# Syllabus: Techniques in Programming

## Course & Instructor Information

### Course

Course Prefix, Number, Section, Title: COSC 20203-055 Techniques in Programming

Semester and Year: Fall 20XX

Number of Credits: 3

Course Component Type: Lecture

Class Location: XXX

Class Meeting Day(s) & Time(s): XXX.

### Instructor

Instructor Name: Dr. XXX

Office Hours: XXX

Preferred Method of Contact: Email

Email: XXX

Response Time: Emails will be responded within 24 hours excluding weekends.

## Final Evaluative Exercise & Important Dates

| |
|---|
| **Final Exam: Thursday, December 11<br>2:00 – 4:30 PM at RJH 113** |
| **Exam 1 (Tentative): Tuesday, September 23<br>2:00 – 3:20 PM at RJH 113** |
| **Exam 2 (Tentative): Tuesday, October 28<br>2:00 – 3:20 PM at RJH 113** |
| **Last Day to Drop: Monday, November 3** |
| **Last Day to Select P/NC: Monday, December 1** |
| **Study Day: Thursday, December 4** |

**Note for students:** The syllabus is your first course reading. It provides an orientation to, overview of the flow, and expectations of the course. You should turn to the syllabus for details on assignments and course policies.

### How to Get Help — Help Desk

Teaching assistants dedicated to this course are available six days a week in TUC 357. Students can find the schedule under Content > Administration on TCU Online.

### Graders

TBD

## Student Resources & Policy Information

Click or scan QR code for resources to support you as a TCU student. Please note section on Student Access and Accommodation, Academic Conduct & Course Materials Policies, and Emergency Response & TCU Alert.

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## COURSE DESCRIPTION

## Description

This course builds on foundational programming skills to introduce advanced Java programming concepts and software development techniques. Students will explore object-oriented design through inheritance, abstract classes, and interfaces; practice text processing, file I/O, and exception handling; and gain proficiency with Java's Collections Framework, generics, and functional programming features such as lambdas, method references, and the Stream API. The course also introduces recursion, networking, and the fundamentals of multithreading. Emphasis is placed on writing robust, reusable, and efficient code through unit testing with JUnit, problem-solving exercises, and small-scale projects that integrate multiple concepts.

## Prerequisites & Concurrent Enrollment

College algebra or two years of high school algebra and COSC 10403 Introduction to Programming

## Program & Major Connections

This course is a core requirement in the Computer Science major and builds directly on skills learned in Introduction to Programming course. The concepts and techniques students develop here—such as object-oriented design, data structures, file handling, and testing—form the foundation for upper-level courses in algorithms, software engineering, databases, and networking. Mastery of these topics is essential for both academic success in the major and practical application in internships and industry projects.

# COURSE MATERIALS

## Required Material

**Textbook:** Tony Gaddis, *Starting Out with Java: Control Structures through Objects*, 8th Edition, ISBN: 9780137451524

## Supplementary Resources

**Textbook Companion Website:**
https://media.pearsoncmg.com/ph/esm/ecs_gaddis_java8e_REVEL/cw/

**Slides:** Lecture slides will be made available on TCU Online.

**Device Information:** Students **MUST** be able to access laptops to complete all assignments and exams. The operating system can be Windows or macOS.

# LEARNING OUTCOMES

1. Expand Java language skills with wrapper classes, generics, collections and Lamba expressions.

2. Deepen OOP understanding with inheritance, abstract classes and interfaces.
3. Learn core programming paradigms with recursion and functional programming with streams.
4. Learn practical tools with JUnit testing, file I/O, networking and concurrency basics.
5. Develop Problem-Solving Skills in Programming.

# COURSE REQUIREMENTS

## Assessments

### Assignments

- There are eight assignments. Assignments only contains programming questions. All questions are selected from the textbook.
- Late assignments are accepted with a penalty of 10% per calendar day up to a maximum of 5 days. Afterwards, the assignment is worth 0 points.
- Students are encouraged to share thoughts and ideas. However, a student should **NEVER** share his code to another student. It is **PROHIBITED** to even share one line of code.

### Exams

- There are three exams. All the exams are taken in the lecture classroom. The exams contain true/false, multiple-choice, and programming questions.
- Students are required to use their laptops to take the exam.
- Exam 2 is comprehensive, with an emphasis on the material covered after Exam 1. The final exam is comprehensive, with an emphasis on the material covered after Exam 2.
- All the exams are closed book. Computers are not allowed. Calculators are not allowed.
- Each student is allowed to bring one US letter size, double-sided cheat sheet. The information on the cheat sheet can be printed or handwritten.
- **ONLY** the final exam can be rescheduled, rescheduling of the final exam is **ONLY** permitted to meet the 24-hour rule or major religious holiday.

## Grading Philosophy & Policy

### Late Work

Late assignments are accepted with a penalty of 10% per calendar day up to a maximum of 5 days. Afterwards, the assignment is worth 0 points.

### Coupon System

- Each student has **ONE** coupon for the semester, which can be applied to any assignment.
- If you receive a low grade for any reason, including but not limited to incorrect submission format, missed submission, incorrect files submitted, or incomplete work, you can email the grader with your updated submission and inform them that you would like to use the coupon.
- The grader will then regrade your emailed submission with a 20% penalty applied.

