

## Database Foundations – Course Description

### Overview

This course introduces students to basic relational database concepts. The course teaches students relational database terminology, as well as data modeling concepts, building Entity Relationship Diagrams (ERDs), and mapping ERDs. [Oracle SQL Developer Data Modeler](#) is utilized to build ERDs and The Structured Query Language (SQL) is used to interact with a relational database and manipulate data within the database. [Oracle Application Express](#) is utilized to provide practical, hands-on, engaging activities. Leveraging project-based learning techniques, students will create and work with projects which challenge them to design, implement, and demonstrate a database solution for a business or organization.

### Available Curriculum Languages:

- Arabic, Simplified Chinese, English, French, Indonesian, Japanese, Brazilian Portuguese, Russian, Spanish

### Duration

- Recommended total course time: 90 hours\*
- Professional education credit hours for educators who complete Oracle Academy training: 30

*\* Course time includes instruction, self-study/homework, practices, projects and assessment*

### Target Audiences

#### Educators

- Technical, vocational and 2- and 4- year college and university faculty members who teach computer science, information communications technology (ICT), data science, business or a related subject
- Secondary and vocational school teachers who teach computer science, ICT, or a related subject

#### Students

- Students who wish to learn the techniques and tools to design, build and extract information from a database
- Students who possess basic mathematical, logical, and analytical problem-solving skills
- Novice programmers, as well as those at advanced levels, who prefer to start learning the basis for the SQL programming language at an introductory level
- This foundational course is suitable for computer science majors and non-majors alike

### Prerequisites

#### Required

- General knowledge of the purpose of a database

#### Suggested

- Previous experience with a database application

### Suggested Next Courses

- Database Design and Programming with SQL

## Lesson-by-Lesson Topics

### Introduction

- Introduction to the Course
- Introduction to Databases
- Types of Database Models
- Business Requirements

### Databases and Data Modeling

- Relational Databases
- Conceptual and Physical Data Models
- Entities and Attributes
- Unique Identifiers
- Relationships
- Entity Relationship Modeling (ERDs)

### Refining the Data Model

- More with Relationships
- Tracking Data Changes
- Normalization and Business Rules
- Data Modeling Terminology and Mapping

### Oracle SQL Developer Data Modeler

- Oracle SQL Developer Data Modeler
- Convert a Logical Model to a Relational Model

### Mapping to the Physical Model

- Mapping Entities and Attributes
- Mapping Primary and Foreign Keys

### Introduction to SQL

- Introduction to Oracle Application Express
- Structured Query Language (SQL)
- Data Definition Language (DDL)
- Data Manipulation Language (DML)
- Transaction Control Language (TCL)
- Retrieving Data Using SELECT
- Restricting Data Using WHERE
- Sorting Data Using ORDER BY
- Joining Tables Using JOIN



Prof. Hemanth Uppala <hod-bca@dayanandasagar.edu>

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## Welcome to Oracle Academy

1 message

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storeadmin\_ww@oracle.com <storeadmin\_ww@oracle.com>  
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**ORACLE** Academy

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Hemanth Uppala,

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Prof. Hemanth Uppala &lt;hod-bca@dayanandasagar.edu&gt;

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1 message

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**ORACLE** Academy

Dear Hemanth Uppala,

Your Oracle Academy Institution membership order has been processed.

**Order Details**

- **Order Number:** 38113331
- **Customer Support Identifier:** 21855284
- **Order Date:** 27-JUL-18
- **Institution Name:** Dayananda Sagar College of Arts, Science and Commerce
- **Faculty Contact:** Hemanth Uppala

**Description**

- Oracle Academy Software Bundle
- Oracle Premier Support

**CSI Information** You will receive an alert when your CSI is active for [My Oracle Support](#) access. For more information regarding support, visit [Oracle Support Resources](#).

If you have any other questions, contact us.

