

**Information Technology**  
**Course Number: 22:544:605**  
**Course Title: Introduction to Software Development**

## **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.

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## **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, -- 10<sup>th</sup> edition. 2017.**

**ISBN 978-0-134-44823-7**

- Check Canvas ([canvas.rutgers.edu](https://canvas.rutgers.edu)) and your official Rutgers email account regularly.

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## LEARNING GOALS AND OBJECTIVES

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

- o Define and describe computing and programming concepts
  - o Demonstrate an understanding of problem solving processes
  - o 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.

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.

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## ACADEMIC INTEGRITY

*I do NOT tolerate cheating.* Students are responsible for understanding the RU Academic Integrity Policy <http://academicintegrity.rutgers.edu/>

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.” I will screen all written assignments through *SafeAssign* or *Turnitin*, plagiarism detection services that compare the work against a large database of past work. Don’t let cheating destroy your hard-earned opportunity to learn. See [business.rutgers.edu/ai](http://business.rutgers.edu/ai) for more details.

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## 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.

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 Canvas. It is your responsibility to keep yourself updated by checking Canvas.

Homework is due by () 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 20% off/day.

No make-up exams are provided without official documentation of medical or family emergency. Please arrange your schedule for the next 16 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 Canvas 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 start 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.

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## **EXAM DATES AND POLICIES**

There are two exams in this course:

**Midterm Exam:**

**Final Exam:**

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.
- 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: 100-94, A-: 93-89, B+: 88-84, B: 83-80, B-: 79-76, C+: 75-72, C: 71-68, D: 67-64, F: <64

## COURSE SCHEDULE

<i>Week</i>	<i>Date</i>	<i>Note</i>
1	()	Class starts
2	()	
3	()	Homework 1 is given
4	()	Homework 1 is due
5	()	
6	()	
7	()	Midterm Exam
8	()	Homework 2 is given
9	()	Homework 2 is due
10	()	
11	()	Homework 3 is given
12	()	
13	()	, NO CLASS
	()	Homework 3 is due 15
	()	Last class lecture/review 16
	()	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. More information can be found at [ods.rutgers.edu](http://ods.rutgers.edu).

[Rutgers University-New Brunswick ODS phone (848)445-6800 or email [dsoffice@echo.rutgers.edu](mailto:dsoffice@echo.rutgers.edu)]

[Rutgers University-Newark ODS phone (973)353-5375 or email [ods@newark.rutgers.edu](mailto:ods@newark.rutgers.edu)]

If you are *pregnant*, the Office of Title IX and ADA Compliance is available to assist with any concerns or potential accommodations related to pregnancy.

[Rutgers University-New Brunswick Title IX Coordinator phone (848)932-8200 or email [jackie.moran@rutgers.edu](mailto:jackie.moran@rutgers.edu)]

[Rutgers University-Newark Office of Title IX and ADA Compliance phone (973)353-1906 or email [TitleIX@newark.rutgers.edu](mailto:TitleIX@newark.rutgers.edu)]

If you seek *religious accommodations*, the Office of the Dean of Students is available to verify absences for religious observance, as needed.

[Rutgers University-New Brunswick Dean of Students phone (848)932-2300 or email [deanofstudents@echo.rutgers.edu](mailto:deanofstudents@echo.rutgers.edu)]

[Rutgers University-Newark Dean of Students phone (973)353-5063 or email [DeanofStudents@newark.rutgers.edu](mailto:DeanofStudents@newark.rutgers.edu)]

If you have experienced any form of *gender or sex-based discrimination or harassment*, including sexual assault, sexual harassment, relationship violence, or stalking, the Office for Violence Prevention and Victim Assistance provides help and support. More information can be found at <http://vpva.rutgers.edu/>.

[Rutgers University-New Brunswick incident report link: <http://studentconduct.rutgers.edu/concern/>. You may contact the Office for Violence Prevention and Victim Assistance at (848)932-1181]

[Rutgers University-Newark incident report link: [https://cm.maxient.com/reportingform.php?RutgersUniv&layout\\_id=7](https://cm.maxient.com/reportingform.php?RutgersUniv&layout_id=7) . You may also contact the Office of Title IX and ADA Compliance at (973)353-1906 or email at [TitleIX@newark.rutgers.edu](mailto:TitleIX@newark.rutgers.edu). If you wish to speak with a staff member who is confidential and does **not** have a reporting responsibility, you may contact the Office for Violence Prevention and Victim Assistance at (973)353-1918 or email [run.vpva@rutgers.edu](mailto:run.vpva@rutgers.edu)]

If students who have experienced a temporary condition or injury that is adversely affecting their ability to fully participate, you should submit a request via <https://temporaryconditions.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/>]

[Rutgers Counseling and Psychological Services–New Brunswick: <http://rhscaps.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/>]

[Rutgers Health Services – New Brunswick: <http://health.rutgers.edu/>]

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

Students experiencing difficulty in courses due to **English as a second language (ESL)** should contact the Program in American Language Studies for supports.

[Rutgers–Newark: [PALS@newark.rutgers.edu](mailto:PALS@newark.rutgers.edu)]

[Rutgers–New Brunswick: [eslpals@english.rutgers.edu](mailto:eslpals@english.rutgers.edu)]

If you are in need of additional **academic assistance**, please use our readily available services.

[Rutgers University-Newark Learning Center: <http://www.ncas.rutgers.edu/rlc>

[Rutgers University-Newark Writing Center: <http://www.ncas.rutgers.edu/writingcenter>]

[Rutgers University-New Brunswick Learning Center: <https://rlc.rutgers.edu/>]

[Optional items that many faculty include:

- Students must sign, date, and return a statement declaring that they understand the RU Academic Integrity Policy.

- Students must sign, date, and return a statement declaring that they understand this syllabus.]