**Course Instructional Team**

**Sections & Office Hours**

**Course Sections**

**About this Course**

**Graded Assignments in this Course**

**Course Schedule**

**Grading in this Course**

**Late Assignments, Missed Attendance, & Extensions**

- Extensions and Excused Absences
- Exceptions to that rule

**Asking Questions in this Course**

**Python Resources at UMSI / U-M**

**Communication in this Course**

**Learning Objectives of this Course**

**Academic Integrity & Collaboration in this Course**

**Accommodations and Services for Students**

**Mental Health and Well-Being at the University of Michigan**

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**Course Instructional Team**

**Faculty Instructor:**
Jackie Cohen (Lecturer III) | iczetta+SI506@umich.edu | Pronouns: she/her/hers

**Graduate Student Instructor (GSM):**
Allan Martell (UMSI PhD student) | allanmar@umich.edu | Pronouns: he/him/his

**Instructional Aides:** Please contact regarding course via instructional team email.

You'll see IAs in office hours occasionally; they also do a lot of grading in this course!
Tahmeed Tureen | Pronouns: he/him/his
John Voorhess | Pronouns: he/him/his
To reach the whole team by email:
SI506W18instructors@umich.edu

Sections & Office Hours

Individual office hours with Jackie (for personal concerns, small/related questions, talking through concepts briefly, course or internship advice...):
By appointment. @ my office, North Quad 3369

Please select an available appointment from any slot labeled Office Hours with Jackie from this calendar link.

If none available work for you and you would like to meet with me, that's fine -- please email me at jczetta@si506@umich.edu to set up an appointment.

Group office hours & locations, staffed by various of the instructional staff:
May be added to and/or changed as time goes on. Changes will be announced.

- TBA (A will be ASAP)
- Friday 2:30 - 4:30 PM, North Quad 1255 (joint meeting with SI 106 office hours -- note that 106 office hours go longer than ours and we will not staff after 4:30. Their class is over 200 students)

Course Sections

NOTE: Please attend only the specific section you are registered for.

Both are taught by Allan Martell.
002 - Tuesday 4-5:30 PM 1265 NQ
003 - Tuesday 7-8:30 PM 2245 NQ

About this Course

This course (this semester) is designed for students with little or no programming experience. There are no official prerequisites. SI 506 is a prerequisite for SI 507, and for many other courses in the MSI/MHI program(s).

If you read nothing else in this syllabus (but do read it all), you should read the following sections, which you can find from the table of contents above: Communication in this Course, Asking Questions in this Course, Late Assignments and Excused Absences, Graded Assignments in this Course, Accommodations and Services for Students.
But seriously, read it all.

In this course, we start at the beginning, but go very quickly in the first couple of weeks. If you stick with the course and invest the necessary time, you will be amazed at how much you will learn in 13 weeks. Don’t be intimidated by the few students who may already know how to program well. Some students who have previously taken a more advanced programming course but didn’t feel they mastered the concepts do take this course. But they are likely to have an easier time than those who have never programmed before. Every semester there are students who have never programmed before who earn A or even A+ grades in the course, and also students who learn an enormous amount who do earn C+ or B- in the course, for example. What is a success for you depends entirely on how you feel. My primary goal is that you learn from this course and leave it better able to manipulate Python programs and data using Python, read and understand others’ Python code, and write your own code, than you were when you began it. This is useful regardless of the career paths you may choose after this course, and will help you with problem-solving processes that go far beyond Python programming, or any computer programming.

The median grade in this course and in the analogous course for undergraduate students has historically been a high B, but every semester is a little bit different.

There is no curve in this course. Everyone can earn an A+ (although that is extremely unlikely, because doing so is very difficult, even if you understand everything completely).

Computer science majors/EECS students who want to learn Python are strongly discouraged from taking this course. If you were a CS major, you can probably learn Python pretty quickly on your own without taking this course. You should speak to academic advising staff about waiving the course if it is required for your program.

The instructional staff is committed to helping every student get to the point where they are comfortable writing computer programs. It’s an exciting and powerful place to be. Some concepts will definitely take some time to sink in. Different things are intuitive in different ways for different people. Throughout the process, the assignments are the best way to track your progress through the material. If the problem sets are difficult for you, we encourage you to go back and do the previous week’s a second time without looking at your previous answers—it will go much faster, build your confidence, and prepare you to handle the next week’s assignment.

Often the biggest problem students encounter in this course is trying to solve problem sets entirely by trial and error. You can be moderately successful early in the course without fully understanding what you’ve done, but that will provide you a poor foundation for later on. Especially early in the course, don’t settle for just getting by; stick with things until you feel like you’ve mastered them. We will focus on what code does, on understanding it rigorously.
Cramming does not work well when dealing with the material in this course. I've put a lot of warnings throughout this syllabus about the amount of time and energy and commitment it takes to feel successful at programming for the first time. There is a reason I've done that. This course is not easy and it is nearly impossible to complete with minimal effort. I strongly advise against taking this course if you feel overcommitted: for most people, that is a very difficult prospect.

**Everything builds on the previous material**, and it should make sense by the third or fourth time you’ve seen it, even if it doesn’t come to you immediately. If you try to learn it all at once, you are unlikely to succeed. The course is structured so as to force you to engage with the material multiple times every week. Challenging yourself with the readings and the concepts is important; practice is necessary. You should expect to spend a substantial amount of time outside of class thinking about and working on these things -- we have provided a lot of outside-class support, asynchronously (on Piazza) as well as in office hours and section times. You should take advantage of these as much as you feel you need. If you are struggling with figuring out how to study, what way of learning works for you, how to approach or begin problems in this course, communicate with your instructors right away -- don't wait until you feel you've fallen far behind. That's what we're here for.

Good luck and welcome aboard!

