I. COURSE DESCRIPTION:

- Review of control structures and data types with emphasis on structured data types.
- Applies the object-oriented programming paradigm, focusing on the definition and use of classes along with the fundamentals of object-oriented design.
- Includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering.
- This course may use instructional examples and assignments from various programming languages, including but not limited to C, Objective-C, C++, C#, and/or Java.
- COSC 1437 will satisfy the Associate in Sciences degree general elective requirement. This course will fulfill DCCCD’s degree requirements only if this course has been successfully completed and the date of completion does not exceed 10 years. (3 Lec., 3 Lab.)
- Coordinating Board Academic Approval Number 1102015607

II. COURSE PREREQUISITES:

COSC1415 or COSC1436 and college-level algebra or higher

III. COURSE OBJECTIVES:

- Understand the principles of objects and classes
- Declare, instantiate and assign class objects
- Follow guidelines and techniques of software engineering in program design and development
- Create and use void and non-void class methods with parameter passing and local variables
- Use primitive and reference data types
- Understand information hiding and encapsulation
- Review selection and repetition structures
- Understand and use inheritance and polymorphism
- Understand and use container classes and arrays
- Use basic searching and sorting techniques
- Manage input and output files

IV. LEARNING OUTCOMES:

- Understand the principles of objects and classes
- Declare, instantiate and assign class objects
- Follow guidelines and techniques of software engineering in program design and development
- Create and use void and non-void class methods with parameter passing and local variables
- Use primitive and reference data types
- Understand information hiding and encapsulation
- Review selection and repetition structures
• Understand and use inheritance and polymorphism
• Understand and use container classes and arrays
• Use basic searching and sorting techniques
• Manage input and output files

V. ACADEMIC COURSE / WECM / SCANS COMPETENCIES: (if applicable)
- Reading: the ability to analyze and interpret a variety of printed materials - books, documents, and articles
- Writing: the ability to produce clear, correct and coherent prose adapted to purpose, occasion and audience
- Speaking: ability to communicate orally in clear, coherent, and persuasive language appropriate to purpose, occasion, and audience
- Listening: analyze and interpret various forms of spoken communication, possess sufficient literacy skills of writing, reading
- Critical Thinking: think and analyze at a critical level
- Computer Literacy: understand our technological society, use computer based technology in communication, solving problems, acquiring information.

VI. DEVELOPMENTAL COURSE (if applicable)
The Texas Success Initiative (TSI) is a statewide program designed to ensure that students enrolled in Texas public colleges and universities have the basic academic skills needed to be successful in college-level coursework. The TSI requires assessment, remediation (if necessary), and advising of students who attend a public college or university in the state of Texas. The program assesses a student’s basic academic skills in reading, writing, and math. Passing the assessment is a prerequisite for enrollment in many college-level classes such as English 1301/1302, History 1301/1302, Math 1414, etc. Students who do not meet assessment standards may complete prerequisite requirements by taking developmental courses in the deficient area and passing them with a grade of C or higher. In some cases retesting will also be required. It is up to each student to be aware and informed about requirements that are subject to change. Additional information is available from the TSI Office in T170T or T170S (phone no. 972-238-6115 or 972-238-3787) or at http://www.rlc.dcccd.edu/regi/resource/tsi.htm

VII. SPECIFIC COURSE LEARNING OUTCOMES: (if applicable)

VIII. REQUIRED / RECOMMENDED COURSE MATERIALS:
• Starting Out with Java: Early Objects (Fifth Edition) by Tony Graddis
• USB flash drive to store your labs and assignments
• Richland College Student ID so that you can use the drop-in computer labs

