

Course Info for *Introduction to Tools of the Trade*, Fall 2021

CS1501-002 at UVA

CSC 3950 01 at UVA Wise

(document version 1.0, 8/18/2021)

Course Description

This course is designed to give students early in their computing studies an introduction to skills and technologies that will be important in internships and project work. These include professional development and software development tools and skills, such as GitHub, APIs, career networking, databases, and more. Students will gain a high-level knowledge of these skills and have a chance to practice the basics of these topics, with the goal of preparing them for future exposure in either academic or professional settings.

A note about the intended audience: Development and delivery of this course is part of a grant funded by the state. An important goal of the grant is to support students early in their studies and those who have had less exposure to computing skills or role models in computing. In order to effectively evaluate the course's effectiveness for the funding source, it is important for us to make sure the students in the course include the target audience. To evaluate the effectiveness of this course in meeting its goals, we will ask students in the course to participate in evaluation and measurement of the course's goals.

Course Goals

1. To help students become better prepared for industry experience, such as internships and/or computing projects
2. To give an introduction to a broad set of technical skills and tools important in professional software development
3. To aid students in exposure and experience of professional development activities
4. To increase students' confidence and motivation about succeeding in computing

Course Delivery

This course will be delivered using an asynchronous online approach. Video lectures will be hosted via YouTube (linked from the course website). Office hours and other interactions will be done via Zoom or other tools deemed necessary. All materials will be available through the course website.

Prerequisites and Getting Into the Course

All students need permission from one of the course "managers".

- UVA Wise students should contact Prof. Somervell.
- UVA students apply by requesting permission in SIS **and** completing this form:
<https://forms.gle/iGpHZk85xqB5mxdA9>

- Students from other schools email Prof. Horton (horton@virginia.edu)

Students also must have completed a second CS course focused on programming; this may vary among schools.

If your school is not found below or you have not taken the below course, but believe you have taken an equivalent course, please contact the course managers.

School	Course Needed
UVA	CS 2110
UVA Wise	CSC 2180
Virginia Community College	CSC 202

Course Managers

Tom Horton (horton@virginia.edu) and Jacob Somervell (ips5a@uvawise.edu)

Instructors

Undergraduate students from UVA and UVA Wise. Our “student-staff” will carry out essentially all activities in delivering the course. These students are listed below in alphabetical order.

List of students coming soon!

This course will be a one-credit, CR/NC course taught by undergraduate students, with oversight and management by two faculty members from UVA and UVA Wise. The student-staff will have responsibility for delivery of the course, including grading and policy decisions, with guidance from the two faculty members.

Students in the course should first contact one of the student instructors, but should not hesitate to contact a faculty member by email if there is any problem or issue that they’d prefer to talk to a faculty member about.

Course Schedule

Details will come soon, but here’s an overview. There will be a weekly lesson. A typical lesson will have a video lesson and demonstration, a graded activity, and optional resources to continue learning. Graded activities will be smaller or “less” than is expected of a programming assignment in a typical CS course. Though some activities may include some programming, there will not be large coding assignments. There will be some flexibility regarding deadlines (details to come later).

Topics to be covered include:

- Your resume and creating a LinkedIn profile
- GitHub
- Testing

- Programming with APIs
- Intro. to Databases
- Overview of more advanced development tools
- A final assignment combining use of several technologies
- Various professional development activities

Textbooks and Computing Needs

The course will not require any purchase of textbooks or other resources.

Students must have access to a computer on which they can install software, as well as access to the Internet. Internet capabilities should be able to support video streaming and video calls, as needed. If that is not possible, please reach out to course managers.

A student's computer can be a Mac, Windows, or Linux system.