**Graded Assignments in this Course**

- **Readings:**
  - There will be reading assigned to go with each lecture. Readings are required, and there are points associated with them. This happens via the textbook: you get to it via Canvas, and the textbook keeps track of whether or not you have:
    - Opened all the pages of the reading before lecture
    - Engaged with at least 80% of the activities or more before lecture (the activities are e.g. multiple choice questions, interactive code blocks, etc)
      -- they do NOT have to be correct if they involve a question! Just try them!
  - Each reading (for each lecture) is worth 50 points -- a very small number of points. You cannot complete these late for points. If you miss one, that's OK, you missed one! You would have to miss a large number to notably affect your grade. You can get partial credit on these -- they are automatically calculated, as you'll see in class, but you should certainly generally aim to get full credit!
  - Readings are one of the most important parts of this course. If you haven't done the readings before you come to lecture -- aside from losing 50 points, which doesn't matter very much, class will be difficult to understand and difficult to engage with. Lecture is a place to dive deeper into concepts, look at other ways of understanding them, and break open your questions. The readings
almost entirely occur in an interactive textbook, and you should try all of the activities that go along with the reading. Answer the multiple choice questions, run the code windows. This will help you learn enormously, and it will also help us gauge how to structure the class to best help you learn.

**Demonstrate Your Understandings**
- Along with the reading, there will be a "Demonstrate Your Understanding", or "DYU", assignment, which is a short explanatory answer to a question about the material you read this week.
- Each week's Demonstrate Understanding assignment is due on each Sunday at 11:59 pm, and it may touch upon either or both of the sessions that week.
- **Each DYU is worth 100 points.** There will be at least 11 over the course of the semester, so you can miss at least one with no penalty. Please don't ask for more free misses than are available to everyone.
- There is a max of 1000 points for DYUs. They are not accepted late. But they are not many points each, either!
- **DYU GRADING: Your GSI will grade your DYUs. Each time, as long as you have submitted the DYU on time, your GSI will either give you full credit, or point out an error or problem with your explanation and ask you a question about it. You can answer that question for another chance for full credit, until a week after your original submission** (the time the next DYU is due). If you have not responded to your GSI's comments by then, the assignment will close.

**Problem Sets**
- **The majority of points in this class come from Problem Sets**, which will each be a number of programming problems.
- **Each Problem Set is worth 1000 points.** There will be a problem set pretty much every week. They are due at 11:59 PM on Sundays.
  - You should not expect to do these in one night, though they are likely to get easier with practice. Take a look at the week's problem set on Sunday or Monday, to get an idea of what you'll need to understand!
  - You can generally expect grades returned, and available via Canvas, within a week of submission, but it may take us a bit longer for problem sets that are complex to grade.
- Your problem sets are graded by a rubric, and everyone's is graded in the exact same way. See: **Grading in this Course** and **Communication in this Course** for more on grades and discussing grades.
- See **Late Assignments** section for information about how late submissions work for problem sets.
- Your lowest problem set score will be dropped from counting for the final grade.
- The first four or five problem sets will be done in the course's interactive textbook, which you will learn about in class. After that, they will be submitted directly on Canvas.

<table>
<thead>
<tr>
<th>In-Class Midterm Exam</th>
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</thead>
<tbody>
<tr>
<td>There is an in-class midterm exam, on paper. You can bring an 8.5x11 sheet of paper to the exam with anything you want written or typed on it, on 2 sides. No other notes, no computer or internet access.</td>
</tr>
<tr>
<td>The midterm exam is worth 3000 points -- much less than the problem sets altogether, and less than the final project. We will provide tips for studying, but my overall suggestion is to focus on the readings and understanding why you write the code you write on the problem sets, and you'll be OK.</td>
</tr>
<tr>
<td>This exam is <strong>IN CLASS</strong>. You are not expected to need to miss it. You should be sure you will be in class that day. Put it on your calendar. (See <strong>Course Schedule</strong> below.)</td>
</tr>
<tr>
<td>■ <strong>If you have test accommodations for extended time that will absolutely not work for the class time period, or another unavoidable conflict, you should contact Jackie right now, the first week of January.</strong> No, seriously.</td>
</tr>
<tr>
<td>■ Not everyone is happy with or &quot;good at&quot; exams. That's okay! There are reasons supported by research why we continue to have a paper exam in this course, though we understand it can be frustrating.</td>
</tr>
<tr>
<td>■ I <strong>also</strong> suggest you practice writing code as you think about it with pen and paper, or on a dry-erase board, regardless of the exam.</td>
</tr>
<tr>
<td>■ There will be a second-chance midterm offered in this course a couple weeks after the midterm, in an evening, which you may take only if you received below 90% on the first midterm. (You may still bring a notes sheet.) Because it is an advantage to have taken a midterm already that covers the same concepts, those who choose to take the second chance midterm will receive 90% of the raw score they get.</td>
</tr>
<tr>
<td>■ (So if you get 2100/3000 points on the first midterm, and 2600 points out of 3000 on the second chance midterm, you will get a 2340/3000 as a recorded midterm score.) You cannot lose points by taking the 2nd chance midterm. We will record the best of two scores (100% of the first one, or 90% of the second one, whichever's higher). The date and time of the 2nd chance midterm will be announced within some weeks of the semester start.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Final Project</th>
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<tbody>
<tr>
<td>The final project is due at the end of the semester (see syllabus). It is worth 4000 points, although some of those points will come from structured, required, assignments e.g. a Final Project Plan, to help you progress on the project. We'll have some direction and requirements for the final project, but you will also have an opportunity to be creative. These specifications will be released after the midterm.</td>
</tr>
</tbody>
</table>
- There will be opportunity to start planning things out for your final project early. Do that. Trust me.
- (There is no final exam.)