IX. COURSE OUTLINE
<table>
<thead>
<tr>
<th>Week</th>
<th>LECTURE - QUIZ</th>
<th>LAB – DISCUSSION TOPIC – PROJECT - TEST</th>
</tr>
</thead>
</table>
| PREPARE FOR CLASS | - Read START HERE  
- Buy the book  
- Introduce yourself on Discussion page | - Do the policy quiz (optional – 5 extra credit points)  
- Select PC/labtop and the Internet  
- Download and install the |
| Week 1 3/20 | Quiz 1 – due on 3/27  
Chapter1: Introduction to Computer and Java  
HOMEWORK1 – due on 4/3  
Chapter2: Java Fundamental  
HOMEWORK2 – due on 4/3 | LAB1: due on 3/27  
3/25 Last day to drop class without W |
| Week 2 3/27 | Quiz 2 – due on 4/3  
Chapter3: A first look at Classes and Objects  
HOMEWORK3 – due on 4/3  
Review for test1 (chapter 1 – 3) | TEST1: Chapter 1, 2, 3 on 3/30  
LAB2: due on 4/3 |
| Week 3 4/3 | Quiz 3 – due on 4/10  
Chapter4: Decision Structures  
HOMEWORK4 – due on 4/21  
Chapter 5: Loops and Files  
HOMEWORK5 – due on 4/21 | LAB3: due on 4/10  
PROJECT ASSIGNMENT due on 5/3 |
| Week 4 4/10 | Quiz 4 – due on 4/17  
Chapter6: A second Look at Classes and Objects  
HOMEWORK6 – due on 4/21  
Chapter7: Arrays and the ArrayList Class  
HOMEWORK7 – due on 4/21 | LAB4: due on 4/17  
Working on the project, due on 5/3 |
| Week 5 4/17 | Quiz 5 – due on 4/24  
Review for test2 (chapter 4 – 7)  
Chapter8: Text Processing and Wrapper Classes  
HOMEWORK8 – due on 5/7 | TEST2: Chapter 4, 5, 6,7 on 4/17  
LAB5: due on 4/24  
Working on the project, due on 5/3 |
| Week 6 4/24 | Quiz 6 – due on 5/1  
Chapter9: Inheritance  
HOMEWORK9 – due on 5/7 | LAB6: due on 5/1  
Last day to drop with a “W” on 4/29  
Working on the project, due on 5/3 |
| Week 7 5/1 | Quiz 7 – due on 5/8  
Chapter10: Exception and Advanced File I/O  
HOMEWORK10 – due on 5/7 | Working on the project, due on 5/3 |
| Week 8 5/8 | Review for final exam (chapter 1 - 10) | MON 5/8 FINAL EXAM |
X. EVALUATION PROCEDURES
   - Quiz: 7 quizzes
   - Homework: 10 homework
   - Labs: 6 labs
   - 3 exams
   - Project: 1 individual project
   - Discussion topics

XI. EXAMS AND ASSIGNMENTS – GRADE SCALE
After the final grade is posted on the eConnect, you have 2 days to discuss about the grade with your instructor for any reasons. After 2 days, the grade will become permanent grade and any late concern is not acceptable.

   Final Grades will be available through the touchtone telephone system at 972-613-1818 or on-line through eConnect at www.econnect.dcccd.edu. They will also be displayed on the Student Advising Report which is available in the Admissions and Student Records Office, T170.

<table>
<thead>
<tr>
<th></th>
<th>Points</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiz - Attendance</td>
<td>4 points x 7 quizzes</td>
<td>28</td>
</tr>
<tr>
<td>Homework Assignment</td>
<td>10 points x 10 home works</td>
<td>100</td>
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<tr>
<td>Lab Assignment</td>
<td>30 points x 6 lab assignments</td>
<td>180</td>
</tr>
<tr>
<td>Exam</td>
<td>100 points x 3 exams</td>
<td>300</td>
</tr>
<tr>
<td>Project</td>
<td>1 Project</td>
<td>80</td>
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<tr>
<td>Discussion topics</td>
<td></td>
<td>42</td>
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<tr>
<td>Total Final Scores</td>
<td></td>
<td>730 points</td>
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</table>