Kind Regards,  
Oracle Academy

## Java Foundations – Course Description

### Overview

This course of study engages students with little programming experience. Students are introduced to object-oriented concepts, terminology, and syntax, and the steps required to create basic Java programs using hands-on, engaging activities. Students will learn the concepts of Java programming, design object-oriented applications with Java and create Java programs using hands-on, engaging activities.

### Available Curriculum Languages:

- Arabic, Simplified Chinese, English, French, Indonesian, Japanese, Brazilian Portuguese, Russian, Spanish

### Duration

- Recommended total course time: 90 hours\*
- Professional education credit hours for educators who complete Oracle Academy training: 30

*\* Course time includes instruction, self-study/homework, practices, projects and assessment*

### Target Audiences

#### Educators

- Technical, vocational, and 2- and 4-year college and university faculty members who teach computer programming, information communications technology (ICT), or a related subject at a foundational level
- Secondary and vocational school teachers who teach computer programming

#### Students

- Students who wish learn Java programming and build their Object Oriented Programming experience using Java
- This course is a suitable foundational class for computer science majors, and when taught in sequence with Java Programming may be used to prepare students for the AP Computer Science A exam

### Prerequisites

#### Required

- Oracle Academy Workshop - Getting Started with Java Using Alice
- Oracle Academy Workshop - Creating Java Programs with Greenfoot

#### Suggested

- Oracle Academy Course - Java Fundamentals

### Suggested Next Courses

- Oracle Academy Course - Java Programming

## Lesson-by-Lesson Topics

### Introduction

- About the Course
- Brief History
- Setting up Java

### Java Software Development

- The Software Development Process
- What is my Program Doing?
- Introduction to Object-Oriented Programming Concepts

### Java Data Types

- What is a Variable?
- Numeric Data
- Textual Data
- Converting Between Data Types
- Keyboard Input

### Java Methods and Library Classes

- What is a Method?
- The import Declaration and Packages
- The String Class
- The Random Class
- The Math Class

### Decision Statements

- Boolean Expressions and if/else Constructs
- Understanding Conditional Execution
- switch Statement

### Loop Constructs

- for Loops
- while and do-while Loops
- Using break and continue Statements

### Creating Classes

- Creating a Class?
- Instantiating Objects
- Constructors
- Overloading Methods
- Object Interaction and Encapsulation
- static Variables and Methods

### Arrays and Exceptions

- One-dimensional Arrays
- ArrayLists
- Exception Handling
- Debugging Concepts and Techniques

### JavaFX

- Introduction to Java FX
- Colors and Shapes
- Graphics, Audio and MouseEvents



**DAYANANDA SAGAR COLLEGE OF ARTS, SCIENCE AND COMMERCE**  
 Shavige Malleshwara Hills, Kumaraswamy Layout, Bengaluru-560078