**Discussion Section Attendance**

- Discussion Sections are generally time to emphasize concepts from lecture and introduce small new concepts that we don't have time to go into detail about in the lecture. You will work on problem solving activities, individual and in groups, and talk about code and problem solving. Most of the time, you will not submit work, but this may vary. Each Discussion Section is led by your GSI.
- **Discussion Section Attendance counts for points.** Each session is worth 100 points, and there is a maximum score of 1000. You can miss up to 2 discussion sections with no penalty (there will also be at least one week in the semester where discussion section is cancelled or optional). In general, please do not ask for more free misses than are available to everyone.
  - **You can waive discussion section by completing the problem set for the week in advance of your section.** Yes -- they're pretty early in the week, on Tuesday, so I do not expect this to happen often, but if you get ahead, you may be able to do this.
  - In order to waive a discussion section (not attend and yet still receive the points), you must complete that week's problem set, submit it, and then go to the **Discussion Section Attendance** assignment for that week on Canvas and input text "I am waiving section on <weekday> <the date>, because I have completed <the problem set, e.g. Problem Set 3>". You can find these in the Assignments > Discussion Section Attendance > Section Week # (e.g. Section Week 3).
  - Waiving a section means your problem set must be done before your discussion section. We strongly encourage attending discussion -- especially, helping your fellow students during discussion section if you feel you have a solid understanding of the concepts! But we've provided this waiving opportunity just in case you find it useful.
  - You are expected to be on time and act respectfully toward your GSI and your fellow students in discussion section in order for your attendance to be counted.

**Course Schedule**

Lectures are Mondays and Wednesdays, 4-5:30 PM, 2255 North Quad. We begin promptly on Michigan time (4:10).
Topics listed here are subject to change. Unless there is a very significant change, small edits made to future topics in *lecture* may not be announced. All significant changes will be announced via Canvas.

<table>
<thead>
<tr>
<th>Lec</th>
<th>Date</th>
<th>Topics</th>
<th>Notes</th>
<th>What's due</th>
</tr>
</thead>
</table>


<table>
<thead>
<tr>
<th>#</th>
<th>Date</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/3</td>
<td>Class intro, course expectations, (re) introduction to formal language, Python 2 vs 3</td>
<td>Sections are NOT being held this week (because they are on Tuesdays).</td>
</tr>
<tr>
<td>2</td>
<td>1/8</td>
<td>Expressions, variables, data types, print statements,</td>
<td>Confirmation of understanding tools/installations/course setup. You should come to this lab section if you have ANY questions about these things.</td>
</tr>
<tr>
<td>3</td>
<td>1/10</td>
<td>Evaluating code, input, function invocations</td>
<td>Lecture readings. PS1 and DYU due Sunday 1/14</td>
</tr>
<tr>
<td></td>
<td>1/15</td>
<td>NO CLASS - MLK DAY</td>
<td>Section IS held this week Tuesday. It will have material that will prepare you for PS2. You can waive it only by completing PS2 in advance of it.</td>
</tr>
<tr>
<td>4</td>
<td>1/17</td>
<td>Sequences and operations on sequences, introduction to complex problem solving, code description.</td>
<td>Lecture readings. PS2 and DYU due Sunday 1/21</td>
</tr>
<tr>
<td>5</td>
<td>1/22</td>
<td>Accumulation pattern, Introduction to reading files, file methods.</td>
<td>Lecture readings.</td>
</tr>
<tr>
<td>6</td>
<td>1/24</td>
<td>More accumulation patterns. Conditionals and files.</td>
<td>Lecture readings. PS3 and DYU due Sunday 1/28</td>
</tr>
<tr>
<td>7</td>
<td>1/29</td>
<td>Dictionaries. Indefinite iteration. Introduction to function definition.</td>
<td>Lecture readings.</td>
</tr>
<tr>
<td>Week</td>
<td>Date</td>
<td>Topic</td>
<td>Problem Set Due</td>
</tr>
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</tr>
<tr>
<td>8</td>
<td>1/31</td>
<td>Dictionary accumulation.</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>2/5</td>
<td>Defining and calling functions. Intro. to Unix and command prompt, computer filesystem. Python native installation.</td>
<td>Functions exercise in lab.</td>
</tr>
<tr>
<td>10</td>
<td>2/7</td>
<td>More functions. Intro to advanced functions: optional/keyword function arguments.</td>
<td>Unix exercise, challenge functions. Begin thinking about studying so you can go slow!</td>
</tr>
<tr>
<td>11</td>
<td>2/12</td>
<td>More advanced functions: lambda expressions / anonymous functions. Introduction to tuples.</td>
<td>I advise you start seriously considering your studying for the midterm now if you don't feel confident already.</td>
</tr>
<tr>
<td>12</td>
<td>2/14</td>
<td>Intro to sorting in Python. More on advanced functions and function problem solving.</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>2/19</td>
<td>Introduction to nested data: Understand, Extract, repeat. Solving complex problems, debugging and debugging strategies.</td>
<td>Last-Chance Midterm review in section Tuesday</td>
</tr>
<tr>
<td>14</td>
<td>2/21</td>
<td>IN-CLASS MIDTERM</td>
<td>No problem set week of the midterm</td>
</tr>
<tr>
<td>Date</td>
<td>Day</td>
<td>Description</td>
<td>Additional Information</td>
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<tr>
<td>2/24-3/4</td>
<td>2/24-3/4</td>
<td>&quot;SPRING&quot; BREAK - NO CLASS</td>
<td>No problem set week of spring break (make sure to complete readings for Monday 3/5!)</td>
</tr>
<tr>
<td>15</td>
<td>3/5</td>
<td>Writing and reading files.</td>
<td>Lecture readings.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>File formats (JSON).</td>
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<td></td>
<td></td>
<td>Module imports.</td>
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<tr>
<td></td>
<td></td>
<td>pip installer.</td>
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<tr>
<td>16</td>
<td>3/7</td>
<td>Exceptions. Intro to pattern of saving and caching data. Introduction to data on the internet.</td>
<td>2nd chance midterm around this week in an evening. TBD.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lecture readings.</td>
<td>PS6 and DYU Due Sunday 3/11</td>
</tr>
<tr>
<td>17</td>
<td>3/12</td>
<td>The requests module, REST APIs, getting data from the internet.</td>
<td>Lecture readings.</td>
</tr>
<tr>
<td>18</td>
<td>3/14</td>
<td>API documentation, review of nested data and nested iteration, more on REST APIs.</td>
<td>Lecture readings.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PS7 and DYU due Sunday 3/18</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>3/19</td>
<td>Caching data and debugging with REST APIs.</td>
<td>Lecture readings.</td>
</tr>
<tr>
<td>20</td>
<td>3/21</td>
<td>Classes and instances.</td>
<td>Lecture readings.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PS8 and DYU due Sunday 3/25</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>3/26</td>
<td>Classes and instances with data, review of</td>
<td>Lecture readings.</td>
</tr>
</tbody>
</table>
classes and instances concepts.

