Syllabus
CSC315 Programming Language Concepts
Professor Leon Tabak
Block 2
September 20, 2021 to October 13, 2021

Contents

1 Our meeting times and places

- My office is in West Science 211.

- You may call me in my office at (319) 895–4294.

- You may send me electronic mail at ltabak@cornellcollege.edu.

- I will be in my office and available to meet with you in person Monday through Friday from 3:00 p.m. until 3:30 p.m. (Exceptions: I will attend meetings of the Academic Standing Committee on the first Wednesday and the second, third, and fourth Mondays of the block. These meetings begin at 3:15 p.m.)

	Where	When
Classroom/Laboratory	West Science Hall 201	9:00 a.m.—11:00 a.m.
Classroom/Laboratory	West Science Hall 201	1:00 p.m.—3:00 p.m.

Exceptions: We will not meet in the afternoon on the first and last Wednesdays of the block.

2 Attendance

I will record your attendance each day. Cornell College now requires all instructors to record students' attendance. The law requires colleges to keep these records.

Software that we are using for our collaboration gives me an easier way of reviewing your work than I have had in the past. Because the software places timestamps on your work, I will be able to not only review the quantity and quality of your contributions, but also the frequency and regularity of your contributions.

3 Our Plan

We will learn the Kotlin programming language during the first six or seven days of the block. We will learn the Scala programming language during the remainder of the block.

In the past, I taught this course with Robert Sebesta's book Concepts of Programming Languages. **I am not asking you to get this book.** However, I am inviting you to look online at the book's table of contents. We will discuss many of the topics that you see listed there.

4 Textbooks

- *Head First Kotlin: A Brain-Friendly Guide*, Dawn Griffiths and David Griffiths, O'Reilly Media 2019, ISBN 978-1-491-99669-0

- *Scala for the Impatient (second edition)*, Cay S. Horstmann, Pearson Education 2017, ISBN 978-0-13-454056-6

5 Online courses

- Kotlin for Java Developers (free course offered by Coursera)

- JetBrains Academy's free Kotlin course

- Effective Programming in Scala (free course offered by Coursera)

- Version Control with Git (free course offered by Udacity)

6 Other Resources

- Writing READMEs

- Udacity's *A Beginner's Git and GitHub Tutorial*

- Kotlin Language (the project site at kotlinlang.org)

- Kotlin Koans

- The Scala Programming Language (the project site)

- 6 Reasons Why Developers Should Learn Kotlin

- Top Programming Languages to Learn Today

- Adopting Kotlin

7 Etiquette for the Classroom

Please show respect to your classmates, to your instructor, and to the seriousness of our enterprise by behaving courteously.

Courtesy is an important aspect of professionalism. Courteous and professional conduct will open for you opportunities to work with greater autonomy, to take on greater responsibility, to exercise greater creativity and leadership, and to solve more challenging problems and thereby serve your clients in more signicant ways.

While we are studying online, many software engineers are working online. Let us develop the discipline and habits that will help us succeed in the work that will follow our studies at Cornell College.

How might we adapt rules for etiquette in a classroom and office for our online collaboration?

How can each of us be. . .

- a member of the team who delivers work in full and on time?

- a member of the team who delivers products of the highest quality?

- a member of the team to whom others turn for help?

- a member of the team whose critiques and suggesions others welcome?

Here are guidelines that I shared with my students in past years. I would like to hear your opinion: does this advice still apply in our new circumstance? Is there anything here that we should add or subtract?

- Please give your attention to whomever is speaking. You cannot view unrelated pages on the Web and be part of our class' discussion at the same time.

- You learn from your classmates. Be generous in offering help to classmates in the laboratory. Take interest in your classmates' work. Encourage them. Compliment them for work that is well done. Give them a good audience when they stand at the front of the room to present their work. Show these courtesies to all of your classmates.

- Please do not interrupt the class by late entries or early departures. If you anticipate a need to be absent from all or part of one of our meetings, please notify me in advance of your anticipated absence.

- You may listen to music while working in the laboratory so long as you are still able to hear your name when called and you do not disturb neighbors.

- Please refrain from bringing food or drink into the classroom or laboratory.

  We can make reasonable exceptions for eating that is not noisy and foods that do not have strong smells.

  Acceptable beverages and foods include water, tea, and granola bars. Bringing breakfast to class is not courteous.

  Please clean up crumbs and spills. Please dispose of empty containers and leftovers.

- Please dress as you might for an employer in the software engineering industry. This does not mean fancy dress—you do not need to buy new clothes. The dress in most workplaces is casual. Just be neat.

  Please keep your shoes on. Wearing hoods, hats, or sunglasses (except when there is a medical reason for shielding the eyes) that hide your face is not courteous.

- Imagine that you are seeking employment. How will you present yourself to your prospective employer?

  Imagine that you are now employed in a software engineering firm. How will you speak to your teammates, the head of your team, and your company's clients?

  Imagine that your grandmother has purchased the company for which you work. She has joined you in the company's conference room to hear and see you walk through the code that you have written for the company (her company).

  Are there some words that you will keep out of your vocabulary during this hour?

