WESTCLIFF UNIVERSITY | College of Technology & Engineering

Course Description	
COURSE NUMBER and NAME	DEV 610 Web Application Development
UNITS	3
LENGTH OF CLASS	8 Weeks
COURSE DESCRIPTION	This course equips students with the skills to develop web applications using Java. Students learn basic web development concepts and apply basic and advanced web development skills enabling them to work with advanced data structure and to create functional programming.
REQUIRED TEXT	Reges, S., & Stepp, M. (2020). *Building Java programs: A back to basics approach* (5th ed.). Pearson. ISBN: 9780135471944
INSTRUCTIONAL METHOD	Online / On-Campus

Summary of Graded Work and Assessments

Graded work and assessments offer students the opportunity to show the degree of mastery for each CLO. The following table shows how assessments and CLOs align (link).

Assignments	Totals	Weight	CLOs
Engagement and Professionalism (Rubric): Live Class Activities	160	16%	1, 2, 3, 4
Week 1 Assignment	100	10%	1, 2
Week 2 Assignment	100	10%	1, 2
Week 3 Assignment	100	10%	1, 2
Week 4 Assignment	100	10%	1, 2
Week 5 Assignment	100	10%	1, 2
Week 6 Assignment	100	10%	1, 2
Week 7 Assignment	100	10%	3, 4
Week 8 In-Class Team Reflection	140	14%	1, 2, 3, 4
Total Points/Percentage	**1000 Points**	**100%**	

Course Policies

For Westcliff's course policies, please see the Course Policies document.

Discussion Requirements

For all discussions, the primary response is due by Thursday at 11:59 p.m. Pacific Time. The primary response must be at least 200 words in length and fully address the topic, demonstrating critical thinking and understanding. Each student must then also post a minimum of two responses to other students in the discussion by Sunday night at 11:59 p.m. Pacific Time. Each peer response must be at least 50 words in length and substantively engage with the other student's original post, continuing the discussion in a professional manner. If at any time information or material is brought in from an outside source or website, it must be properly cited following APA 7th edition guidelines and a full reference must be provided.

Assignment Requirements

Each assignment deliverable is specifically defined in the assignment instructions, such as page length, citations and references, audio or video, presentations, tables, etc. For all written assignments, the required page length does not include the cover or references pages. Refer to the specific requirements as stated in each assignment, and reach out to your instructor for additional information as needed. All graded submissions are due by Sunday at 11:59 p.m. Pacific Time.

All written work must adhere to APA 7th edition academic formatting requirements including core components such as the cover page, page numbers, headings, citations, 1" margins, paragraph indentations, left alignment, double spacing throughout, and the final references using hanging indents.

Participation Requirements

Students are required to attend each live class session either in person or virtually as stipulated in the course policies. Participation in the live class session is determined by actively engaging, answering or asking questions, providing comments, interacting in group activities, etc., as required by the instructor. Students who are unable to attend the live in-class or virtual sessions must follow the VCS submission requirements as stated in the Course Policies document.

Writing Center

The Westcliff University Writing Center is dedicated to providing quality support to students and faculty. From assignment review, to in-class workshops, to dissertation support, to publication help, the Writing Center is committed to empowering individuals to use the written language to articulate and disseminate knowledge.

Course Learning Outcomes (CLOs)

Learning outcomes are statements that describe significant and essential scholarship that students have achieved and can reliably demonstrate at the end of the course. Learning outcomes identify what the learner will know and be able to do by the end of a course – the essential and enduring knowledge, abilities (skills), and attitudes (values, dispositions) that constitute the integrated learning needed for successful completion of this course. The learning outcomes for this course summarize what students can expect to learn, and how this course is tied directly to the educational outcomes of the degree.

Course Learning Outcomes (CLOs)	PLOs
1. Demonstrate a clear understanding of basic web development concepts.	1, 2
2. Apply basic and advanced web development skills.	5
3. Analyze advanced data structures.	4
4. Create functional programming using JAVA.	5

Detailed Course Outline

The following outline provides important assignment details for this course, unit by unit. Students are responsible for all of the assignments given. Please refer to the Detailed Description of Each Grading Criteria in the syllabus for specific information about each assignment.