22 3/28 More on caching and OAuth/API authentication.
Code organization (where you put things in your program).
Lecture readings. PS9 and DYU due Sunday 4/1

23 4/2 The Twitter API and complex authentication.
Sections before Wednesday 5 PM - TBD
Lecture readings.

24 4/4 Solving complex problems with data from the internet. Intro to DarkSky (maybe)
Lecture readings. PS10 and DYU due Sunday 4/8

25 4/9 Designing and planning complex programs.

26 4/11 Text encoding and inclusion in Python

27 4/16 Final project planning and advanced accumulation, lead-up to 507 and other courses.
Final project due 4/19

Grading in this Course

<table>
<thead>
<tr>
<th>Assignment Type</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Sets</td>
<td>Approx 10000</td>
</tr>
</tbody>
</table>
Demonstrate Your Understanding of Assignments AND other small assignments | Approx 2000
---|---
Discussion Attendance | 1000
Readings | 1000
Midterm Exam | 3000
Final Project | 4000
*Approximate Total Points Possible (May Change)* | Approx 21,000

- Lecture attendance is not graded but *is* expected and will be very useful for you. Historically there is a strong correlation with non-attendance at lecture and poorer performance on problem sets, even for students who have previous programming experience. We are all adults, it's entirely up to you.
- Piazza contributions are not required but *are* expected and will be very useful for you.
- You are expected to contribute to course meetings in the way that you need, either aloud or on Piazza or both.
- We strongly suggest making yourself available for office hours when you are able. However, they are not required, only recommended if you find they are what you need.

All point amounts are subject to change with several days' warning during the semester. Change is unlikely, but possible under necessary circumstances.

All grades will ultimately appear on Canvas, though your first 4 problem set grade details will appear in the interactive textbook, which you can access through Canvas. You earn points, they're not subtracted. Everyone begins with 0.

All grades are applied to assignments with rubrics that will apply to every student in exactly the same way.

For asking further or specific questions about grades, see the section on **Communication in this Course**.

**Final letter grades will be assigned by percentage:**

<table>
<thead>
<tr>
<th>Percent Threshold</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>51</td>
<td>E</td>
</tr>
<tr>
<td>58</td>
<td>D</td>
</tr>
</tbody>
</table>
A Note on Grading:
Yes, I am aware that an A+ grade *may* count for your GPA for students enrolled in the Ross School of Business.

For everyone, A+ final grades will occur only for 100% scores, and everyone's percentage is calculated in exactly the same way. That score is *extremely difficult* to get, even if you understand everything absolutely perfectly. There are very many ways to do extremely well in this course without that incredibly unusual score, and many achievements available in this course that are ultimately more important. Please do not ask for additional points to bump you up a grade, no matter how much you want them. *Everyone* is 2 points below whatever score they would get if they had 2 more points, etc. If you understand the material/are working to understand the material, you should be proud.

If you have a concern about a grade on any assignment, believe we've missed something and want us to check, or you want a grade explanation or re-grade, you're welcome to that: please see the **Communication in this Course** section in this syllabus for how to go about that.

Late Assignments, Missed Attendance, & Extensions

Any Problem Set may be submitted up to 4 days late, at a deduction of 10% of your grade per day of late submission.

Assignments other than problem sets may not be submitted late.
Problem Sets will not be accepted more than four days late.

Please do make sure to read this entire section so you are aware of 100% of this course's late policies.

We reserve the right to change this with advance notice (e.g. if we will use the solution to an assignment in an upcoming lecture that is less than 4 days away). We will let you know about this with as much notice as possible.

Canvas will show you when your assignment is late -- it's any time after the deadline! Yes, even ten minutes. Gotta draw the line somewhere: and it is good training for absolute software deadlines, should those be things you encounter in your future. (We will calculate how many days late it is. You can do that, too, of course.) After four days, we will no longer accept it.

(However, you should not expect a grade on a late assignment in the same timely manner as an assignment submitted on time. We will go back and grade late assignments at a few specific intervals during the semester.)

You have 3 free late submissions during the semester. That means that you may submit 3 problem sets (out of NINE, which is an entire third of the problem sets over the course of the semester) late -- within four days of the pset deadline -- for no penalty. Once that's over, the rest will have that 10% per day late penalty.

NOTE: For the first five problem sets, to submit them late you must comment on Canvas, on the Canvas assignment, after you receive your grade, that you would like a graded late submission. For PS 6 forward, we'll see when it is late.

You can miss up to 2 discussion sections without penalty. In general, please don't ask for more than are automatically available to everyone.

Other assignments (e.g. DYUs, readings, etc.) may not be submitted late for credit. They are also for very small amounts of points each, so no need for much concern. There will be at least one extra DYU available at the end of the semester to make up for one you missed along the way. Thus, you can miss at least 1 DYU with no penalty.

You can also miss up to 2 reading assignments over the course of the semester with no penalty. We do still recommend that you do those reading assignments, of course.

You will be directed back to this syllabus if you have a question about a late assignment.
Extensions and Excused Absences

Extensions and excused absences are, in general, not granted in this course.

