

# Courses designed to develop knowledge and skills needed for modern careers

Oracle Academy courses are designed to provide students with foundational knowledge and skills in areas of computer science that are universally in high demand across computing jobs and are recommended for use in secondary schools, technical and vocational schools and colleges, and 2- and 4-year colleges and universities.

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## Oracle Academy Courses

Our courseware is modular, enabling faculty to incorporate entire Oracle Academy courses or individual lessons or topics into their existing classes and programs of study. Our courseware is designed to be delivered as part of an academic program of study, has educational learning objectives, is mapped and aligned to many relevant standards and exams globally, and is available in multiple languages to improve learning experiences.

View complete descriptions of all our courses below. “Recommended total course time” includes time for classroom instruction, self-study/homework, practice, assessments, and project development and completion.

- Java Fundamentals
- Java Foundations
- Java Programming
- Artificial Intelligence with Machine Learning in Java
  
- Database Foundations
- Database Design and Programming with SQL
- Programming with PL/SQL
- APEX – Application Development Foundations
  
- **Individual members** may access sample lessons from Oracle Academy curriculum.
- **Institutional members** may access complete Oracle Academy curriculum offerings within iLearning.\*
- If you are an **Institutional member** and do not yet have an iLearning account, please request one.\*
  
- Oracle Academy also offers free training opportunities to **Institutional member educators** who want to brush up on their skills or who may be unfamiliar with our courses and/or the technologies covered.
- Visit our Events calendar and search for upcoming training events in your area.

\*You will need to be logged in as an Academy member to access these links.

## Java Fundamentals



This course of study engages students with little or no 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 to program 3-D animations, develop 2-D games and create Java applications.

View the detailed course description and lesson-by-lesson objectives

	Chinese	English (Simplified )	French	Indonesian	Japanese	Portuguese (Brazil)	Spanish	Arabic
<b>Language Availability</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

- **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 to start their Java programming experience and learn how to create animations, games and applications using fun and engaging tools.
- This course is a suitable foundational class for computer science majors and non-majors alike, and when taught in sequence with Java Programming may be used to prepare students for the AP Computer Science A exam.

- **Educator Prerequisites**

### Required

- None

### Suggested

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

- **Duration**

- Recommended total course time: 90 hours (normally 1 semester)
- Professional education credit hours for educators who complete Oracle Academy training: 30

- **Suggested Next Courses**

- Oracle Academy Course: Java Programming

## Java Foundations



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.

View the detailed course description and lesson-by-lesson objectives

### Language Availability

	English	Chinese (Simplified)	French	Japanese	Portuguese (Brazil)	Spanish	Arabic	Russian
<b>Language Availability</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

- **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 to 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.

- **Educator 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

- **Duration**

- Recommended total course time: 90 hours (normally 1 semester)
- Professional education credit hours for educators who complete Oracle Academy training: 30

- **Suggested Next Courses**

- Oracle Academy Course: Java Programming

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## Java Programming



This course of study builds on the skills gained by students in Java Fundamentals and helps to advance Java programming skills. Students will design object-oriented applications with Java and will create Java programs using hands-on, engaging activities.

View the detailed course description and lesson-by-lesson objectives

	<b>English</b>	<b>Chinese (Simplified)</b>	<b>French</b>	<b>Japanese</b>	<b>Portuguese (Brazil)</b>	<b>Spanish</b>	<b>Arabic</b>
<b>Language Availability</b>	Yes						

- **Target Audiences**

#### **Educators**

- Technical, vocational, and 2- and 4-year college and university faculty members who teach computer programming or a related subject.
- Secondary and vocational school teachers who teach computer programming.

#### **Students**

- Students who wish to extend their programming experience in Java and develop more complex Java applications.
- This course is a suitable foundational class for computer science majors and non-majors alike, and when taught in sequence with Java Fundamentals may be used to prepare students for the AP Computer Science A exam.

- **Educator Prerequisites**

#### **Required**

- Fundamental knowledge of object-oriented concepts, terminology, and syntax, and the steps required to create basic Java programs.

#### **Suggested**

- Oracle Academy Course: Java Fundamentals
- Previous experience with at least one programming language

- **Duration**

- Recommended total course time: 90 hours (normally 1 semester)
- Professional education credit hours for educators who complete Oracle Academy training: 30

- **Suggested Next Courses**

- Advanced computer programming courses
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## Artificial Intelligence with Machine Learning in Java



This course of study builds on the skills gained by students in Java Foundations and Java Programming. Students are introduced to Machine Learning concepts within Artificial Intelligence and will learn terminology, syntax, and the steps required to create a Machine Learning solution in Java using hands-on, engaging activities.

