Syllabus for CS 172 / CS 460: Computer Science I
Fall 2024

In the course, students develop software to solve problems. For computing majors, the knowledge is a foundation for later study. For others, the knowledge demystifies society-transforming software, teaches precise thought, enables informed communication with software developers, and empowers one to write small programs that help in diverse jobs. Note: Programming is concepts + skill; the skill requires practice that takes time (see Engagement Hours below) and may differ from your previous classes.

Course Delivery Method: Hybrid with in-person meetings scheduled for

Instructor: Dr. Son Tran, Nhan Le

> **Best way to contact:** use email in Canvas
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> **Office Location:** Science Hall 123
>
> **Email:** tiennhan@nmsu.edu **and** stran@nmsu.edu
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> **Office phone:** (575) 646-1930
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> **Office Hours:** TBA and by appointment.
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> Office hours will be on Zoom. Zoom meeting ID: 602 575 3775

Course web site:

Information about this course (syllabus, assignments, grades, additional material, useful links, etc.) will be available on Canvas. You are expected to check the content of the course web site on Canvas frequently. More information will be posted as the course progresses.

Email communication:

The Canvas Inbox is the main method you should use for all course-related communication.

Your NMSU email account is the official means of communicating with the university. Information critical to your success at NMSU is delivered to you via this account, and you are expected to follow rules and policies provided to you via this communication method.

Engagement Hours:

CS 460 is a 3 credit hour course for graduate students. Being a graduate student with more course experience and good study skills, your engagement hours may be less than for undergraduate students. 3 credit hours correspond to 5.5 engagement hours per week for a semester of 15-week.

Course Description:

This course is designed to teach programming methodology. No previous programming experience is assumed. The course will cover algorithm development, software design, coding, debugging, and testing. The language used in this class will be Java but the concepts can be applied to any programming language.

The course introduces variables and data types, including arrays; assignment and expression statements; selection and looping; method declaration and calling; and recursion. It briefly introduces object-oriented concepts, including classes and objects, creating and calling methods on objects.

The course covers the following topics:

- Introduction to Java
- Variables / Assignments
- Branches
- Loops
- Arrays
- User-Defined Methods
- Objects and Classes
- Input / Output
- Recursion
- Searching and Sorting Algorithms
- Inheritance

Course learning objectives / student learning outcomes:

Students who succeed in the course will be able to

1. Develop algorithms to solve problems,
2. Implement algorithms using the fundamental programming features of sequence, selection, iteration, and recursion,
3. Apply an understanding of primitive and object data types,
4. Design and implement classes based on given attributes and behaviors,
5. Explain the fundamental concepts of object-oriented programming.

Course Practicum Requirements:

Students who succeed in the course will be able to

1. Use Linux commands to manage files and directories
2. Use a simple IDE for editing and debugging Java programs
3. Write Java programs using programming features of sequence, selection, iteration, and recursion
4. Use Java built-in classes including String, Scanner, Math, Random
5. Write Java programs that use arrays for storing data
6. Write user-defined methods in Java
7. Have experience with input/output in Java including reading from keyboard and file and writing to standard output and file

Course Prerequisites:

CS 460: it is assumed that you have passed the algebra course in Mathematics.

Required Textbook:

We will use an online interactive textbook (ZyBook). Please use the following instructions to get it:

1. Sign in or create an account at learn.zybooks.com/
2. Enter zyBook code:
3. Subscribe

A subscription is **$89**. Subscriptions will last until xxx.
If you are having some financial issues, ZyBooks may defer payment for a few weeks by request.
Please see more details at
https://zybooks.zendesk.com/hc/en-us/articles/360007439574-Does-zyBooks-offer-temporary-subscriptions-
in "How to request a temporary subscription" part.
They say "...To request a deferral, you will need to expand the last question and fill out the provided form..."
On the same page (at the bottom of the page) they say: "By the way, the first chapter is free, so you can immediately start reading and doing activities even before paying or requesting deferment. When in the chapter but unsubscribed, your activity will be recorded, but not visible to your instructor. After you subscribe, you will appear on that zyBook's roster, and activities you've already completed will become visible to your instructor. So you can get started learning right away. "

If you get any issues with ZyBook, email support@zybooks.com or go to [zyBooks help center](). If you drop the course, email support for full refund. zyBook is required; extensive work is done in this online learning system. Interactive learning systems are shown to improve student success, which we want for you.

Textbook Participation Activities, Challenge Activities, and zyLabs:

There will be required sections to read from the zyBooks textbook for each week. Each assigned reading in your textbook usually will contain one or more parts labeled "Participation Activities" and some parts labeled "Challenge Activities".