The slightly-extended version of why is below:

The syllabus, as detailed above, provides many ways for you to work around other things that may happen in your life that may keep you from turning the problem sets in / on time.

For instance: the 3 free late PSet submissions, the fact that you can miss at least 2 discussion sections with absolutely no penalty, the extra DYU…

You are all graduate students who have not only other classes and commitments but lives of all different kinds outside of this course. I understand that. The staff team and I each have a life outside this course, too! I leave it to you to determine how you need to complete the work to succeed in this course, and we are here to support you in doing that and in making decisions about it.

Sometimes SI 506 cannot be a priority for you, and that's completely okay with me. Maybe it's never going to be much of a priority for you personally. Maybe you don't really want to be in this class at 4:00 pm. Maybe there's just a lot in your life that is more important than this. Anything. That's OK, too. I'm not making assumptions about what you decide or need, and it does not make me think less of you as a person! These things are entirely your decision -- and how they impact your understanding (most importantly), and your grade performance (less importantly, in the general case) is also largely determined by how you choose to, or are able to, use your own time and energy.

I'll warn you that this course tends to take a lot of time to feel successful at, because this material is not easy to learn for the first time, for most people. You should not expect to spend minimal effort and easily pass, even if you are taking the course pass/fail. For some, it is extremely difficult to pass this course without making it a priority. You should keep this in mind -- considering how this course is for you -- when you make decisions about how to prioritize your coursework.

However, the structures here are in place for a number of reasons, including to make sure a small staff can grade a lot of assignments and that our system is truly as fair as we can be to everyone.

I've seen a very large number of different things happen to different people when they were students in a class of mine (and others'), and all these different things have affected different people in different ways, or caused them to make different choices about different pieces of
schoolwork. Among other things, **we do not want to be prioritizing the needs of those who ask, often at the unintended expense of those who do not.** So: Choose to use the "freebie" lates and misses however you want (see above for the parameters)! They are there for exactly these reasons -- because sometimes stuff happens, and this way, you don't have to ask. You already know what you can miss or turn in late with no penalty.

This means, for final clarity, that I do not grant extensions for:

- Having too many other projects or work (I do warn strongly against taking this course if you feel overcommitted; it tends to take most students a substantial amount of study/work time to feel confident about this material, and there's no way around that.)
- Job interviews (Congratulations, that's wonderful! We are sincerely happy for you, but the schedule will not change)
- Project presentations or conferences
- Family commitments, like birthdays, etc
- Illness like a cold or stomach flu -- that's what those free late days are for!
- I'm sure there are many more that I haven't listed

Regular difficulties you expect to encounter, or difficulties that will be frequent for you in a specific way, or that you encounter during the semester that you believe will affect your work in a longitudinal way (not just one assignment) etc, should be discussed with me ASAP (you do not need to provide any personal details you don't want) if you are concerned about course performance as a result of them. That way, we can ensure the progress of the course this semester will work appropriately for you.

If you need an accommodation, you should come to me with what you need at the very beginning of the semester. Please see **Accommodations and Services for Students** and/or contact the Office of Student Affairs for more!

**Exceptions to that rule**

As throughout UMSI, if **extreme personal circumstances** occur, such as serious illness/injury/health/concern or family/loved ones' illness/injury/health/concern (of course, health includes mental health as well as physical health), major/sudden events, or other personal **extreme circumstances which prevent you from being able to do work or be at school,** this is what you should do with respect to this course:

- **Make an appointment, or contact via email, ASAP, the Office of Student Affairs at UMSI.**
  - Most MSI students will want to speak to **Sarah Regan**, the Assistant Director of the MSI, about academic concerns, who you can reach at **sargiero@umich.edu**.
- Laura Elgas, Director of Academics and the Office of Student Affairs at UMSI, lauramb@umich.edu is also an option to reach out to for anyone in a UMSI course.
- They are, in general, who you should contact first, not me. If you feel comfortable with a particular instructor and want to reach out to them for support, that's also OK, but we are generally not able to provide the types of support that OSA can. 
  Yes, it is possible you will see e.g. 0s if something's not graded. If it is right for us to correct it, don't worry -- we'll correct it if we need to. We promise.

- **With them, relay your concerns -- they will help you reach out to all of your instructors!** If you want, they can also provide you with other resources that may be helpful for you, depending upon what you are looking for. This is especially useful if you are encountering a situation that will take you away from school for a while for an emergency -- they can help reach out to all your instructors to make them aware to e.g. not expect you in class.

- **Come up with a plan, when you’re ready, with them or any person you consider an advisor, for turning in your work for this course, and send it by email to Jackie for approval jczetta@umich.edu.** Make your email subject clear when you send this email.
  - For example, "...I think I will be able to get PS4 completed by <this specific date> and PS5 completed by <this specific date> and will try to be caught up for PS6..." (or whatever).
  - This is what you should send to me, Jackie, for approval!

I understand that sometimes things happen, and UMSI as a whole is here to support you.

My goal, when I look at your plan for completing/catching up on work, is that you and I both understand how you feel about the work coming up and your capacity to do it, and when I look at your plan I will be judging whether that timeline will e.g. allow you to keep up with lecture, so I can warn you if it won't, whether it seems doable/reasonable, etc. If I approve it, we will proceed with exactly that plan. If you feel you need to discuss course scheduling / concepts more, you can make an appointment with an instructor.

**In general, when submitting assignments much later for an unusual reason**, you should always submit late assignments to Canvas, or if the assignment is closed, to a comment on that assignment, and submit a re-grade request to the spreadsheet via Canvas in order to receive a grade (even if I have already approved late submission. The re-grade request lets our staff know it's ready for grading).

