. M LAKSHMI

Dean - School of Computing



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Course Name	Photoshop Designing
Course Code	SVAC005
Duration	35 Hours

Course Objectives:

GETTING TO KNOW YOUR WORKSPACE

Menu bar, application bar, options bar, tools panel, panel dock on right- Differences on PC and Mac- Different ways to zoom- Hidden tools on toolbar

BASIC SELECTIONS

Why make selections? - Geometric selections- Freehand selections- Edge-based selections- Color-based selections- How do I choose a selection tool?

ADJUSTMENT PANEL

Making color and tonal adjustments- Creating an adjustment layer- Adjustment presets- Common image corrections- Saving adjustments as a preset- Deleting adjustment layer- Applying adjustment layer to another layer

TOOL BAR TOOLS

Blur tool- Sharpen Tool- Smudge Tool- Dodge Tool- Burn Tool- Sponge Tool

BASIC PHOTO CORRECTIONS

Image menu -Color mode- Image resolution and size- Straighten and crop image- Rotate cropped image- Automatic adjustments- Auto color—removes color cast- Manually adjusting color cast-Manually adjusting tonal range- Replacing color- Clone tool- Spot healing brush Healing brush- Patch tool- Content-aware fill (NEW TO CS5!)

LAYERS

- Background layer- Isolating part of image- Hide, view, reposition, delete, rename, merge- Lock layers- Convert background layer to regular layer- Convert regular layer to background layer- Layer styles- Applying layer styles to multiple layers-GRADIENTS- Gradient tool- Gradient styles- Editing colors- Saving gradients



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MASKS

How is it different than selection tools?- Save time-consuming selections- Quick mask mode- Using brush tool- Channels panel- Loading mask as a selection- Unprocessed picture data- More control over:-white balance-tonal range-contrast-color saturation-sharpening- Set up camera to save as camera raw- Nikon (.nef)- Canon (.crw)-Olympus (.orf)- Opening up other file formats in RAW- Using Bridge vs. Photoshop- White balance- Adjust for different lighting settings- Save as DNG file, open source file- Exposure- Fill light- Sharpening an image



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"Photoshop Designing"

FROM JUN 02, 2016 TO AUG 25, 2016

PROGRAM COORDINATOR
Mr. Murrari Kamalesh



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CERTIFICATE OF COMPLETION

This is to certify that

Ms. RUCHITHA. G. V

Has attended and successfully completed the course on **"Photoshop Designing"** conducted
by the Department of Computer Science and Engineering, Sathyabama University from
02.06.2016 to 25.08.2016

DR. M LAKSHMI
Dean - School of Computing



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Course Name	C++ PROGRAMMING
Course Code	SVAC006
Duration	35 Hours

INTRODUCTION TO C++

Object Oriented Programming Paradigms - Comparison of Programming Paradigms – Object Oriented Languages - Benefits of Object Oriented Programming - Comparison with C - Overview of C++ -Pointers-References and Structures - Functions - Scope and Namespaces - Source Files and Programs.

CLASSES AND OBJECTS

Working with classes – Classes and objects – Class specification-Class objects-Accessing class members-Defining class members-Inline functions-Accessing member functions within class-Data hiding-Class member accessibility-Empty classes, constructors-Parameterized constructors-Constructor overloading-Copy constructors-new, delete operators-”this” pointer-friend classes and friend functions-Function overloading-Operator overloading.

DERIVED CLASSES

Base class and derived class relationship-Derived class declaration-Forms of inheritance-Inheritance and member accessibility- Constructors in derived class-Destructors in derived class-Multiple inheritance-Multi level inheritance-Hybrid inheritance-Virtual base classes-Member function overriding-Virtual functions



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"C++ PROGRAMMING"

FROM JAN 23, 2017 TO MAR 25, 2017

PROGRAM COORDINATOR
Ms. Usha Nandhini



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CERTIFICATE OF COMPLETION

This is to certify that

Mr. ABHISHEK KUMAR

Has attended and successfully completed the course on **"C++ Programming"** conducted by the Department of Computer Science and Engineering, Sathyabama University from 23.01.2017 to 23.03.2017

DR. M LAKSHMI
Dean - School of Computing



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Course Name	ADVANCED JAVA PROGRAMMING
Course Code	SVAC007
Duration	35 Hours

COURSE OBJECTIVES

- To know about Enterprise architecture models
- To introduce the basics of session tracking
- To understand JSP and to write Custom Tags
- To know about the development of Enterprise Java Beans .