**Make-Up Work**

- Make-up work will **ONLY** be permitted for two reasons: an official university absence or documented medical appointments.
- A student who has an official university absence must contact the instructor **BEFORE THE ABSENCE** to schedule a make-up of any assessment that will be missed.
- Because it is considered an infringement on student privacy for me to have access to student medical records, I cannot accept medical documentation to justify absences. If you have a legitimate reason for your absence and want to provide verification, please access the Absence Documentation Form here. Such medical-related absences will be rescheduled accordingly.

**Attendance**

- Attendance will be taken at randomly selected lectures. Each recorded attendance is worth one bonus point toward your final course grade, with a maximum of two bonus points available for the semester.
- Attendance bonus points will **NOT** be awarded for lectures where attendance is not taken.
- Students will be considered **RESPONSIBLE** for all material presented during their missed lectures.

**Extra Credits**

- Students can **ONLY** earn extra credits via attendance bonus points.
- Extra work will **NOT** be given with no exceptions. This policy will be strictly enforced toward the end of the semester.
- The final course grades will **NOT** be curved with no exceptions.

**Cheating and Plagiarism**

Students are encouraged to share thoughts and ideas. However, a student should **NEVER** share his code to another student. It is **PROHIBITED** to even share one line of code.

**Artificial Intelligence (AI) Ethical Considerations and Consequences for Misuse**

The inappropriate or unauthorized use of AI-generated content may be academic misconduct and/or a violation of discipline-specific professional ethics. Such misuse of

AI or other assignment-help tools will be handled according to TCU's Academic Conduct Policy or other relevant policies and may result in sanctions, including failing the course, program dismissal, suspension, or expulsion.

Anything generated by AI tools like ChatGPT, Google Bard, Bing, etc., if used for class work, must be clearly mentioned. I have a zero-tolerance policy for cheating, and all violations will result in substantial penalties.

## Course Assignments & Final Grade

| Assessment | Percent Per Instance | Quantity | Percent |
|---|---|---|---|
| **Assignments** | 5% | 8 | 40% |
| **Exams** | 20% | 3 | 60% |
| **Attendance Bonus** | 1% | 2 | 2% |

## Grading Scale

The final course grades will NOT be curved with no exceptions. Please also be aware that extra work will NOT be given with no exceptions.

| Grade | Score | Grade | Score |
|---|---|---|---|
| **A** | ⩾ 93 | **C** | ⩾ 73 and < 77 |
| **A-** | ⩾ 90 and < 93 | **C-** | ⩾ 70 and < 73 |
| **B+** | ⩾ 87 and < 90 | **D+** | ⩾ 67 and < 70 |
| **B** | ⩾ 83 and < 87 | **D** | ⩾ 63 and < 67 |
| **B-** | ⩾ 80 and < 83 | **D-** | ⩾ 60 and < 63 |
| **C+** | ⩾ 77 and < 80 | **F** | < 60 |

## COURSE SCHEDULE

This calendar represents current course plans. Plans may need to change to enhance the learning opportunities and will be communicated via emails or Announcements on TCU Online.

| Week | Date | Event | Assignment |
|---|---|---|---|
| **1** | 8/19/25 | Chapter 9 | |
| | 8/21/25 | Chapter 9 | |
| **2** | 8/26/25 | Chapter 9 | Assignment 1 released |
| | 8/28/25 | Chapter 10 | |
| **3** | 9/2/25 | Chapter 10 | |
| | 9/4/25 | Chapter 10 | |

| Week | Date | Event | Assignment |
|---|---|---|---|
| 4 | 9/9/25 | Chapter 10 | Assignment 1 due, Assignment 2 released |
| | 9/11/25 | Chapter 11 | |
| 5 | 9/16/25 | Chapter 11 | |
| | 9/18/25 | Chapter 11 | Assignment 2 due, Assignment 3 released |
| 6 | 9/23/25 | **Exam 1** | Covers Chapter 9 – 11 |
| | 9/25/25 | Chapter 15 | |
| 7 | 9/30/25 | Chapter 15 | |
| | 10/2/25 | Chapter 15 | Assignment 3 due, Assignment 4 released |
| 8 | 10/7/25 | Generics | |
| | 10/9/25 | *Fall Break - No Lecture* | |
| 9 | 10/14/25 | Generics | |
| | 10/16/25 | Generics | Assignment 4 due, Assignment 5 released |
| 10 | 10/21/25 | Collections & Stream API | |
| | 10/23/25 | Collections & Stream API | Assignment 5 due, Assignment 6 released |
| 11 | 10/28/25 | **Exam 2** | Focuses on Chapter 15, Generics and Collections |
| | 10/30/25 | Networking | |
| 12 | 11/4/25 | Networking | |
| | 11/6/25 | Networking | Assignment 6 due, Assignment 7 released |
| 13 | 11/11/25 | Testing Using Junit | |
| | 11/13/25 | Testing Using Junit | |
| 14 | 11/18/25 | Testing Using Junit | Assignment 7 due, Assignment 8 released |
| | 11/20/25 | Multithreading | |
| 15 | 11/25/25 | *Thanksgiving Break* | |
| | 11/27/25 | *Thanksgiving Break* | |

| Week | Date | Event | Assignment |
|---|---|---|---|
| 16 | 12/2/25 | Review | Assignment 8 due |
| | 12/4/25 | *Study Day - No Lecture* | |
| 17 | 12/11/25 | **Final Exam** | |