**Look ahead at the course schedule now.** If you see a real conflict with an in-class exam, you should tell Jackie **before the second week of class** so you can make a plan ahead of time. But if, for example, you know you will be celebrating a birthday one weekend, you should just plan to get started on your work ahead of time that week. We **cannot reasonably change deadlines for everyone**.
Religious holidays you observe that do not accord with the university's holiday schedule ARE, per university policy, always excused absences. We keep an eye on the calendar of religious holidays and generally will try to offer optional course attendance on those days for everyone if it falls on a day there is section (but we will not change the course schedule overall). However, if we miss a religious obligation you observe, it's still the case: if such a holiday will take you away from class that is worth points, or that you would not otherwise want to miss, please speak with Jackie and/or your GSI in advance, to find a time to make up for any content you miss. We will work with you to arrange an alternative, e.g. going to a different discussion section than usual, or something else that will work for you.

For other accommodations you need to take this course, please see the section on Accommodations and Services for Students.

Asking Questions in this Course

Before asking any question in this course, on Piazza or in office hours, etc, you should come prepared with answers to the following that you can share. We will enforce this -- gently, with coaching, support, and a lot of help, but we will enforce it. One of the most valuable skills to practice for becoming a good programmer (or a good anything when you're working with others, really) is asking good, clear, questions.

FIRST: Try something (writing some code) before asking how to solve a problem. It doesn't have to be right! The worst that can happen is that it does not work, even if what you try is COMPLETELY CONFUSING, trying something is better than nothing and will help more. If you come with a question without trying anything, we'll ask you to try something with us. This is an important part of the process!

Try to come up with a reason why you did what you did whenever you write some code, so we can talk through it.

Then, we'll ask for answers to these questions. These are also what you should provide on Piazza.

- **What is your goal?** Break the problem you're facing down into small pieces, and explain them in English. What's the first thing you need to solve? What's the smallest thing that you don't understand yet about it? ("I'm trying to..." is a good start for this.)

- **What is the difference, if any, between what the code you have written DOES do and what you EXPECT it to do?** Be very specific, in English. We'll coach you about how to be more specific! Consider: what types are the values you're dealing with? What prints out? etc.
• What is an example (from class, textbook, HW, section exercises, even a google search, anything) that you think is relevant to the problem you're having?
  ○ You should include: Why do you think it's relevant? What is similar or different about it to what you're asking/trying/wondering?
  ○ If you haven't looked at the textbook and/or other resources before asking, you should go back and do that. It can be frustrating, but it's really important.

• What have you tried so far? Explain this all as best you can, briefly, in English. This gives everyone else an idea of what type of hints and guidance will be useful and where to start helping.

• Did you make any Google searches? If so: What did you search? Did you find anything helpful? If so, what? If no, that's OK. But if you did, it's good to share so we know where you're coming from and can help coach you on how to get good answers from the internet/textbook. Everything you need in this class is (for the most part) in the textbook OR other course resources provided on Canvas, but it's still OK to use Google! It can be difficult to parse through Google search results for programming, so that's one of the things this course will begin to help with (a little bit).

• Why do YOU think what you've tried didn't work? It's OK if you don't know, and it's also definitely OK to be incorrect, but try to come up with a hypothesis, whether it's "I'm not writing the for loop correctly" or something way more detailed. This is important for getting you to the next step of solving the problem.

You should ask a lot of questions when you have them! Learning programming is difficult, and we can't know what you need answers to or find confusing if you don't ask. Ask all the time! But we require these things to practice and think through come with asking those questions, because forcing yourself to ask these types of questions will get you the best help and the best understanding.

It also makes our jobs easier, which allows us to spend more time helping y'all, which we like.

**Python Resources at UMSI / U-M**

Every semester I get questions about additional resources for learning Python/catching up in the course/etc. Here's what I have to say, so see if this answers your question(s):

• Yes, there are other books that go over beginning Python concepts, other websites, other resources. You are more than welcome to use any of them along with our course resources! You are still expected to complete the reading assignments for points, and you should be careful that you pay attention to the way we've been talking about things
in class so as not to get confused by things other resources explain in different ways or don't teach. This course's material will continually build on earlier course material, so, if for example you spend the first 3 weeks relying heavily on material that is NOT from this course and NOT reading our textbook/thinking about our course material, Week 4 might get pretty confusing.

- Many people have very different learning styles and may find that additional resources are very helpful for you, in addition to our readings, videos, practice. If you find something you like, definitely feel free to share it on Piazza!

- There are UMSI Study Tables that occur semi-frequently for UMSI students to go to and help one another with challenging course concepts (programming, statistics… lots of things). You can find information about when and where these are held this semester posted on bulletin boards around North Quad, and I'll **update this with W18-specific information when I have it**. I'd encourage you in general to go and to seek out help from classmates or people who have formerly taken this course, as well as perhaps to go and support others.

- There is, if you feel you need a personal tutor or more 1:1 attention, a **Python mentorship program** in UMSI, for people who are confident Python programmers/mentors to mentor beginning programmers, e.g. students in classes like this one. You can find more information about the Python mentor program by contacting **George Sprague** in UMSI Instructional Support Services within OSA: wsprague@umich.edu.
  - **A note on tutors**: There's nothing keeping you from hiring a tutor if you feel you need one and can personally do so. (Note: The GSI for this course cannot tutor you for this course nor set up regular individual meetings.) However, I do generally warn, if you choose to do so, to be careful that the tutor understands the material from SI 506 in a relatively similar way to the way we teach it. I do not personally have tutor recommendations.
  - For example, many students who have previously reached out to engineering, non-UMSI students as tutors in this course may have succeeded at some HW but have expressed that they did not learn very much from the experience, because those students are not trained as teachers/tutors/explainers for our course material, or may not be accustomed to working with someone who has a different academic background.
  - My advice: Don't continue a tutoring relationship if you find the tutor is doing too much work for you and/or if meetings with the tutor are not leaving you with the capability to redo some of what you did with the tutor on your own, later.

