This course is primarily aimed towards nonspecialists, that want to learn how to program. The concrete language that will be taught is only secondary, and the emphasis will be put on presenting the most common patterns used in programming. Accordingly, a large part of the course will be dedicated to practice, in lab sessions or with a project.

By the end of the course, you will be able to write medium-sized programs (from a few hundred to a thousand lines), specify clearly their behavior, and understand all the basic concepts that underpin all programming languages. As well, you will have some notions of algorithmics and efficiency. This course will allow you, in a working environment, to understand your colleagues developers. It also will serve as a versatile basis for evolution towards such a job.
Prerequisites

No prerequisite is assumed, except elementary familiarity with the use of a computer, for instance browsing the internet, saving files and reasonable typing abilities.

This course is open to all majors, and all undergraduate students. This also includes students that intend to declare a CS major, but do not feel safe enough to enroll in the COMP 211 course directly.

Course Materials

Books


Other useful references:

Moodle

All the material for each week will be put on moodle: https://moodle28.wesleyan.edu/course/view.php?id=221

This includes slides, assignments, projects, updated information about help sessions, this syllabus, etc.

Class Organization

We will check the presence at the lab sessions. The use of cell phones is prohibited during class and lab, in case something urgent happens, please exit the room. The use of computers has to be strictly course-related.

We expect from you to do your best to complete the mandatory part of the assignments each week. Assignments typically request 4 to 6 hours of individual work, with large variations depending on the week, and the student (up to a factor 2 is commonly met, in either direction). Three help sessions will provide you supervision, shall you need it. They are set on Thursday, Sunday and Monday, from 6PM to 8PM, subject to variations, that will be announced on Moodle.
We will do our best to fulfill our duties in a timely manner, and to provide you with all the information you need in advance. Grades of assignments should be awaited for within a week, three weeks for the midterm exam. Grades of the project within a week after Friday, December 19. We will strive to answer your emails within a few days.

Wesleyan University is committed to ensuring that all qualified students with disabilities are afforded an equal opportunity to participate in and benefit from its programs and services. To receive accommodations, a student must have a documented disability as defined by Section 504 of the Rehabilitation Act of 1973 and the ADA Amendments Act of 2008, and provide documentation of the disability. Since accommodations may require early planning and generally are not provided retroactively, please contact Disability Resources as soon as possible.

If you believe that you need accommodations for a disability, please contact Dean Patey in Disability Resources, located in North College, Room 021, or call 860/685-5581 for an appointment to discuss your needs and the process for requesting accommodations.

Grades

The final grade of this course is composed of:

- 40% assignments
- 20% in class midterm exam: tentative schedule Monday, November 9.
- 40% final project, due to Tuesday, December 15th, 11:59PM

If you have, or are granted during the semester, an accommodation, please let the professor know as soon as you can.

Assignments

Each week, you will start working on an exercise sheet during the lab session. The programs corresponding to those exercises are due to Tuesday, 8AM of the next week and you will receive (through Moodle) your grade within a week after that. You have to post one single file (containing all your programs) on Moodle.

Midterm exam

This will be an 80 minutes in-class exam, with no electronic devices allowed. Whether paper or manuscript documents will be allowed is not decided yet.

The midterm exam will not be given at any other time. In case you missed the exam for a serious reason:

- let us know as soon as you can.
• you will have to show proper documentation to justify your absence (such as a doctor’s note).

• the weight of the midterm exam will be set to 0%, and the one for assignments and the final project, to 50%.

After you are returned the graded exam, should you have any complaint, you may submit a written (or email) request within one week.

**Final project**

The final project is due to Tuesday, December 15th, 11:59PM. You will need to post on Moodle your program, and a 5-pages report that describes very succintly:

• user instructions;

• the structure of your program: role and organization of the different files and of your principal functions;

• the difficulties you encountered, the further developments you would have liked to make.

Then, a couple of defense sessions will be organized (two dates will be proposed between Monday, December 15, 7PM and Friday, December 19). You will have 15 minutes to present your project, with the following format:

• 5 minutes: a demo of your program

• 5 minutes: a review of your code

• 5 minutes: questions and answers

We will propose 5 to 10 subjects in mid-October. You will have to make your choice for Monday, November 2, by choosing freely among the projects proposed, with the following constraints:

• projects are on an individual basis. In particular, two students that have chosen the same project cannot submit one single program, share their code, etc. Your code is your private property, disclose it sparsely and wisely. You are of course allowed to share ideas and to discuss your project.

• there will be a few project, much more challenging than other ones. Those projects are not open to everybody. Also, to allow you going further, work in two is allowed, and even encouraged, for those projects. Accordingly, the expectations will be higher. If you intend to work on such a project, contact your professor or your TAs first.

• personal projects, not part of the list, are welcome. If you intend to work on such a project, contact your professor or your TAs first. You will also need to describe your project on two pages for Monday, November 2.
Honor Code, co-working

We expect of you to respect Wesleyan University Honor Code (cf. student handbook: http://www.wesleyan.edu/studentaffairs/studenthandbook/20152016studenthandbook.pdf).

This should not discourage pair and group working, it is an excellent way to progress if a few sanity rules are respected:

- no code sharing,
- you submit your own work,
- only you are allowed to touch your own keyboard.

Tentative Course Schedule

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<thead>
<tr>
<th>Class</th>
<th>Date</th>
<th>Topic</th>
<th>Notes</th>
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<tbody>
<tr>
<td>1</td>
<td>09/07</td>
<td>introduction, variables, tests</td>
<td></td>
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<tr>
<td>2</td>
<td>09/14</td>
<td>types, if, loops, function</td>
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<tr>
<td>3</td>
<td>09/21</td>
<td>lists, more functions and loops, modules</td>
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<tr>
<td>4</td>
<td>09/28</td>
<td>recursion</td>
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<td>5</td>
<td>10/05</td>
<td>reference, value</td>
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<td>6</td>
<td>10/12</td>
<td>dictionaries, higher-order</td>
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<td>7</td>
<td>10/19</td>
<td>classes, objects</td>
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<tr>
<td>8</td>
<td>10/26</td>
<td>overall recap</td>
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<tr>
<td>9</td>
<td>11/02</td>
<td>midterm exam</td>
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<td>10</td>
<td>11/09</td>
<td>queues, stacks</td>
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<td>11/16</td>
<td>trees</td>
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<td>11/30</td>
<td>TBA</td>
<td>will depend on the pace</td>
</tr>
<tr>
<td>14</td>
<td>12/07</td>
<td>TBA</td>
<td>will depend on the pace</td>
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