The **Participation Activities** (**PA**s) are like the reading in a textbook, but more effective and engaging. They give instant feedback and allow for multiple attempts. Everyone can get full points just by trying.

The **Challenge Activities** (**CA**s) require you to get the right answer, but you get unlimited attempts. After you submit each answer, the zyBook will give you feedback that is important to read. Do not be afraid to try things, especially with program fragments. Trying things is one of the best ways to learn what is really happening.

The **zyLabs in zyBook (LA**s): You will develop, test and submit programs. When you submit, the lab is auto-graded with immediate feedback on mistakes.

There will be **four types of assignments** in the course:
- PA assignments will consist of zyBooks participation activities from a specific Chapter. For example, PA1 assignment will consist of zyBooks participation activities from Chapter 1.

- CA assignments will contain zyBooks challenge activities. For example, CA1 assignment will consist of zyBooks challenge activities from Chapter 1.
- LA assignments will contain zyBooks labs. For example, LA1 assignment will consist of zyBooks labs from Chapter 1.
- There will be one or a few other assignments that are not from the ZyBook, e.g. the Intro Assignment.

ZyBook automatically keeps track of the activities that you do. Grades for the assignments will be determined based on ZyBook reports. You do not need to submit anything on Canvas for PA, CA, and LA assignments. Grades will be manually transferred to Canvas after the assignments' due dates.

Course Schedule:

Dates	Week's Chapters/Topics	Assignments and due dates
8/21-8/23	1: Introduction to Java	Intro Assignment PA1, CA1, LA1 are due on Tue 8/24
Last Day to Add a Class Without Instructor's Signature (8/22)		
8/26-8/30	2: Variables / Assignments	Intro Assignment PA2, CA2, LA2 are due on Tue 5/29
Last Day to Add a Class With Instructor's Signature (8/30)		
9/2-9/6	3: Characters, Strings, Random numbers, if-else branches	PA3, CA3, LA3 are due on 9/7
9/9-9/13	4: Switch statements, Character and String operations, Comparisons	PA4, CA4, LA4 are due on 9/14
Last Day to Cancel Registration without W – 100% refund (9/6)		
9/16-9/21	5: Loops	PA5, CA5, LA5 are due on Tue 9/21
9/23-9/27	6: Arrays	PA6, CA6, LA6 are due on Tue 9/28
9/30-10/4	7: User-Defined Methods	PA7, CA7, LA7 are due on Tue 10/5
10/7-10/11	**Midterm on 10/8**	**Midterm on 10/8**
10/14-10/18	8: Objects and Classes	PA8, CA8, LA8 are due on 10/19
Last Day to Withdraw From a Single Course with a W – no refund (10/17)		
10/21-10/25	9: Input / Output	PA9, CA9, LA9 are due on 10/26
10/28-11/1	10: Recursion	PA10, CA10, LA10 are due on 11/2

11/4-11/13	11: Inheritance	PA11, CA11, LA11 are due on 11/14
11/14-12/6	12: Searching and Sorting Algorithms	PA12, CA12, LA12 are due on 12/7 **[no grace period]**
11/25-11/29	Thanksgiving Holiday	
Last Day to Withdraw From the University - no refund (12/6)		
12/9-12/13	**Final Exam on December 9**	

Video

To assist your study, Dr. Inna Pivkina has kindly agreed to provide the video made for the classes.

How Your Grade Will Be Determined:

Textbook Participation activities (PA):	10%
Textbook Challenge activities (CA):	15%
Assignments (LAs and others):	30%
Midterm exam:	20%
Final exam:	25%

Based on the above evaluation scheme, the course grade will be computed using the following formula:
course grade =
(PA score, expressed as %) * 0.10 +
(CA score, expressed as %) * 0.15 +
(average Assignments score (LAs and others), expressed as %) * 0.30 +
(Midterm score, expressed as %) * 0.20 +
(Final exam score, expressed as %) * 0.25.

Score (in %) for PA and CA assignments will be computed as 100*(number of points earned in this category) divided by (max possible number of points in this category).

Grading Scale:

A+ (>=98%)   A (90-97.99%)   B+ (88-89.99)   B (80-87.99)   C+ (78-79.99)   C(70-77.99)

D+ (68-69.99)   D (60-67.99)   below 60 = F

Grades will be posted on Canvas after the first assignment is graded and you can check your grade there 24/7. Check your grades frequently. If you notice any missing or incorrect grades, notify the instructor immediately.

Assignments and due dates:

Assignments will be available on Canvas. It is your responsibility to check the course web site frequently to make sure you do not miss any assignments.