- Don't just go to office hours when you're having a TON of trouble. Go the moment you have a question, or whenever you can. See if you can spend some time hanging out with your classmates, getting work done, explaining things to one another.
A substantial amount of students who struggle in this course are not taking advantages of the resources this course provides AND/OR don't have the time to do so. Again, I note that this course is very challenging, and really does take a lot of time for most people to work on and feel successful, whatever that means for you! All of the material builds on the previous material, so it's definitely worth your time to make sure you don't fall behind and feel like you can keep up, and to budget time in your schedule for office hours. They're not required, but being able to stop by is strongly encouraged where possible.

- Piazza, Piazza, Piazza! We ALL get more back when we all take it seriously as a resource -- answer each other's questions, explain the answers you've found to your own questions, explain your own a-ha moments, point out examples in the textbook that are useful for you… this can be a great community space.
  - Piazza is definitely not monitored 24/7 but it is monitored, and your name is never anonymous to the instructors. This is a class space and will be held to class expectations: treat one another, the staff, and all one another's questions, with respect.

- I also recommend, if you are struggling with material, considering how you're doing the readings -- whether the way you are working through them is working for you. Instructional staff can discuss this with you, if you like/feel it isn't working for you the way it is now. Do this early, if you feel this is a struggle for you; it can really make a difference!

Communication in this Course

For questions about material in the course, including general HW confusions, you should post on the Piazza site, which you can access via the Canvas site (you can also log in through Piazza directly after you have enrolled in our 'Piazza class' by clicking a link in an email or doing so on the Canvas site).

Anyone may, and should (!) answer/respond to questions on the Piazza site, which will be moderated by course instructors. Specific answers to questions may not be posted on the Piazza site.

Instructors will monitor this site to answer questions that your fellow students cannot/don't answer, to encourage continued discussion, and to provide additional explanations. We also encourage your reading through the Piazza site semi-frequently; others questions and answers
may be extremely helpful for you! We also strongly encourage posting your own explanations; one of the very best ways to learn programming is to explain it.

For questions or concerns about grades/scores ("I think I got an incorrect score on HW2, problem 3", etc), please submit to this google form, also linked on the Canvas site. We will address those questions by responding to you via email or Canvas comment, as soon as possible, but probably not immediately. Please do not email us to ask when you will get a response, unless it is a truly urgent matter (for example, "I need feedback on my project plan because I'm confused about something"). I promise you that if you submit to this form, you will get one. Don't use this to ask for help -- only use it to ask for us to check on whether your problem set / DYU / discussion section scores are correct. Follow the prompts.

General questions, desire for explanations, etc, please redirect to Piazza, and try to attend a meeting of group office hours if you want in-person explanations! "When will HW5 be graded?" "What topics can we expect on the midterm?" "Where should I turn in my assignment?" "What does this piece of instructions mean?" or any question about material, are all examples of what should go on Piazza. See the Asking Questions in this Course section for more details on asking questions about material/problem-solving.)

Our staff are all pretty busy and unfortunately cannot guarantee individual meetings for every student. If you believe circumstances warrant an individual meeting with your GSI or an IA, email to the team email is the best way to request one.

You can schedule individual meetings with Jackie at the link in the Office Hours section of this page.

For private questions, e.g. questions about extensions or personal circumstances, but NOT about regrades, please email the course email list: Sl506W18instructors@umich.edu. That will reach all of the course instructional team. We all need to stay aware of course policies and communication, and the group email helps us do that. Please do not email your GSI or any IA individually for course or grading questions.

Please do not ask an individual instructor about changing your grade(s). We make grading decisions as a team to ensure that everyone’s grades are addressed in exactly the same way. There is no flexibility on this issue.

If you are uncomfortable sending an email to the entire instructional team for personal reasons, contact Jackie directly via email: jczetta@umich.edu.

Our (instructors') communication with all of you together will occur via Canvas announcement (or in class/office hours, of course). You should make sure your Canvas settings are set up so that you will receive email from Canvas announcements. You will be expected to have received information sent in Canvas announcements. (The default
Canvas settings will have you getting that email, but if you turned Canvas emails off, make sure you turn 'em back on or ask someone to figure out how to do so.)

All assignments, from expected readings to homework, reading response topics, etc, will be available on the Canvas site. All grades will be available on the Canvas site. We will try our best to grade assignments as quickly as possible.

Of course, spontaneous discussions that occur in lecture or section may not be available on Canvas. We do not have the resources this semester to record lectures. You should check out the notes carefully for any lectures you miss, but you do not need to make instructors aware if you need to miss lecture -- that's up to you. (I don't advise it.) Any video material we provide will be provided to you via Canvas.

If you email any instructor(s)/the instructor email list, we can not guarantee that you will get an email back within 48 hours, but we will try our best to do so.

If you do not hear and you contacted by email, please be patient unless it is an extraordinary matter. If it has been more than a week, we do all get an enormous amount of email every day, and you should feel free to follow up at that point.

**Learning Objectives of this Course**

- To gain competency in a number of Python programming skills
- To gain competency in debugging simple and intermediate Python programs and build a set of problem-solving skills for working with symbolic systems and programmatic concepts
- To build a personal problem-solving toolset for code and technology projects
- To be comfortable writing and analyzing small - medium size programs (up to ~800 lines of code, <= 3 files, multiple external Python libraries) that deal with object-oriented programming, complex Python tools, and accessing and processing data from the internet
- To be able to successfully move on to SI 507 at UMSI, or other slightly more advanced programming courses / courses for which SI 506 is a listed prerequisite
- To gain understanding of the vocabulary and considerations a programmer must make in a programming job, such that in a programming-adjacent job you could contribute to programming-related conversations and/or use some programming to make your job or life easier in some way(s).
Academic Integrity & Collaboration in this Course

All assignments in this course must be turned in individually. However, we do strongly encourage helping one another, asking and answering questions, and walking through your thought processes. The restrictions on that are as follows:

- If you get help from someone for writing your code, cite that specifically in your submission (in a comment in your program). You do not need to cite learning from lecture or section, or from your textbook(s) or instructors (unless you are citing collaboration with another student that occurs during lecture or section!). If you use another person’s code directly, in class or from the internet, you must also cite that in a comment to your code indicating what you borrowed, and where/who from.

