Syllabus
CSE 450-001, Spring 2023

Department of Computer Science and Engineering, Michigan State University

Instructor: Nick Ivanov, e-mail: ivanovn1@msu.edu
Class Time: Monday and Wednesday, 10:20 a.m. — 11:40 a.m.
Class Location: Business College Complex N106.
Website: https://www.cse.msu.edu/~cse450/

Course Objectives and Outcomes
This course teaches students how to create programming and domain-specific languages properly. The students will develop an analytical mindset on how human logic and commands are translated into computer instructions. Specifically, the students will master the following major topics:

- History of programming languages and standard approaches to creating programming languages;
- Regular expressions, tokens, and lexical analysis;
- Language grammars, syntax analysis, parsing, and abstract syntax trees;
- Semantic analysis, flow control, scopes, symbol tables, and functions;
- Compilation, interpretation, intermediate code, and target code generation;
- Memory management and error handling;
- Object-oriented language design;
- Code optimization.

Grading
There will be 1000 points distributed throughout the course assignments, plus 100 bonus points.

<table>
<thead>
<tr>
<th>Points</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 1000</td>
<td>4.0</td>
</tr>
<tr>
<td>900 – 1000</td>
<td>4.0</td>
</tr>
<tr>
<td>850 – 899</td>
<td>3.5</td>
</tr>
<tr>
<td>800 – 849</td>
<td>3.0</td>
</tr>
<tr>
<td>750 – 799</td>
<td>2.5</td>
</tr>
<tr>
<td>700 – 749</td>
<td>2.0</td>
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<tr>
<td>650 – 699</td>
<td>1.5</td>
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<tr>
<td>600 – 649</td>
<td>1.0</td>
</tr>
<tr>
<td>0 – 599</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Important: Contact your instructor, if you have any concerns about your performance in the class.

Honors Option
This class offers an optional project, which can be used either for getting bonus points (up to 100) or for receiving an honors credit, but not both. A student cannot switch back from the honors option modality to the bonus point one. However, the status of completion of the honor’s credit does not affect the primary grade in the class. The details will be provided during the semester.

Inclusive Classroom
By taking this class, you acknowledge to adhere to the MSU values of Diversity and Inclusion as outlined in its Statement on Diversity and Inclusion. If you feel marginalized, tokenized, or targeted by a microaggression — talk to the instructor or fill out this anonymous form: https://tinyurl.com/2zwa2dkt. Also, use this link for any feedback you might have. If you want the instructor to respond personally to you, please provide your name. If you experience
discrimination, you can report it to MSU Office of Institutional Equity (OIE) using this link: https://civilrights.msu.edu/file-a-report/index.html.

Assignments
The class assignments include homeworks, coding projects, in-class quizzes, and bonus point assignments. Homeworks, coding projects, and in-class quizzes are together worth 1000 points. Bonus points allow you to gain additional 100 points beyond the standard 1000-point quota. The details of bonus-point assignments will be announced throughout the semester. The following table shows the distribution of class points. **No Final Exam.**

<table>
<thead>
<tr>
<th>Type of Assignment</th>
<th>Number of Assignments</th>
<th>Points per Assignment</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homeworks</td>
<td>10 Coding Homeworks</td>
<td>25</td>
<td>250</td>
</tr>
<tr>
<td></td>
<td>10 D2L Homework Quizzes</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>Coding Projects</td>
<td>7</td>
<td>80</td>
<td>560</td>
</tr>
<tr>
<td>In-Class Quizzes</td>
<td>5</td>
<td>18</td>
<td>90</td>
</tr>
<tr>
<td>Bonus Point Assignments</td>
<td>1 Project</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Late Assignment Policy
You have a total of twenty¹ late days without penalty for all graded assignments. For example, you can submit two homework assignments two days late each, and use the remaining three days for a late project; or you can use all the seven days for one assignment. However, there are two limitations: First, we avoid using fractions by **rounding up** late days, e.g., one minute over the due is counted as one day; by the same token, if an assignment is 7 days 1 minute late, it will get 0 points. Second, **no late assignments will be accepted after 5/1/2023 11:59 p.m. EST.**

Attendance
Attendance in this class is not mandatory, but highly recommended for a number of reasons. First, the class has five in-class quizzes, which are together responsible for 9% of your final grade. Second, during the class, the instructor will be demonstrating coding patterns that you are expected to apply in your homework assignments and projects. Third, you will learn much faster by attending our interactive classes than by trying to navigate the material by yourself. Fourth, in-class participants may occasionally vote to determine some procedures. Last, but not least, by attending classes, you can get quick answers to your questions. With that said, attending classes is a smart strategy that will save you a lot of time.