COURSE OUTCOMES

On completion of the course the student will be able to

1. Implement JDBC connectivity
2. Implement Servlets and advanced Servlets
3. Implement JSP and Java Mail
4. Implement EJB

INTRODUCTION AND DATABASE PROGRAMMING

J2EE Platform – Enterprise architecture styles – J2EE run times – J2EE API – J2EE architecture – Containers –Introduction to J2EE technologies – Naming and directory services. Database programming with JDBC – JDBC/ODBC Bridge – Establishing a connection – Creating and executing SQL statements – Querying – Report statements – Scrollable and updatable result sets – Java.sql packages – JDBC data sources – Connection pooling.

SERVLET PROGRAMMING

Introduction to Servlet Programming - Servlet Implementations - Servlet configuration - Servlet exceptions - Servlet Life Cycle - Servlet Programming - Servlet Security- Servlet communication - Advanced Servlets : Approach to Session Tracking - Demonstrating Session - Lifecycle with Cookies - A simple shopping cart using Sessions - Servlet Context Interface - Servlet Collaboration

JSP AND JAVA MAIL

Java Server Pages : Intro to JSP - JSP Directives - Scripting elements - Standard Auctions - Implicit objects - Scope - JSP pages as XML documents - JSP Sample Program - Design Strategies - JSP tag Extensions-A simple TAG - Writing TAG Extensions. Java Mail API: Introduction to Java Mail - Mail Protocols- Java Mail Overview- Quick, Send me a Email: An example program



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ENTERPRISE JAVA BEANS

Overview of EJB-EJB Middleware Architecture - EJB Architecture- EJB Containers and its services - Design of EJB Tier - Session java Beans- Stateless and Stateful Beans, Entity Beans and Persistence - Container Vs Bean Managed Persistence, Message Driven Bean - Relationships, EJB Container Services.

TEXT / REFERENCE BOOKS

1. Subrahmanyam Allamaraju and Cedric Buest ,”Professional Java Server Programming”, A press,J2EE 1.3, 2007.
2. Jim Keogh,” Completer Reference, J2EE”,Tata McGraw Hill, 2007.
3. James Holmes-Structs,”The complete Reference”, 2nd Edition, Tata McGraw Hill, 2007.



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“ADVANCED JAVA PROGRAMMING”

FROM JAN 23, 2017 TO MAR 25, 2017

PROGRAM COORDINATOR

Dr. MERCY PAUL SELVAN

ORACLE WORKFORCE
DEVELOPMENT PROGRAM

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HAS SUCCESSFULLY COMPLETED

(WDPIN) Java IoT Developer

AS PART OF ORACLE'S WORKFORCE DEVELOPMENT PROGRAM

Sathyabama University

AUTHORIZED ORACLE WORKFORCE DEVELOPMENT PARTNER

50404621

ENROLLMENT ID

2017-05-25

DATE

Dr.Siva Sangari A

INSTRUCTOR NAME

DAMIEN SOREY
SENIOR VICE PRESIDENT AND GENERAL MANAGER,
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Course Name	HARDWARE ENGINEERING
Course Code	SVAC008
Duration	35 Hours

Course Objectives

1. Perform all the functions with Electrical and Electronic Components related to Computer and Networking system drawing following safety precautions.
2. Assemble and repair Desktop Computer with all its hardware components.
3. Install different Operating System and all other application software.
4. Customize Operating System and maintenance of system application software.
5. Assemble and repair Laptop and its hardware components.

Module 1.

Identify Important Safety Basics, specification and application of basic hand tools. How to handle components to ensure their longevity.

Module 2.

Identify the front and rear panel ports and connectors on a PC cabinet. Open the cabinet and identify various motherboards components, connectors, slots, ports (USB, VGA, DVI, and HDMI), cables and Connectors.

Module 3

Collect data from circuit board. Check Power Supplies and Power Supply Connections. Identify Motherboard Components and connections. CPU (Processor) RAM (Memory) Hard Drive Connections Mechanical vs. Solid State Drives ROM Drives Graphic Cards, Sound Cards.



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"HARDWARE ENGINEERING"

FROM JAN 23, 2017 TO MAR 25, 2017

PROGRAM COORDINATOR

Dr. PRAVEEN



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CERTIFICATE OF COMPLETION

This is to certify that

Mr. CHETAN. M

Has attended and successfully completed the course on "**HARDWARE ENGINEERING**" conducted by the Department of Computer Science and Engineering, Sathyabama University from 23.01.2017 to 23.03.2017

DR. M LAKSHMI
Dean - School of Computing