- If you give help to someone else, or work with others on HW, etc, do not type on their computer. Talk as much as you like, but everyone should get the experience of typing and completing problems in the way they normally do (e.g. it's not okay for a friend in the class to type your HW for you while you watch because they know how to do it already, nor for you to ask for someone's computer to just finish a problem because it's frustrating not knowing how to communicate what you're thinking about code. The challenge is worth it!).
  - If you are "working on a problem set with a friend" and the friend types the problem set and then sends it to you to turn in, this is
    (a) A breach of academic honesty
    (b) A terrible idea for your learning and your ability to perform on the midterm and final project
    Don't be either party in that situation. Type only your own homework.

- Posting code snippets on Piazza is great, and encouraged, to go with your questions/explanations! Posting complete answers to HW problems is not acceptable.

- Study groups are welcomed and strongly encouraged, as is talking through any problems you encounter. However, if you feel you are either giving or receiving all of/too many of the answers, it is probably time to break up the study group. Please contact Jackie confidentially if you have a problem like this and are having difficulty dealing with it on your own.

- Using answers provided directly from past semesters, if they are the same or similar to work this semester, is not acceptable. To use any past assignments from others as reference for your own is a serious breach of academic honesty and may result in serious consequences. Copying others’ answers is very different from hearing an explanation from a fellow student or a past student, even if the explanation involves walking through little bits of code.
Any statements of phrases from the work of others, including code snippets, must be clearly identified as quotations, and proper citation must be provided. Unless otherwise specified, all submitted work must be your own, original work.

**The format for citing code is as follows:**
<author(s) names> (<date>) <title of program/source code> (<code version>) [<type>]. Web address or publisher.
e.g.
**Smith, J (2011) GraphicsDrawer source code (Version 2.0) [Source code].
http://www.graphicsdrawer.com**

However, for citing fellow classmates' code, it's OK to say in your assignment, in a code comment, e.g.

# I worked on this code lines 10-15 with Jie-Wei Wu.

In such a case, Jie-Wei should also comment her assignment about you!

You do *not* need to cite working with a GSI or IA.

If you use code provided by an instructor or by course materials in a project you are submitting as your own work, you *should* cite that.

Any violation of the School's policy on Academic and Professional Integrity (stated in the Master's and Doctoral Student Handbooks) will result in serious penalties, which might range from failing an assignment, to failing a course, to being expelled from the program. Violations of academic and professional integrity will be reported to UMSI Student Affairs. Consequences impacting assignment or course grades are determined by the faculty instructor; additional sanctions may be imposed by a school administrator.

**Accommodations and Services for Students**

If you need or believe you may need an accommodation, e.g. for a disability, please let the instructors know at your earliest convenience. Some aspects of this course, the assignments, the in- class activities, and the way we teach may be modified to facilitate your participation and progress. As soon as you make us aware of your needs, we can work with the Office of Services for Students with Disabilities (SSD Office) to help us determine appropriate accommodations. SSD (734-763-3000; [http://ssd.umich.edu/](http://ssd.umich.edu/)) typically recommends accommodations through a Verified Individualized Services and Accommodations (VISA) form. We will treat any information that you provide in as confidential a manner as possible.
Please make sure Jackie receives all notification about accommodations (e.g. test accommodations), and that your GSI receives all relevant information for your section as soon as possible.

If you have a concern along with or separate from the above that affects the process of class at large or for you personally, please approach or contact me (Jackie) confidentially. I will also treat any such shared information in as confidential a manner as possible and will do what I can to ensure you have what you need in this course and/or have the resources to find it.

I have previously spoken with students who wished very much that they had reached out for resources like this early in the semester, rather than mid- or late-semester! If you feel that you might need support or additional resources of some kind, please reach out either to me (Jackie) or to the Office of Student Affairs right away.

**Mental Health and Well-Being at the University of Michigan**

The University of Michigan is committed to advancing the mental health and well-being of its students, while acknowledging that a variety of issues, such as strained relationships, increased anxiety, alcohol/drug problems, and depression, directly impacts students’ academic performance. We take this seriously.

If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, for any reason, services are available. For help, contact Counseling and Psychological Services (CAPS) at (734) 764-8312 and [https://caps.umich.edu/](https://caps.umich.edu/) during and after hours, on weekends and holidays or through its counselors physically located in schools on both North and Central Campus. You may also consult University Health Service (UHS) at (732) 764-8320 and [https://www.uhs.umich.edu/mentalhealthsvcs](https://www.uhs.umich.edu/mentalhealthsvcs), or for alcohol or drug concerns, see [www.uhs.umich.edu/aodresources](http://www.uhs.umich.edu/aodresources). For a more comprehensive listing of the broad range of mental health services available on campus, please visit: [http://umich.edu/~mhealth/](http://umich.edu/~mhealth/)

If you are seeking advice, answers to questions, or help accessing resources, you should contact the Student Services Office within UMSI, on the 3rd floor of the North Quad Academic Building. You can also contact them for support with academic or personal advising while in the program.

Any personal concerns you have about your mental health or resources available for you during your time here at UMSI, in this course or otherwise, whether or not related to an accommodation you have previously felt need for, you should contact the Office of Student Affairs (OSA) for more information on resources available and help finding them or navigating a problem. If you feel overwhelmed in any way, the OSA can often provide very useful resources either right there in the office or for you to reach out to. It's never "too minor." You can reach out to Laura Elgas: [lauramb@umich.edu](mailto:lauramb@umich.edu) or to Sarah Regan: [sargiero@umich.edu](mailto:sargiero@umich.edu) for resources and support from OSA.