Metropolitan State University
ICS 432 - 01: Distributed and Cloud Computing
Fall 2021

4 Credits
Delivery: Remote Teaching No In-person (RMTN)
Synchronous Lectures on Saturdays, 9:00 AM – 12:20 PM
August 21– December 11, 2021
Link for Zoom lectures: https://minnstate.zoom.us/j/93348590067

Course Syllabus

Instructor and Department Information

Instructor:	Name:	Thanaa M. Ghanem
	Email:	thanaa.ghanem@metrostate.edu
	Phone:	651-793-1474
	Office:	St. Paul Campus – Founders Hall – 217
Office Hours:	Mondays	9:30 AM – 2:30 PM on Zoom
	Fridays	9:30 AM – 2:00 PM on Zoom
	Zoom link	https://minnstate.zoom.us/j/94971304519
	By Appointment	Appointments are encouraged to prevent conflicts, even during office hours. In-person appointments can be scheduled by email.
	By email	I am readily available by email.
Department Information	Name:	Computer Science and Cybersecurity
	Mailing address:	Department of Computer Science and Cybersecurity Metropolitan State University 700 7th street East Saint Paul, MN, 55106-5000
	Phone:	651-793-1683 (Katie Wilson)

About the Course

Course Information:	Title:	Distributed and Cloud Computing
	Number:	ICS 432
	Section:	01
	Delivery:	Remote Teaching No In-person (RMTN) Weekly Synchronous Lectures on Zoom
	Term:	Fall 2021
	Credits:	4

Class Sessions:	Day:	Saturdays
	Time:	9:00 AM - 12:20 PM
	Location:	Online – Synchronous https://minnstate.zoom.us/j/93348590067 **Meeting ID:** 933 4859 0067 **Passcode:** 420536
	Course dates:	August 21st – December 11th,2021 No class on September 4th because of Labor Day. No class on November 27th because of Thanks Giving Break
Important Dates:	Last date to drop with full refund: **Friday, August 27 at 11:59 PM.** Last date to withdraw: **Monday, November 22 at 11:59 PM.**	

Course Description

This course covers the fundamental concepts in the design and implementation of distributed computer systems, and its major branch of Cloud Computing. First, the course gives an overview of the basic concepts in the field of distributed computing, including distributed operating systems, distributed programming models, and design principles of computer clusters. Cloud computing is a major branch of distributed computing in which computing is delivered as a service over a network, whereby resources are rented, rather than owned, by an end user as a utility. The course then covers Cloud Computing with in-depth study of its enabling technologies and main building blocks. Students will gain hands-on experience solving relevant problems through projects utilizing public cloud infrastructures including Amazon Web Services (AWS), Google Cloud Platform (GCP), and Microsoft Azure. Topics include distributed system models and enabling technologies, computer clusters for scalable computing, virtual machines and virtualization of clusters and datacenters, design of cloud computing platforms, cloud programming and software environments (Workflow Systems, MapReduce, Spark, Google App Engine, Amazon AWS, Microsoft Azure, and emerging cloud software stacks), grid computing and resource management, and data-intensive distributed computing.

Prerequisites

ICS 311 – Database Management Systems.

Course Learning Outcomes

A student will know, understand, or be able to demonstrate the following:

1) recall and explain the fundamental concepts of distributed computing including distributed operating systems, distributed file systems, and design principles of computer clusters.
2) identify and compare virtualization structures and tools, CPU, memory, and I/O virtualization techniques
3) explain and give examples of the motivations behind cloud computing, the evolution of the paradigm, its applicability, benefits, as well as current and future challenges.
4) define and illustrate the basic principles in data center design; cloud management techniques and cloud software deployment considerations.
5) experiment and differentiate cloud storage technologies and relevant distributed file systems, NoSQL databases and object Storage.
6) use and contrast different cloud programming models including MapReduce and Spark.
7) experiment and compare the programming support of major cloud service providers including Google Cloud Platform (GCP), Amazon Web Services (AWS), and Microsoft Azure.

Text and Supplemental Reading

There is no required textbook for this course.

Reading materials will be assigned every week from various online sources including, but not limited to, the following list of books. Note that each book is assigned a short name that is listed next to the book titles (e.g., MCC) and this short name is used to refer to the book in other places in this course syllabus and during the course.

1- Mastering Cloud Computing (MCC)
   a. Authors: Rajkumar Buyya, Christian Vecchiola, S. Thamarai Selvi
   b. Metro State Library provides unlimited access to this book at this link. Log in using your StarID.
2- Cloud Computing Theory and Practice (CCTP)
   a. Authors: Dan C. Marinescu
   b. Metro State Library provides unlimited access to this book at this link. Log in using your StarID.
3- CompTiA Cloud Essentials+ Study Guide (CESG)
   a. Authors: Cory Fuchs and Quentin Docter.
   b. Metro State Library provides unlimited access to this book at this link. Log in using your StarID.
4- AWS Certified Developer Official Study Guide (AWSCD)
   a. Authors: Nick Alteen, Jennifer Fisher, Casey Gerena, Wes Gruver, Asim Jalis, Heiwad Osman, Marife Pagan, Santosh Patlolla, and Michael Roth
   b. Metro State Library provides unlimited access to this book at this link. Log in using your StarID.
5- Cloud Computing: Concepts, Technology & Architecture (CCC)
   a. Authors: Thomas Erl, Ricardo Puttini, and Zaigham Mahmood
   b. Free online Chapter 3 from this book are available at this link.
   c. Metro State Library provides access Chapter 5 from this book through E-Reserves at this link. Look for ICS 432 in Fall 2021 (password: cloud).
6- AWS Certified Developer - Associate Guide by Packt (AWSCD-Packt)
   a. Authors: Vipul Tankariya and Bhavin Parmar
   b. Metro State Library provides unlimited access to this book at this link. Log in using your StarID.
7- Cloud computing for Science and Engineering (CCSE)
   a. Authors: Ian Foster and Dennis B. Gannon
8- Operating Systems Concepts (OSC), 9th Edition.
   a. Authors: Avi Silberschatz, Peter Baer Galvin, Greg Gagne
9- Distributed Systems (DS), 3rd Edition (version 3.03).
   a. Authors: M. van Steen and A.S. Tanenbaum
   b. Use this link to get a digital copy of this book for free.
10- Virtualization Essentials (VE), 2nd Edition.
   a. Authors: Matthew Portnoy.
   b. Metro State Library provides unlimited access to this book at this link. Log in using your StarID.

