



**NORTHWEST**  
MISSOURI STATE UNIVERSITY  
MARYVILLE | KANSAS CITY

**School of Computer Science and Information Systems**

**44542-01/02      Object Oriented Programming      3 credit hours**

**Spring 2022**

<b>Instructor:</b> Dr. Chandra Mouli Kotteti		<b>Email:</b> chandra@nwmissouri.edu	
<b>Office Hours:</b>	Monday	09:00am - 12:00pm	<b>Office:</b> CH 2145
	Wednesday		
	Tuesday	08:30am - 9:30am	<b>Credit Hours:</b> 3
	and by appointment		<b>Phone:</b> 660-562-1764

**Prerequisites:** Graduate standing and an undergraduate course in data structures with a grade of C or better; no previous experience with object-oriented programming is necessary.

**Textbook and supplementary materials:** No textbook is required; all the materials will be posted in Northwest Online.

**Course description:** Provides fast-paced coverage of object-oriented programming and data structures. Students will gain extensive programming experience.

**Learning Outcomes:**

<b>Student learning outcomes</b>	<b>Assessment Methods</b>
1. An ability to use current techniques, skills, and tools necessary for computing practice.	Scores on quizzes, class participation, weekly labs and written exams.
2. An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.	Scores on weekly labs and written exams.

In addition, after successfully completing this course student will be able to.

- Apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.
- Analyze a problem and identify and define the computing requirements appropriate to its solution.
- Design, implement, test, and debug Java programs that incorporate:
  - objects and classes
  - control structures, exceptions, enumerated types, and input and output
  - inheritance, polymorphism, interfaces, abstract classes
  - data structures, including use and implementation of arrays, and ArrayLists

**Instructional methods:** Instructional methods may include lectures, practical demonstrations, classroom practice, class projects, individual projects, and interactive question and answer sessions.

**Supplementary Materials:** Students must have access to the following at every course meeting:

- A bound notebook with pencil/pen for taking notes and submitting written content (e.g., pop quizzes.)
- Their campus-assigned laptop, in working order, with all required software.
- Free Git distributed version control system.
- Free TortoiseGit for integrating Git with Windows File Explorer.
- Free PuTTY for creating SSH public/private key pairs.
- Free GitHub and/or BitBucket educational accounts.
- Free GitHub Education Pack (as needed).
- Free Chocolatey package manager for Windows.
- Free Notepad++ text editor.
- Free NetBeans, Eclipse, IntelliJ, Visual Studio Code or other IDE as directed by the instructor.

**Graded course requirements:**

Category	Percent
~ 2 exams, 1 final exam, [6-8] quizzes	55%
Projects, labs, engagements, attendance	45%
<b>Total</b>	<b>100%</b>

If students have any questions/concerns regarding the grades for their course objectives such as assignments, quizzes, exams, etc., there will be a week time given after the grades are posted to ask the faculty about their grades and request re-evaluation. After the allotted time passed, no further requests about their grades are considered.

**Grading scale:**

Graduate Credit (44-542)	
Percent Range	Grade
90-100%	A
$\geq 80\%$ and $< 90\%$	B
$\geq 70\%$ and $< 80\%$	C
$\geq 60\%$ and $< 70\%$	D
below 60%	F

**Tentative Course outline:**

Week	Day	Topics
1	R	Course orientation, Introduction to Java Java and NetBeans installation

Week	Day	Topics
2	T	Objects and Classes
	R	Objects and Classes
	R Lab	Lab 01: Objects lab
3	T	Constructors
	R	Primitive types, Scanner
	R Lab	Lab 02: Classes lab
4	T	Conditions
	R	Selections
	R Lab	Lab 03: Conditions & Selections Lab
5	T	Repetition
	R	Repetition
	R Lab	Lab 04: Control Structures lab
6	T	File input and output
	R	Written Exam 1
	R Lab	No Lab
7	T	Arrays
	R	Array Lists
	R Lab	Lab 05: Arrays, Array List and Scanner lab
8	T	Debugging
	R	Testing
	R Lab	Lab 06: JUnit lab
9	<b>Spring break</b>	
10	T	Annotations, Main method, UML
	R	Enumerated Types
	R Lab	Lab 07: Enumerated Types
11	T	Inheritance
	R	Polymorphism
	R Lab	Lab 08: Inheritance and Polymorphism
12	T	Abstract classes
	R	Abstract classes
	R Lab	No Lab
13	T	Interfaces
	R	Default Methods
	R Lab	Lab 09: Abstract Classes and Interfaces
14	T	Casting, Exceptions
	R	Written Exam 2
	R Lab	No Lab
15	T	Sorting

Week	Day	Topics	
	R	Equals and Hashcode	
	R Lab	Lab 10: Casting and Exceptions	
16	T	Recursion	
	R	Recursion	
	R Lab	No lab	
<b>Final Comprehensive Exam</b>		Thursday, May 05	7:30am – 9:30am
		Monday, May 02	2:00pm – 4:00pm

All labs are take-home assignments. No separate session is there for lab activity. However, students may use weekly help session to complete lab assignments.

