

22:198:605 Introduction to Software Development

Spring 2021

COURSE DESCRIPTION

Fundamentals of computer programming with emphasis on structured and object oriented approach, and a short introduction to computer hardware. Topics include basics of programming: control structures, conditionals, expressions, arrays, classes, inheritance, information hiding, abstraction, and designing programs for reuse. Applications may include design of graphical user interfaces and business application. Various Interactive Development Environments (IDE) may be used as tools for software development.

COURSE MATERIALS

A laptop in good working condition is required. Ideally, it should be running Windows 7 or 10.

Visual Studio 2015 or 2017 is required for this course. Please do not install any other compiler or IDE on your own. I will walk you through. If you are a Mac user, please wait for my instructions.

Course textbook:

Required: Programming principles and practice using C++ by Bjarne Stroustrup. — Second edition. 2014. ISBN 978-0-321-99278-9

Optional: C++: How to Program by Deitel, -- 10th edition. 2017. ISBN 978-0-134-44823-7

- Check Canvas (canvas.rutgers.edu) and your official Rutgers email account regularly.

Activating your Zoom Account <https://it.rutgers.edu/zoom/knowledgebase/how-to-create-your-rutgers-zoom-account/>

Signing into your Rutgers Zoom Account <https://it.rutgers.edu/zoom/knowledgebase/how-do-i-log-into-my-zoom-account/>

(If students already have a Zoom account and have trouble removing it before signing up for an RU Zoom account they can reach out to OTIS for assistance).

Below are the minimum hardware requirements recommended by OTIS. These specs should allow student systems to capably support a full Windows10 Professional environment with Office365, RBS course-specific applications and virtual computing environments).

- I5 Processor
- Windows 10 Professional

- 8gb of RAM
 - 256gb hard drive
 - 720p webcam
 - Internal mic
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LEARNING GOALS AND OBJECTIVES

Once successfully finished this course, students would be able to:

- Define and describe computing and programming concepts
 - Demonstrate an understanding of problem solving processes
 - Design, code, compile, debug, and document business applications in C++ IDE with or without GUI
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REMOTE TEACHING/ LEARNING INSTRUCTION

Please note that this course will be fully online, primarily, via Zoom and use WebEx as backup. I will post link to Zoom sessions before the class and make announcement so you know. If for some reason, we have to switch to the backup method, I will let you as soon as I can.

My Zoom's personal room will be used for office hours. You need to email me on the day and I will email you my meeting ID and passcode for you to join. <https://rutgers.zoom.us/my/wfang>

My WebEx's personal room will be used as the backup. <https://rutgers.webex.com/meet/wfang>

You are expected to join and stay for the entire length of the class. I will check attendance regularly and randomly.

Upon joining remote sessions, you should mute yourself and unmute only when you need to speak. You can use chat feature and raise hand feature to get my attention during the class. I will try to answer as soon as I spot them. But I may have difficulty seeing them when I share my screen with you. I will not record the sessions unless being asked in advance for make-up purposes.

ACADEMIC INTEGRITY

I do NOT tolerate cheating. Students are responsible for understanding the RU Academic Integrity Policy (http://academicintegrity.rutgers.edu/files/documents/AI_Policy_2013.pdf). I will strongly enforce this Policy and pursue *all* violations. On all examinations and assignments, students must sign the RU Honor Pledge, which states, "On my honor, I have neither received nor given any unauthorized assistance on this examination or assignment." Don't let cheating destroy your hard-earned opportunity to learn. See business.rutgers.edu/ai for more details.

ATTENDANCE AND PREPARATION POLICY

Course assignments: Labs and homework assignments should be coded in C++ using the techniques taught in the class. Students will be able to use a C++ compiler in the classroom. Self -installed compiler is allowed but needs instructor's approval. All lab works should be demonstrated to the instructor in the classroom for grading. Every week, I will give a lecture first and then you will have to demo your lab work. **Missing a lecture will result one point deduction and missing a lab work will result a one point deduction.**

Attendance, participation and lab exercises are very important to the final grade. Excused absences must be arranged in advance and evidence of the reason for the absence must be provided. All work turned in under your name must be your own. No credit will be given for an assignment or homework that is copied – in part or in total – from another person.