**IQAC**

Department of Computer Applications

**Add-on Course - Online Mode**

Oracle Academy - Database Foundation Course - Jan - May 2023

Course: BCA

Total Hours: 90 Hrs

S.No.	Reg.No	Name	Semester	Date of Completion
1	U03CJ22S0001	NEETHU K P	II	6/19/2023
2	U03CJ22S0002	ANIRUDHA GOUTHAM C M	II	6/17/2023
3	U03CJ22S0004	ABHISHEK KUMAR	II	6/15/2023
4	U03CJ22S0005	AIMNIKH	II	6/18/2023
5	U03CJ22S0006	AADNIKH	II	6/18/2023
6	U03CJ22S0008	AFNAN SABIL	II	6/21/2023
7	U03CJ22S0009	ASHWINI M	II	6/14/2023
8	U03CJ22S0011	ADARSH KUMAR	II	6/17/2023
9	U03CJ22S0012	ANUSH HALLIKHEDE	II	6/19/2023
10	U03CJ22S0014	A MUHAMMAD SUHAIB	II	7/21/2023
11	U03CJ22S0015	BHUVANA A	II	6/15/2023
12	U03CJ22S0016	AWEZ PASHA	II	7/20/2023
13	U03CJ22S0017	BINDU B	II	6/18/2023
14	U03CJ22S0020	CHAITHRA K R	II	7/21/2023
15	U03CJ22S0022	CHEKRAVARTHI C	II	6/21/2023
16	U03CJ22S0024	GUNAVANTH M	II	6/17/2023
17	U03CJ22S0025	AKASH G	II	6/16/2023
18	U03CJ22S0027	GUNJANRAJ KOTTEWAL	II	6/17/2023
19	U03CJ22S0028	GOWTHAM S	II	6/22/2023
20	U03CJ22S0030	HARSHITHA S	II	6/17/2023
21	U03CJ22S0031	HEMU L	II	6/18/2023
22	U03CJ22S0032	HARSHITHA S	II	6/18/2023
23	U03CJ22S0033	HITESH H S	II	6/19/2023
24	U03CJ22S0034	I Y ABHAY CHENGAPPA	II	7/25/2023
25	U03CJ22S0035	IBRAHIM KUSHAY HAKIMJI	II	6/18/2023
26	U03CJ22S0036	JEEVAN N	II	7/2/2023
27	U03CJ22S0037	JATHIN N	II	6/23/2023
28	U03CJ22S0038	KUMAR S	II	6/18/2023
29	U03CJ22S0039	KEERTHANA M	II	6/19/2023
30	U03CJ22S0040	KEERTHANA M	II	6/17/2023
31	U03CJ22S0041	KEERTHANA R	II	6/20/2023
32	U03CJ22S0044	MADAN N	II	6/17/2023
33	U03CJ22S0045	MONIKA G	II	6/17/2023
34	U03CJ22S0046	MUHAMMED HAZEEN K P	II	6/17/2023
35	U03CJ22S0047	MADHUSHREE R	II	6/20/2023
36	U03CJ22S0048	MEGHANA S K	II	6/19/2023
37	U03CJ22S0049	MOHAMMED MASI ULLA KHAN	II	7/25/2023

38	U03CJ22S0050	MOHAMMED USMAN	II	7/31/2023
39	U03CJ22S0051	MEHRAJ SHARIFF	II	6/20/2023
40	U03CJ22S0052	KARTHIKEYAN GIRISH	II	6/20/2023
41	U03CJ22S0053	ANIRUDH MEDIPALLI	II	6/22/2023
42	U03CJ22S0055	MEHEK N	II	6/18/2023
43	U03CJ22S0056	MOHAMMED SAIF	II	7/25/2023
44	U03CJ22S0057	NANDISH U	II	6/20/2023
45	U03CJ22S0059	NITHIN GOWDA H	II	6/23/2023
46	U03CJ22S0060	NANDAN GANAPATI AVADHANI	II	6/17/2023
47	U03CJ22S0155	BHAVANA A	II	6/16/2023
48	U03CJ22S0156	A DEVI SHALINI	II	6/16/2023
49	U03CJ22S0062	P SAMANVITHA ACHARYA	II	6/18/2023
50	U03CJ22S0063	POOJA T	II	6/21/2023
51	U03CJ22S0064	PRIYA SANGEETHA S	II	6/20/2023
52	U03CJ22S0065	VAISHNAVI JISHITHA PERURI	II	7/18/2023
53	U03CJ22S0066	PRERANA KULKARNI	II	6/18/2023
54	U03CJ22S0067	PAVAN G	II	7/11/2023
55	U03CJ22S0069	RAHUL C POOJARY	II	6/20/2023
56	U03CJ22S0070	RAKSHITHA S	II	6/20/2023
57	U03CJ22S0071	RAMYA K	II	6/20/2023
58	U03CJ22S0072	RITHIKA K	II	6/19/2023
59	U03CJ22S0073	PATTA TARANNUM FERAZ	II	6/19/2023
60	U03CJ22S0074	RAKSHITH GOWDA P	II	6/21/2023
61	U03CJ22S0075	RISHOTH KUMAR D	II	6/21/2023
62	U03CJ22S0076	SALMAN ALI	II	6/20/2023
63	U03CJ22S0077	SRINIDHI RAMASWAMY	II	6/7/2023
64	U03CJ22S0078	SRIKANTH R	II	6/22/2023
65	U03CJ22S0079	SAHIL KUMAR	II	6/20/2023
66	U03CJ22S0080	SHWETHA N	II	6/21/2023
67	U03CJ22S0081	SHARANYA B M	II	6/20/2023
68	U03CJ22S0082	SOUJANYA S	II	6/11/2023
69	U03CJ22S0083	SONALI BANU	II	7/18/2023
70	U03CJ22S0084	SRINITHYA V	II	5/31/2023
71	U03CJ22S0085	SUSHMITHA N	II	6/20/2023
72	U03CJ22S0086	SUHAS SATHYANARAYANA R	II	7/26/2023
73	U03CJ22S0087	SANJAY M	II	7/4/2023
74	U03CJ22S0088	SUKRUTH Y S	II	6/24/2023
75	U03CJ22S0089	SUMA P	II	6/19/2023
76	U03CJ22S0090	TANISH G	II	7/3/2023
77	U03CJ22S0091	TANVITHA R	II	6/20/2023
78	U03CJ22S0092	TANISHQ NAWAZ KHAN	II	6/25/2023
79	U03CJ22S0093	TEJAS R	II	6/21/2023
80	U03CJ22S0094	TEJASWINI	II	6/21/2023
81	U03CJ22S0095	TEJUS M S	II	6/22/2023
82	U03CJ22S0096	VARSHINI G	II	6/17/2023
83	U03CJ22S0097	VANYASHREE N	II	6/22/2023
84	U03CJ22S0098	BALAJI V	II	6/18/2023