Week 1

Assignments to complete this week:

- Reading:
  - Chapter 1: Introduction to Java Programming
  - Chapter 2: Primitive Data and Definite Loops
- Videos
  - Building Java Programs
  - Primitive Data and Definite Loops
  - Introduction to Parameters and Objects
- Download: If you do not already have a programming IDE, download and install the following FREE IDE from Microsoft HERE.

Week 1 Live Class Activity

During this course, you will work through foundations of JAVA web programming and complete exercises provided in the course text. During the live class, review the videos and chapters provided in this week's readings. Students will be given time to begin working on the exercises for chapters 1 and 2, and the instructor will answer questions and provide direction.

Week 1 Assignment (Rubric)

Submit the exercises for Chapter 1 and Chapter 2.

Week 2

Assignments to complete this week:

- Reading:
  - Chapter 3: Introduction to Parameters and Objects
  - Chapter 4: Conditional Execution
  - Chapter 5: Program Logic and Indefinite Loops
- Videos
  - Introduction to Parameters and Objects
  - Conditional Execution
  - Program Logic and Indefinite Loops

Week 2 Live Class Activity

During the live class, review the videos and chapters provided in this week's readings. Allow live class time to work on the exercises for Chapters 3, 4, and 5.

Week 2 Assignment (Rubric)

Submit the exercises for Chapters 3, 4, and 5.

Week 3

Assignments to complete this week:

- Reading:
  - Chapter 6: File Processing
  - Chapter 7: Arrays
  - Chapter 8: Classes
- Videos:
  - File Processing
  - Arrays
  - Classes

Week 3 Live Class Activity

During the live class, review the videos and chapters provided in this week's readings. Allow live class time to work on the exercises for Chapters 6, 7, and 8.

Week 3 Assignment (Rubric)

Submit the exercises for Chapters 6, 7, and 8.

Week 4

Assignments to complete this week:

- Reading:
  - Chapter 9: Inheritance and Interfaces
  - Chapter 10: ArrayLists
  - Chapter 11: Java Collections Framework
- Videos:
  - Inheritance and Interfaces
  - ArrayLists1 and ArrayLists2
  - Java Collections Framework1 and Java Collections Framework2

Week 4 Live Class Activity

During the live class, review the videos and chapters provided in this week's readings. Allow live class time to work on the exercises for Chapters 9, 10, and 11.

Week 4 Assignment (Rubric)

Submit the exercises for Chapter 9, Chapter 10, and Chapter 11.

Week 5

Assignments to complete this week:

- Reading:
  - Chapter 12: Recursion
  - Chapter 13: Searching and Sorting
  - Chapter 14: Stacks and Queues
- Videos:
  - Recursion1 & Recursion2
  - Searching and Sorting
  - Stacks and Queues

Week 5 Live Class Activity

During the live class, review the videos and chapters provided in this week's readings. Allow live class time to work on the exercises for Chapters 12, 13, and 14.

Week 5 Assignment (Rubric)

Submit the exercises for Chapters 12, 13, and 14.

Week 6

Assignments to complete this week:

- Reading:
  - Chapter 15: Implementing a Collection Class
  - Chapter 16: Linked Lists
  - Chapter 17: Binary Trees
- Videos:
  - Linked Lists

Week 6 Live Class Activity

During the live class, review the videos and chapters provided in this week's readings. Allow live class time to work on the exercises for Chapters 15, 16, and 17.

Week 6 Assignment (Rubric)

Submit the exercises for Chapters 15, 16, and 17.

Week 7

Assignments to complete this week:

- Reading:
  - Chapter 18: Advanced Data Structures
  - Chapter 19: Functional Programming with Java 8

Week 7 Live Class Activity

During the live class, review the videos and chapters provided in this week's readings. Allow live class time to work on the exercises for Chapters 18 and 19.

Week 7 Assignment (Rubric)

Submit the exercises for Chapters 18 and 19.

Week 8

Assignments to complete this week:

Week 8 In-Class Team Reflection (Rubric)

During the live class, break into teams depending on class size and discuss what you learned in this class. Discuss common areas of strength, areas for improvement, and how what you learned can be applied to your current or future career. Create a short presentation that covers the key takeaways from your team discussion of these areas. Share your team presentation with the class.