Every assignment will have a due date and time. Except for the last two topics (Chapter 11 and 12), for each week (from Monday till Friday), all assignments of the week will be due by 11:59pm (midnight) on Saturday. Specific assignments' due dates are posted in the Schedule above. Please do assignments early if at all possible to keep up with the fast pace of the course. All assignments, except for last week assignments, will have automatic 1 week grace period. That is, if something happened (e.g., you got sick) and you were not able to finish assignment by the due date and time, it will be regraded one week later. Please use this grace period only in exceptional circumstances (e.g., if you get sick). Please keep up with the course fast pace and finish all the assignments on time. No assignment will be accepted more than 1 week after its due date. No assignment will be accepted after **Monday, 12/9**.

Exams:

There will be one midterm exam and one final exam. Midterm exam will be given on October 8th. The final exam will be given on December 9^{thh}. Exams will be available on Canvas on the mentioned dates; you will be able to choose the time of the day to take the exams. Exams will require Respondus LockDown Browser + Webcam. More information on the Respondus LockDown Browser can be found here: https://inside.nmsu.edu/learning/respondus-lockdown-browser/

There will not be any make-up exams unless there is a very good reason to have them (e.g. illness). If you can not take an exam on the scheduled date for a very good reason, you need to notify me **prior** to the exam or you will earn a zero for that exam.

Questions:

Ask! It's how one learns. Very normal to need help programming. Askers are helping teachers; we thank you! Don't be intimidated by others' prior knowledge or quick learning; everyone is different. Try answering others' questions. Mistakes are normal in programming, don't be shy. We truly want you to learn.

Additional help resources (don't hesitate -- getting help in CS is very normal!):

Students often ask to see more fully-worked examples, so ZyBook has "Coding Practice Problems" chapter with lab activities similar to many you'll be doing each week but with hints and solutions available to you too -- take advantage of them!

Also, a number of additional Java resources are posted on Canvas on "Additional Java resources" page.

Technical Support:

The ICT Technology Support Services are equipped to deal with all of your information technology (IT) and telecommunications needs at NMSU. The ICT Customer Service Center hours of operation are from 8:00 am until 5:00 pm Monday through Friday Mountain Time. Please feel free to contact them at (575) 646-1840 or via e-mail at help@nmsu.edu.
You can also go to the ICT Student Technology & Planning web page for information on equipment rental, ICT Help desk, software, and so on.

For additional information on Canvas, use "Student Help" link on the left panel of the course Canvas web page.

Important Dates:

Students may add courses through August 22, 2024 without instructor permission and through August 30, 2024 with instructor permission. Students may withdraw from classes and receive a refund until September 6, 2024. The deadline for withdrawing from a course with a "W" (no refund) is October 17, 2024. Students may withdraw from the university (withdraw from all classes) through December 6, 2024.

Important Dates (including mini-semester dates): https://records.nmsu.edu/students/important-dates.html

Netiquette:

Web Netiquette Expectations

1. Always be polite and respectful in online correspondences.
2. Do not attack. Listen gently to others' views.
3. Pay attention to your word choice. Be sensitive to others.
4. Use spell check.
5. Avoid using all caps. (All caps is considered to be shouting.)

Academic Misconduct:

It is expected that students follow the code of conduct stated in the Student Code of Conduct available in the Student Handbook at http://studenthandbook.nmsu.edu/

Academic misconduct is explained here:
https://studentlife.nmsu.edu/academic_integrity/academic_misconduct.html

Both intentional and unintentional **plagiarism is prohibited**. Plagiarism is using another person's work without acknowledgment, making it appear to be one's own. Intentional and unintentional instances of plagiarism are considered instances of academic misconduct and are subject to disciplinary action such as failure on the assignment, failure of the course or dismissal from the university. The NMSU Library has more information and help on how to avoid plagiarism at https://nmsu.libguides.com/plagiarism.
Unless explicitly stated by the instructor, you are assumed to perform the assigned work by yourself, without any external collaboration. Cheating in all forms is prohibited. Minimum penalty for plagiarism and/or cheating on an assignment will be grade 0 for the assignment. Repeated plagiarism and/or cheating will result in failing the course. Note that a person copying an assignment is guilty of a violation of academic conduct, as is the person from whom the assignment was copied.

Academic misconduct is governed by ARP Policy 5.10. (https://arp.nmsu.edu/5-10/)

To avoid cheating:

- Don't copy someone else's work.
- Don't allow someone else to copy your work.
- Don't give a printed, handwritten, or electronic copy of your work to another person.
- Don't get a printed, handwritten, or electronic copy of another person's work.