85	U03CJ22S0099	VINEETH M RAJU	II	6/18/2023
86	U03CJ22S0100	VENNELA	II	6/17/2023
87	U03CJ22S0101	VIKAS B	II	6/19/2023
88	U03CJ22S0103	VYOOM AGARWAL	II	6/20/2023
89	U03CJ22S0104	YASHAWARTHI M K	II	6/21/2023
90	U03CJ22S0114	ANKIT KUMAR	II	6/20/2023
91	U03CJ22S0115	H CHIRANTH GARGE	II	6/20/2023
92	U03CJ22S0116	DEEKSHITH REDDY M A	II	6/20/2023
93	U03CJ22S0117	K HARI KISHORE	II	6/28/2023
94	U03CJ22S0118	LAVANYA J V	II	6/18/2023
95	U03CJ22S0119	MARIAN LOHITH	II	6/23/2023
96	U03CJ22S0122	SAGAR K M	II	6/23/2023
97	U03CJ22S0127	SHAHUL HAMEED V R	II	6/22/2023
98	U03CJ22S0128	T SREE KUMAR	II	6/22/2023
99	U03CJ22S0134	SARAVANAN G	II	6/22/2023
100	U03CJ22S0136	SALONI SINGH	II	7/12/2023
101	U03CJ22S0140	MANISH DAGDI	II	6/23/2023

*V. Sivabala*  
Oracle Academy

*Shunademi*  
Course Coordinator

*Mr. Haranth Uppala, M.Sc.*  
Vice-Principal  
Dayananda Sagar College of Arts, Science & Commerce  
Shivaji Nagar, Kumeraswamy Layout  
Bengaluru - 560 111  
Vice-Principal



AWARD of FINAL EXAM COMPLETION  
Java Foundations

PRESENTED TO

JEEVA M

FOR SATISFACTORY COMPLETION OF COURSE FINAL EXAM

20th January 2023

A handwritten signature in black ink, appearing to read "W McCabe".

William McCabe  
Vice President, Oracle Academy



# AWARD of COURSE COMPLETION

Java Foundations

PRESENTED TO

**KUSHAL BALAJI V**

FOR SATISFACTORY COMPLETION OF ALL COURSEWORK

27th December 2022

A handwritten signature in black ink, appearing to read "W McCabe", written in a cursive style.

**William McCabe**  
Vice President, Oracle Academy