The Spartan Code of Honor Academic Pledge
As a Spartan, I will strive to uphold values of the highest ethical standard. I will practice honesty in my work, foster honesty in my peers, and take pride in knowing that honor is worth more than grades. I will carry these values beyond my time as a student at Michigan State University, continuing the endeavor to build personal integrity in all that I do.

Collaboration On Coding Assignments
Plagiarism (unsourced use of someone’s intellectual property) is not allowed. However, citing and using other works is generally fine (please ask if uncertain) as long as the material was not made specifically for solving assignments in this class. Additionally, the use of material from previous semesters and code from other students in the class are instances of academic dishonesty. Intellectual (non-code) collaboration with other students in the class is allowed, but each student should write (and not share) their own code. If a student submits code that they do not understand, such is also an act of academic dishonesty.

Academic Dishonesty
Because the goal of this course is to teach professionalism, any academic dishonesty will be viewed as evidence that this goal has not been achieved, and will be grounds for receiving a final grade of 0.0. Examples of academic dishonesty include (but are not limited to):

¹ Increased from 7 to provide more flexibility for the students in the aftermath of the Feb 13, 2023 events.
- Copying another student's code or exam answers.
- Using code implemented by someone else intended to solve this class's assignments (i.e., don't get someone else to do your assignment for you!).
- Using code independently implemented by someone else without attributing credit (i.e., you can use tools, libraries, or code snippets from the web, but only with proper citation.)
- Writing code that deceptively passes the test cases, but doesn't solve the problem given. In other words, abusing automatic grader mechanisms to gain unearned points.
- Using websites and sources, whose purpose is to provide assignment solutions (e.g. using sites such as Chegg.com for any purpose regarding this class).
- Distributing course content without instructor's permission.
- Submitting a solution that you do not understand or cannot explain to an instructor.
- Using assignment solutions provided to a previous iteration of this course.
- Providing false information to the instructor about matters related to the course.
- Facilitating another student in any of these activities.

Regrades
Requests for regrading can go in either direction; we are often generous when we first grade something, so please be sure that we did make a mistake before you submit your request. On the other hand, our goal is for you to understand the course material, so we will always be willing to explain to you any portion that you are stuck on. All requests for regrades must come within one week of the return of the graded item. Thereafter, no requests will be considered, so be sure to pick up your returned assignments on time. Bonus point assignments are not subject to regrading. No regrade requests will be accepted after 5/1/2023.

Grief Absence Policy
If unfortunate circumstances occur that would lead you to have unexpected absences, MSU has a Grief Absence Policy. You need to contact the Associate Dean, and we will make every effort to aid you in continuing the class after we receive confirmation from the administration.

Resource Center for Persons with Disabilities
Michigan State University maximizes opportunities for students with disabilities through the Resource Center for Persons with Disabilities (RCPD), phone # (517) 884-RCPD. If you are a MSU student and you have a disability, you can register with the RCPD and you may be eligible to receive accommodations. RCPD recognizes that accommodations may be required in order to assist individuals in maximizing their educational experience. Accommodation determinations are based on documentation and individualized needs assessments. Students who are granted accommodations will receive a letter that includes verification of registration status with the RCPD and an outline of reasonable accommodations. This letter is called a VISA (verified individual services accommodation). Please present this letter to the instructor at the start of the term and/or two weeks prior to the accommodation date (quiz, project, etc.).

General Note
The goal of this class is for you to learn. If you find that anything is coming in your way of that goal, please talk with us about it. We plan to keep the class flexible to the learning styles that seem to work best for the students, so feedback is always appreciated.

Participation and Attendance Bonus-point Reward
Another way to get bonus points is through correction of instructor's typos and errors during the lecture. If someone in the class during the lecture finds a legitimate typo or error in instructor's code, slides, or whiteboard writing, all the students attending the lecture receive one-half (0.5) of a bonus point. There will be a paper attendance sheet in each lecture to track the points. No cherry-picking / hair-splitting / nitpicking will be tolerated! Maximum points per lecture that can be obtained through this procedure is 5 (five).