

# Application Development Foundations – Course Description

## Overview

This course of study introduces students to the techniques and tools required to develop database driven web applications. The course teaches students how to design, develop and deploy beautiful, responsive, database-driven web applications using Oracle APEX. Oracle APEX 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-driven web application solution for a business or organization.

## Available Curriculum Languages:

- English

## 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 deploy database driven web applications
- Students who possess existing SQL and PL/SQL skills
- Students who possess Novice programming skills
- Students who possess an understanding of web applications as an end user or creator

## Prerequisites

### Required

- Oracle Academy – Database Foundations

### Suggested

- Oracle Academy - Database Design & Programming with SQL
- Oracle Academy - Programming with PL/SQL

## Lesson-by-Lesson Topics

### Introduction

- What is Oracle APEX
- Getting Started with Oracle APEX

### Create a Basic Database Application

- Using SQL Workshop
- Creating a Database Application – Part 1
- Creating a Database Application – Part 2

### Pages, Reports, and Grids

- Managing Pages in Page Designer
- Developing Reports
- Managing and Customizing Interactive Reports
- Managing and Customizing Interactive Grids

### Forms and Page Controls

- Creating and Using Forms
- Creating Application Page Controls
- Adding Computations, Processes and Validations
- Managing Cards, Faceted Search, and Smart Filters

### Navigation, Themes and Security

- Implementing Navigation and Search in your Applications
- Using Themes and Theme Styles
- Implementing Security in your Application

### Managing Application Data

- Understanding Data Load and Collections
- Managing REST Enabled SQL References and Data Sources

### Adding to and Migrating an Application

- Adding Additional Pages to your Application
- Creating and using Dynamic Actions
- Extending Application Capabilities – Part 1
- Extending Application Capabilities – Part 2
- Migrating Application Development between Environments