8 Goals

We will give special attention to three of Cornell College's Educational Priorities and Outcomes:

Knowledge You will learn how programming languages have evolved. You will learn more about what to look for in a new language, how to compare languages, and how to learn new languages. You will learn how to describe the grammars of languages. The course will introduce you to the parts of a compiler and algorithms that are at the heart of algorithms.

Communication You will present your work to your peers and you will learn from your peers. This practice will serve you well wherever you go.

Vocation In this project-oriented course you will have opportunities to create work that you can include in applications for internships, employment, and

admission to programs of advanced study. You will learn gain familiarity with online courses that software engineers use to continue their education throughout their careers.

9   Policies

Cornell College is committed to providing equal educational opportunities to all students. If you have a documented learning disability and will need any accommodation in this course, you *must* request the accommodation(s) from the instructor of the course no later than the third day of the term. Additional information about the policies and procedures for accommodation of learning disabilities is available on Cornell College's Web site.

Please also familiarize yourself with the college's statement on academic honesty and its policies for dropping courses.

10   Grades

You can earn all the points for "Daily Work" by arriving on time for each of our meetings, arriving prepared, and keeping your focus on the work before us. Of course, there might sometimes be good reasons for an absence (for example, illness)—in those cases, just notify me of your need to be absent. There is no competition for these points—I would like to award every student 20 points for daily work!

Experience presenting work to peers will be a central part of the course. Practice asking your teammates questions during their presentations, critiquing their decisions, and suggesting improvements to their code will also be an important part of your education during this term.

You will learn more if you draw upon the knowledge of classmates and generously share what you know with your classmates. Ask questions. Offer suggestions and help. Work together.

In each project, you will demonstrate your understanding of the concepts that we have introduced during the week by answering questions. You will also share the project that you will have developed during the week.

Effort counts. Each student will be starting from a different place. How far you go from your starting point will determine your score for projects. The quality of your presentation, as much as the quality and sophistication of your software, will determine your score. Earn points by explaining clearly what you have learned. Earn points by explaining what we can learn by studying your work.

Activity	Points
Daily work	20
Kotlin programming project 1 (Friday, 24 September 2021)	20
Kotlin programming project 2 (Friday, 01 October 2021)	20
Scala programming project 1 (Friday, 08 October 2021)	20
+ Scala programming project 2 (Wednesday, 13 October 2021)	20
	100

11 Health & Safety

11.1 Current Covid conditions

The Delta variant of COVID-19, coupled with vaccination rates too low to achieve herd immunity, have resulted in an increase in COVID-19 cases in our area. The following course policies are a response to this fluid, evolving situation, and may be adjusted as needed during the block.

11.2 August 23–October 17 Campus mask requirement

To reduce the risk of transmission, on campus while cases of the Delta variant have risen in Mount Vernon, Linn County, Johnson County, Iowa and the midwest region enough to impact the capacity of health-care facilities to provide routine care, there is a mask requirement for the interiors of non-residential buildings and the common spaces in residence halls from Monday, August 16 through Sunday, October 17. This requirement applies to all members of our community, regardless of immunity status. This includes our classroom.

11.3 Mask policy for Block 2

Not all members of our community are able to be vaccinated. Masking is an effective way to protect these individuals. In response to CDC and Linn County guidance regarding current regional and local levels of COVID-19 transmission, masks are required during all in-person instructional time in this class, regardless of the individual immunity status of members of the class. Appropriate accommodations for students with disabilities will be incorporated into our mask policy and may include the use of microphones or clear face coverings. If you have a health condition that prevents you from wearing a mask, you may wear a face shield if you have documentation from your medical provider on file; you can also make an appointment at the student health center to be approved for a face shield. Non-compliance will result in a conduct report to the Dean of Students, which can result in removal from the course.

11.4   Positive Covid test policy

If you test positive for Covid during the block, need to quarantine, or need to isolate, you need to inform me directly; the Health Center cannot inform me on your behalf. If someone in the class tests positive, all close contacts in the classroom will be required to take a COVID-19 test at the Health Center. To prepare for this possibility, we will have assigned seating and/or I will take a daily photo of the classroom to document seating proximity. Non-immune close contacts (individuals who are neither vaccinated nor have a documented case of COVID-19 in the immediately preceding 10 months) will need to quarantine. Immune contacts will be exempt from quarantine unless they become symptomatic. If there is a positive COVID-19 case in the class, everyone in the class may take a COVID-19 test at the Health Center if they wish.

11.5   Illness policy

If you are experiencing COVID-19 symptoms, do not attend class. Notify me and contact Director of Student Health Services Lynn O'Brien at lobrien@cornellcollege.edu to arrange a COVID-19 test at the Health Center. If you need to isolate or quarantine due to COVID-19, or if you become unable to attend class for any other health reason, you will need to meet with me (virtually) as soon as possible to determine if you are able to continue in the class. A *Withdrawal for Health Reasons* may be required.

11.6   Attendance policy for in-person and online components of the course

Our course will have in-person components and might also have online components. Attendance is required for both in-person and online components of the course. I will provide a Zoom link for specific online components. You may not "Zoom in" to an in-person course component unless this is a specific arrangement you have made with me in advance as part of an arranged health accommodation.