Course materials and announcements will be posted on Blackboard. It is your responsibility to keep yourself updated by checking Blackboard.

Homework is due by 11:59pm of the designated due day. No late work will be accepted without approval in advance from the instructor. Late work would be accepted but would also be penalized by 10% off/day.

No make-up exams are provided without official documentation of medical or family emergency. Please arrange your schedule for the next 15 weeks to arrive in class on time and prepared.

- Expect me to attend all class sessions. I expect the same of you. If I am to be absent, my department chair or I will send you notice via email and Blackboard as far in advance as possible. If you are to be absent, report your absence in advance at <https://sims.rutgers.edu/ssra/>. If your absence is due to religious observance, a Rutgers-approved activity, illness, or family emergency/death and you seek makeup work, also send me an email with full details and supporting documentation within one week of your first absence.

- For weather emergencies, consult the campus home page. If the campus is open, class will be held.

- Expect me to arrive on time for each class session. I expect the same of you.

- Expect me to remain for the entirety of each class session. I expect the same of you.

- Expect me to prepare properly for each class session. I expect the same of you. Complete all background reading and assignments. You cannot learn if you are not prepared. The minimum expectation is that for each three-hour class session, you have prepared by studying for at least twice as many hours.

- Expect me to participate fully in each class session. I expect the same of you. Stay focused and involved. You cannot learn if you are not paying attention.

EXAM DATES AND POLICIES

There are two exams in this course:

Midterm Exam: March 12

Final Exam: May 7

During exams, the following rules apply:

- If you have a disability that influences testing procedures, provide me an official letter from the Office of Disability Services at the start of the semester.
- Cell phones are set on mute and placed on the top of the table, facing down.
- You must show a valid Rutgers photo ID to enter the room and to turn in the exam.
- Alternate seating; do not sit next to another student or in your usual seat.
- Use the bathroom prior to the exam start; bathroom breaks, if essential, will be escorted.

GRADING POLICY

Course grades are determined as follows:

Attendance (5%), midterm (25%), final Exam (30%), homework (15%), and labs (25%)

A: 100-95, A-: 94-89, B+: 88-84, B: 83-80, B-: 79-76, C+: 75-72, C: 71-68, D: 67-64, F: <64

A half point would be rounded down, not rounded up. Eg, 94.5 would be counted as 94.

COURSE SCHEDULE

<i>Week</i>	<i>Date</i>	<i>Note</i>
1	Jan 21	Class starts
2	Jan 28	
3	Feb 4	
4	Feb 11	Homework 1 is given
5	Feb 18	Homework 1 is due
6	Feb 25	
7	Mar 4	Midterm review
8	Mar 11	Homework 2 is given, Midterm Exam
9	<u>Mar 18</u>	<u>Spring Recess, no class</u>
10	Mar 25	Homework 2 is due
11	Apr 1	
12	Apr 8	Homework 3 is given
13	Apr 15	Homework 3 is due
14	Apr 22	
15	April 29	Last class lecture, Final Review
16	May 6	Final Exam

SUPPORT SERVICES

If you need accommodation for a *disability*, obtain a Letter of Accommodation from the Office of Disability Services. The Office of Disability Services at Rutgers, The State University of New Jersey, provides student-centered and student-inclusive programming in compliance with the Americans with Disabilities Act of 1990, the Americans with Disabilities Act Amendments of 2008, Section 504 of the Rehabilitation Act of 1973, Section 508 of the Rehabilitation Act of 1998, and the New Jersey Law Against Discrimination. <https://ods.rutgers.edu>

If you are a military *veteran* or are on active military duty, you can obtain support through the Office of Veteran and Military Programs and Services. <http://veterans.rutgers.edu/>

If you are in need of *mental health* services, please use our readily available services. Rutgers University-Newark Counseling Center: <http://counseling.newark.rutgers.edu/>

If you are in need of *physical health* services, please use our readily available services. Rutgers Health Services – Newark: <http://health.newark.rutgers.edu/>

If you are in need of *legal* services, please use our readily available services: <http://rusls.rutgers.edu/>