- Don't share the details of your homework solutions or programming assignments.
- Don't have another person's USB drive in your possession.
- Don't sit and work with another person at the same computer in the lab unless explicitly stated by the instructor (e.g., when using pair programming).
- Don't allow someone else (a friend, tutor, lab assistant, etc.) to help you so much that you can't understand and explain the finished work.
- Don't copy code from web sites or books. There are two exceptions: 1) you may use code presented in the textbook for this class. 2) you may use programs or other materials posted on the course Canvas web site.

Incomplete grades:

Under university policy, incompletes may be given only if a student has a passing grade at mid-semester (the last day to withdraw from a class) and is precluded from successful completion of the second half of the course by a documented illness, documented death, family crisis or other similar circumstances beyond the student's control. Visit Administrative Rules and Procedures (ARP) 4.55 Part 2, Letter D for more information.

S/U grading:

Students enrolling under the **S/U grading option** must elect the grading option prior to the last day to add a class. See APR 4.55 Part 2 for more information. All work in the class will be graded in a manner identical to that for students choosing the letter grade option. At the end of the semester, your final letter grade in the course will be used to assign either a S or an U. You must achieve a minimum grade of C in order to receive a grade of S.

Discrimination and Disability Accommodation:

Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act Amendments Act (ADAAA) covers issues relating to disability and accommodations. If a student has questions or needs an accommodation in the classroom (all medical information is treated confidentially), contact:

> **Main Campus**
> Disability Access Services
> Corbett Center Student Union, Room 204
> Aaron Salas, Director
> Phone: (575) 646-6840
> E-mail: das@nmsu.edu
> Website: Disability Access Services (nmsu.edu)

New Mexico State University, in compliance with applicable laws and in furtherance of its commitment to fostering an environment that welcomes and embraces diversity, does not discriminate on the basis of age, ancestry, color, disability, gender identity, genetic information, national origin, race, religion, retaliation, serious medical condition, sex (including pregnancy), sexual orientation, spousal affiliation, or protected veteran status in its programs and activities, including employment, admissions, and educational programs and activities. Inquiries may be directed to the Laura Castille, Executive Director, Title IX and ADA/Section 504 Coordinator, Office of Institutional Equity, P.O. Box 30001, E. 1130 University Avenue, Las Cruces, NM 88003; 575.646.3635; 575-646-7802 (TTY); equity@nmsu.edu. **Title IX prohibits sex harassment, sexual**

assault, intimate partner violence, stalking and retaliation. For more information on discrimination or Title IX, or to file a complaint contact:

      Office of Institutional Equity (OIE)
      O'Loughlin House, 1130 University Avenue
      Phone: (575) 646-3635
      E-mail: **equity@nmsu.edu**
      Website: **http://equity.nmsu.edu/**

Diversity and Inclusion:

We are committed to fostering a learning environment for this course that supports a diversity of thoughts, perspectives and experiences, and respects your identities (including race, ethnicity, heritage, gender, sex, class, sexuality, religion, ability, age, educational background, etc.). Our goal is to create a diverse and inclusive learning environment where all students feel comfortable and can thrive.

Our instructional staff will make a concerted effort to be welcoming and inclusive to the wide diversity of students in this course. If there is a way we can make you feel more included please let one of the course staff know, either in person, via email/discussion board, or even in a note under the door. Our learning about diverse perspectives and identities is an ongoing process, and we welcome your perspectives and input.

We also expect that you, as a student in this course, will honor and respect your classmates. Please understand that others' backgrounds, perspectives and experiences may be different from your own, and help us build an environment where everyone is respected and feels comfortable.

If you experience any sort of harassment or discrimination, please contact the instructor as soon as possible.

Basic Needs/Food Insecurities:

If you are experiencing any basic needs insecurities (food, housing, financial resources), there are resources available on campus to help, including Aggie Cupboard. Please visit https://aggiecupboard.nmsu.edu/ for more information.

Other NMSU Resources:

NMSU Police Department	(575) 646-3311
Aggie Health & Wellness Center	(575) 646-1512
NMSU Counseling Center	(575) 646-1512
Financial Aid & Scholarship Services	(575) 646-4105
Student Success Center	(575) 646-3136
ICT Student Technology	(575) 646-4857
Math Success Center	(575) 646-5743

Black Programs	(575) 646-4208
LGBT+ Programs	(575) 646-7031
Military & Veterans Programs	(575) 646-4524
American Indian Program	(575) 646-4207
Chicano Programs	(575) 646-4206
For Any On-campus Emergencies:	911

A list of resources for current students is available at https://catalogs.nmsu.edu/nmsu/student-resources/.