**Note:** Course schedule is subject to change with instructor notification and students will be responsible for abiding by these changes.

**Academic Calendar:** <http://www.nwmissouri.edu/academics/calendar.htm>

**Final Exam Schedule:** <http://www.nwmissouri.edu/registrar/finals.htm>

**Attendance:** Students are responsible for interacting with the Northwest Online course site on a regular basis and meeting all deadlines. <https://www.nwmissouri.edu/policies/academics/Attendance.pdf>

**Quizzes and In-class Activities:** There may sometimes be short quizzes or in class activities in class or in Zoom, usually worth two points or less. These quizzes or activities will not always be announced in advance. They will usually be given at any point of the class time. If you arrive late or miss a quiz or an activity due to an unexcused absence, you will receive a grade of zero on the quiz or activity. Different sections may have quizzes or activities on different days.

**Arriving late for class:** Students are expected to be on time for each class period either Zoom or in-person. Attendance will be taken exactly when the class starts. Late arrivals get partial credit for that class' attendance points.

**Exam policies:** Dates for all exams will appear on the course website under the weekly modules. If you must miss an exam, it is your responsibility to notify the instructor prior to the exam.

Make-ups for written exams will be given only for valid and verifiable reasons. Valid reasons include illness, family emergencies, and university-sponsored trips. Written documentation with suitable verification must be supplied before a make-up will be allowed.

All exams are closed book, closed notes, unless explicitly noted in writing by the instructor.

No calculators, cell phones, or other electronic devices can be used during exams or quizzes unless explicitly allowed by the instructor.

**Attendance:** Students are expected to attend all classes as specified in the course syllabi for each course. Class participation points may be awarded to students. It is the responsibility of the student to promptly notify his or her instructor when unable to attend class. Students receiving veterans' benefits should consult with the coordinator of Veterans' Affairs for the additional

attendance requirements. Excused absences are not counted against student's attendance points. Please refer to the university policy on attendance at <https://www.nwmissouri.edu/policies/academics/Attendance.pdf>

**Final exams:** If an emergency occurs that prevents the administration of a course scheduled final examination, the final course grades will be calculated based on the work in the course completed to that point in time and the faculty member's considered judgment. Final exams will not be rescheduled, and a grade of "I" will not be given as a result of an institutional cancellation of a final examination. This final exam policy does not apply to online courses. Final exam schedule can be available at <https://www.nwmissouri.edu/registrar/finals.htm>

**Course Communication Policy:** In this course, we will use Canvas communication system or email the instructor at [chandra@nwmissouri.edu](mailto:chandra@nwmissouri.edu), and course staff.

**Professionalism:** Students are expected to behave in a professional manner in their dealings with each other, the teaching assistant, and the instructor. E-mails should be politely written, use proper grammar, and follow the rules of capitalization.

**Administrative drop:** An instructor may request the Office of the Registrar delete a student from a course roster if the student has not met the prerequisite for the course as stated in the catalog, or as a result of non-attendance in the course.

**Academic Administrative withdrawal:** When it is in the best interest of Northwest Missouri State University for a student to withdraw, a student will be given a W, put on administrative hold, and given notice that they are about to be withdrawn. This action will result in removal of all credits associated with courses that have yet to be completed in the semester in question and the student will be administratively withdrawn from the University. An Administrative Withdrawal does not affect the student's grade point average. Please refer to Northwest Missouri State University's Academic Administrative Withdrawal Policy at:

<https://www.nwmissouri.edu/policies/academics/Adding-Dropping-Withdrawals.pdf>

**University communications:** Students are expected to use their Northwest student email account for any electronic correspondence within the university. Students are also strongly advised to check their email and CatPAWS accounts on a regular basis.

**Academic integrity policy:** The students, faculty, and staff at Northwest endeavor to sustain an environment that values honesty in academic work, that acknowledges the authorized aid provided by and intellectual contributions of others, and that enables equitable student evaluation. Please refer to Northwest Missouri State University's Academic Integrity Policy at <http://www.nwmissouri.edu/policies/academics/Academic-Integrity.pdf>

**Learning or Living Accommodations Request Process:** Northwest Missouri State University complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 [ADA] and the ADA Amendments Act of 2008 [ADAAA]. If a student has a documented disability that qualifies under the ADA/ADAAA and requests accommodations, they should review the Accessibility and Accommodations webpage at <https://www.nwmissouri.edu/titleixequity/accessibility/index.htm> for guidance, including the accommodations application and supporting documentation requirements. Contact

ada@nwmissouri.edu or 660.562.1873 for further assistance. For the university policy on disability accommodation refer to <http://www.nwmissouri.edu/policies/student/Disability-Accommodation.pdf>