View the detailed course description and lesson-by-lesson objectives

	<b>English</b>	<b>Chinese (Simplified)</b>	<b>French</b>	<b>Japanese</b>	<b>Portuguese (Brazil)</b>	<b>Spanish</b>	<b>Arabic</b>
<b>Language Availability</b>	Yes						

- **Target Audiences**

### **Educators**

- Technical, vocational, and 2- and 4-year college and university faculty members who teach computer programming.

### **Students**

- Students with fundamental knowledge of object-oriented concepts, data structures, recursion, terminology, and syntax in Java who wish learn the concepts of Machine Learning within Artificial Intelligence using Java.

- **Educator Prerequisites**

### **Required**

- Fundamental knowledge of object-oriented concepts, data structures, recursion, terminology, and syntax in Java

### **Suggested**

- Oracle Academy Course: Java Fundamentals
- Oracle Academy Course: Java Foundations

- **Duration**
- Recommended total course time: 40 hours (normally 0.5 semester)
- **Suggested Next Courses**
- Advanced computer programming courses

## Database Foundations



This course of study 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 used 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.

View the detailed course description and lesson-by-lesson objectives

	English	Chinese (Simplified)	French	Japanese	Portuguese (Brazil)	Spanish	Arabic	Russian
<b>Language Availability</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

- **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.

- **Educator Prerequisites**

**Required**

- General knowledge of the purpose of a database

**Suggested**

- Previous experience with a database application

- **Duration**

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

- **Suggested Next Courses**

- Database Design and Programming with SQL

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## Database Design and Programming with SQL



This course of study teaches students to analyze complex business scenarios, design and create data models, and create databases using SQL. Oracle SQL Developer Data Modeler and Application Express (APEX) are 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.

View the detailed course description and lesson-by-lesson objectives



	English	Chinese (Simplified)	French	Japanese	Portuguese (Brazil)	Spanish	Arabic
<b>Language Availability</b>	Yes	Yes			Yes	Yes	

- **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, 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.
- This foundational course is suitable for computer science majors and non-majors alike.

- **Educator Prerequisites**

#### **Required**

- General knowledge of the purpose of a database

#### **Suggested**

- Previous experience with a database application

- **Duration**

- Recommended total course time: 180 hours (normally 2 semesters)
- Professional education credit hours for educators who complete Oracle Academy training: 60

- **Suggested Next Courses**

- Oracle Academy course: Programming with PL/SQL
  - Advanced database courses
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## Programming with PL/SQL



This course of study introduces students to PL/SQL, Oracle’s procedural extension language for SQL and the Oracle relational database. Participants explore the differences between SQL and PL/SQL and explore how PL/SQL is used to extend and automate SQL in administering the Oracle database. Oracle Application Express (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 enhance the SQL of a database solution for a business or organization.

View the detailed course description and lesson-by-lesson objectives

	English	Chinese (Simplified)	French	Japanese	Portuguese (Brazil)	Spanish	Arabic
<b>Language Availability</b>	Yes						

- **Target Audiences**

### Educators

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

### Students

- Students who wish to learn techniques beyond SQL to execute procedural logic on a database.

- **Educator Prerequisites**

### Required

- High level knowledge of database design concepts
- High level knowledge of programming with SQL

### Suggested

- Oracle Academy Course – Database Design and Programming with SQL

- **Duration**

- Recommended total course time: 180 hours (normally 2 semesters)
- Professional education credit hours for educators who complete Oracle Academy training: 60

- **Suggested Next Courses**

- Advanced PL/SQL courses

## Oracle Application Express – Application Development Foundations



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 Application Express. Oracle Application Express is utilized to provide practical, hands-on, engaging activities.

View the detailed course description and lesson-by-lesson objectives

	<b>English</b>	<b>Chinese (Simplified)</b>	<b>French</b>	<b>Japanese</b>	<b>Portuguese (Brazil)</b>	<b>Spanish</b>	<b>Arabic</b>
<b>Language Availability</b>	Yes						

- **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 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

- **Educator Prerequisites**

**Required**

- Oracle Academy - Database Foundations

**Suggested**

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

- **Duration**

- Recommended total course time: 90 hours (normally 1 semesters)

- **Suggested Next Courses**

- Oracle Application Express – Advanced Study