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score Range</th>
<th>Minimum Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>657 - 730</td>
<td>&gt;=90%</td>
</tr>
<tr>
<td>B</td>
<td>584 - 656</td>
<td>&gt;=80%</td>
</tr>
<tr>
<td>C</td>
<td>511 - 583</td>
<td>&gt;=70%</td>
</tr>
<tr>
<td>D</td>
<td>438 - 510</td>
<td>&gt;=60%</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 438</td>
<td>&lt;60%</td>
</tr>
</tbody>
</table>

XII. ATTENDANCE POLICY
This is the online class. You did not need to be in campus. However, in order to be successful you must have your own schedule with at least 6 hours per week and you need to register your schedule to the instructor on the first day when the class starts.

Also, you are requested to login to eCampus at least once per week.

XIII. CLASSROOM POLICIES:
- **Homework Assignments** – you have to do the homework after each chapter. The homework will have the test format that is created on eCampus. Each homework includes multiple choice questions or true/false questions based on the concept of the lecture. **You can repeat the homework up to 3 times to study and practice for the test.** Then on the due date, the highest scores will be your homework scores. The due date is shown on the Course Outline.

- **Lab Assignments** – The labs will be posted on eCampus. These labs are individual assignments. Based on the requirement and the hint from the labs’ instruction, you can finish the lab based on your design. If you want to add more feature or better technique to your program, you are welcome to do that to improve yourself but at least you have to be qualified to the requirements that are listed on the rubric telling how to grade the labs.

You have to do the lab by yourself to study and gain experience. The labs will be turned in by submitting on eCampus by the due. You should start the lab early to have enough time to post questions and get response back

- **Project** – You have 1 project that is assigned early. This is individual project. You should start the project early to have enough time to post questions (if you need) and get response back such that you can complete the project on time

- **Late works**: The late work cannot be accepted.
**Test** must be taken on the date given. The test will be available in **2 days**. You should have the plan ahead to do the test on time.

- For an absence from a test to be excused: If you have any reason that makes you cannot do the test on the test date, you should contact me before or on the test date. You can e-mail me or leave a message on my office phone at anytime if I am not available.
- Anyone missing a test with an unexcused absence will receive a grade of **zero** on the test.

**DO NOT HELP YOUR FRIEND BY SENDING YOUR CODE or GIVING THE ANSWERS. YOU CAN STUDY TOGETHER, DISCUSS HOW TO DO THEN DO BY YOURSELF.** Anyone **SHARING OR COPYING** the answers of the home works, labs, project or the tests will receive **0** on the assignment or the test at the first time. At the second time will be failed for the class.

**I EXPECT YOU LEARN THIS COURSE WITH ENJOYMENT AND IMPROVE YOUR PROGRAMMING FOR YOUR CAREER. DO NOT JUST TRY TO PASS THE COURSE WITHOUT GETTING ANY EXPERIENCE.**

**XIV. ACADeMic ProceSS**
Students are encouraged to discuss academic goals and degree completion with their instructors. Specific advising is available throughout the semester. Check [www.richlandcollege.edu/admissions/process.php](http://www.richlandcollege.edu/admissions/process.php) for more details.

**XV. INSTITUTE POLICIES:**
Refer to the Richland College website: [www.richlandcollege.edu](http://www.richlandcollege.edu) or to [https://richlandcollege.edu/employees/syllabus-institutional-policy-statements](https://richlandcollege.edu/employees/syllabus-institutional-policy-statements)

**XVI. QEP: LEARNING TO LEARN: DEVELOPING LEARNING POWER**
"Richland’s Quality Enhancement Plan (QEP) aims to provide techniques, practices, and tools to help students develop the habits and dispositions needed to be effective lifelong learners. The goal is to help students succeed in college and in life."

**QEP Core Team Suggested Edits:**
"Richland’s Quality Enhancement Plan (QEP) provides techniques, practices, and tools to help students develop the habits, traits or behaviors needed to be effective lifelong learners empowering success in college and in life."