**Non-discrimination and anti-harassment policy:** Northwest Missouri State University is committed to maintaining an environment for all faculty, staff, students, and third parties that is free of illegal discrimination and harassment. Please refer to the Non-Discrimination and Anti-Harassment Policy at <https://www.nwmissouri.edu/TitleIXEquity/titlevi/>

**Family Education Rights and Privacy Act (FERPA) policy:** Family Educational Rights and Privacy Act of 1974, as amended (commonly known as the Buckley Amendment), is a federal law which provides that colleges and universities will maintain the confidentiality of student education records. Please refer to the Family Educational Rights and Privacy Act (FERPA) Policy at <http://www.nwmissouri.edu/policies/academics/Family-Educational-Rights-and-Privacy-Act.pdf>

**COVID-19 Classroom Mitigation:** Northwest is committed to the health and safety of the University community. Face coverings are required in all instructional spaces (classrooms/labs/studios) for all students and faculty until campus vaccination and infection data allow the university to direct otherwise. Should a non-vaccinated faculty member or student make close contact with a symptomatic, COVID-19 positive student, they will be asked to quarantine and not enter University facilities (unless otherwise instructed by University Wellness) or attend class until that quarantine period is over. Faculty will provide means for students missing class because of COVID-19 quarantine or isolation to keep up with course work, but students must communicate with faculty and adhere to the quarantine/isolation start and end dates. All other illnesses or absences for personal reasons will be handled as they were before the pandemic. Northwest further asks all students and faculty to practice good hygiene and not enter University facilities or attend face-to-face classes when they feel sick. Students who do not comply with these requirements will be subject to standard disciplinary procedures according to the Northwest Student Code of Conduct (i.e. verbal and written warnings followed by a hearing, if necessary). We thank you for doing your part to maintain our learning environment and to protect the health of fellow Bearcats.

**Change in Course Delivery:** It is our goal as a University to continue all courses as planned on campus. However, due to unforeseeable impacts of COVID-19 and its variants, faculty and students must be prepared to adjust course formats or mitigation strategies anytime during the semester, either permanently or for a short term. The University and faculty will communicate with students in the event such action is deemed necessary to preserve the health and safety of students and employees.

**Quarantine checklist:** YOUR to do List:

- Call 911 if you experience difficulty breathing or a change in your level of consciousness.
- Contact Wellness Services at 660.215.8573 with questions. You may text or call between 7 a.m. and 7 p.m. If you have an emergency outside of these hours, contact UPD at 660.562.1254.
- Notify all of your instructors of your absence and predicted date of return. They will assist you in your coursework by providing information on their strategies for distance learning. Please ensure that you have your laptop, notes, textbooks, and other necessary course materials when

you enter into quarantine. Lack of engagement in your coursework during quarantine will likely result in lower grades or failure. When communicating with your instructors, you may provide them with the reason you cannot be in the classroom, but you are not required to do so.

Stay away from all people.

You must talk with a Wellness Services staff member every few days, either by phone, text, Zoom or Skype. If you develop COVID-19 symptoms, you MUST notify Wellness Services immediately. It is important for your wellbeing that Northwest maintains contact with you. We want to know you are doing okay, answer any questions you have, check for symptoms and assist with your needs.

**Behavior and Wellness:** Northwest focuses on student success—every student, every day.

The Wellness Center, 660.562.1348, offers free counseling for students coping with depression, anxiety, alcohol or drug misuse, relationships, and other emotional, social, and academic stressors. In addition, faculty, staff, and students who are concerned with student wellbeing can report their concerns, including anonymously, to the Behavioral Intervention Team, so that the student can be offered relevant support, at this link: [Concerning Behavior Reporting Form](#). If you are concerned about the immediate safety of a student, please call the University Police, who have specialized training in intervention, at 660.562.1254.

**Final grades rounding:** I will, in certain circumstances, “bump up” your grade to the next level.

These are the circumstances:

1. I usually prefer to round up to the next number using two decimal places, i.e., 79.68 rounds up to 80, but 59.46 rounds down to 59.
2. If your final grade number rounds to (59, 69, 79, 89), I will consider “bumping up” your grade only if ALL of the following circumstances are met:
  - a. You have not lost ANY attendance points.
  - b. You have completed ANY and ALL projects / assignments. (projects and assignments are, but not limited to quizzes, exams, critiques, in class projects, etc.).
  - c. You present your “case” to me as a polite request, rather than a demand.
  - d. You must meet me face-to-face if you have any concern regarding your final grade. Students travelling immediately after final exam make sure you can meet me in person.

These are absolutely and positively the only circumstances in which I will adjust a grade! I will NOT raise a grade by more than one percent! This is my policy, and I am sticking to it. If you email me regarding this but have not met the criteria above, I will ignore your message. Final grades are usually due to the registrar by 10am on the Monday after final exams. After this date and time, I will only change a grade due to a mistake on my part.

**Disclaimer:** Course schedule is subject to change, and you will be responsible for abiding by any such changes. Your instructor will notify you of any changes.