Modules from AWS Academy and Google Cloud Platform (GCP)

This course will cover modules from the AWS Academy Cloud Foundations course (https://aws.amazon.com/training/awsacademy/?nc2=sb_ep_aca) which is an introductory course provides a detailed overview of cloud concepts, AWS core services, security, architecture, pricing, and support. According to AWS Academy, this course prepares students to pursue an AWS Certified Cloud Practitioner certification. The AWS course also provides students with a free lab environment to have hand-on experience with AWS cloud.

This course will also cover some modules from Google Cloud Computing Foundations: Infrastructure in Google Cloud (https://run.qwiklabs.com/course_templates/154) which is a FREE course designed by Google for individuals with little to no background or experience in cloud computing. They provide a detailed overview of concepts covering cloud basics, big data, and machine learning, and where and how Google Cloud fits in.

Learning Methods

This course uses a variety of assignments to measure student outcomes. This is an online – synchronous course and student learning will be enabled by weekly online lectures, assigned reading materials, quizzes, individual homework assignments, weekly hands-on labs, and exams.

Instructional materials and activities are delivered through D2L and other web-based resources.

Attendance of all class and lab sessions is expected.

The following table depicts major course activities:

Reading	Weekly reading will be assigned from various online sources.
Lectures	Attendance will not be taken, but almost all class sessions will include graded hands-on labs and graded quizzes.
Labs	There are twelve (12) labs and the lab with the lowest grade will be dropped. You must attend the lab session to earn credit for the lab assignment. Lab submission instructions and due date are published with the lab.
Quizzes	There are twelve (12) quizzes and the quiz with the lowest grade will be dropped. The lowest quiz grade will be dropped. Each quiz is ~15-20 minutes and the quizzes will be conducted online on D2L during the class session.
Homework Assignments	There will be four (4) homework assignments that may include both essay questions and programming projects. All homework assignments are to be done individually.
Final Exam	There is one final comprehensive exam in the last class session on December, 11, 2021.

Deliverables and Grading

Grading Criterion

Your grade in the course will be based on points allocated to different learning activities as indicated by the table below:

Category	Number of Items	Points Each	Total Points
Homework Assignments	4	variable	215
Quizzes	Best 11 of 12	10	110
Labs	Best 11 of 12	25	275
Final exam	1	200	200
			800

Grade Scale

Your letter grade will be determined based on the percentage of possible points that you earn during the semester. The following table relates the percentage to a letter grade:

Percentage	Grade	Percentage	Grade	Percentage	Grade	Percentage	Grade
93% – 100%	A	87% – 89.9%	B+	77% – 79.9%	C+	60% – 69.9%	D
90% – 92.9%	A-	83% – 86.9%	B	73% – 76.9%	C	Below 60	F
		80% – 82.9%	B-	70% – 72.9%	C-		

If you have selected the S/N grading option, then to receive a satisfactory rating (S) you must earn at least 70% of the possible points. If you wish to elect S/N grading, you must inform the registrar before the second class meeting unless otherwise announced by the University due to COVID-19 pandemic. Bear in mind that you must earn a C- or better (or an S) in order for a course to fulfill a requirement or elective in your major.

Schedule

Note: The instructor reserves the rights to make adjustments to this Syllabus and Schedule as deemed necessary.

Week	Date	Topics	Lab#	Quiz#	Homework
1	8/21	-Syllabus -Introduction to cloud computing		0	*Setup your AWS Educate/Academy accounts. *Setup your GCP and Qwiklabs accounts.
	8/27	Last date to drop class with refund.			
2	8/28	-Getting started with AWS & GCP hands-on	1	1	
	9/4	No Class – Labor Day.			
3	9/11	-Compute in the cloud	2	2	Homework 1 out
4	9/18	-Cloud storage	3	3	
5	9/25	-Networking -Auto scaling and monitoring	4	4	
6	10/2	-Operating systems concepts -Distributed Systems concepts	5	5	Homework 1 due Homework 2 out
7	10/9	-Cloud enabling technologies -Virtualization	6	6	
8	10/16	-Introduction to big data and Hadoop -Map-reduce	7	7	
9	10/23	-Map-reduce in the cloud	8	8	Homework 2 due Homework 3 out
10	10/30	-NoSQL Systems	9	9	
11	11/6	-Web services & APIs	10	10	
12	11/13	-Serverless compute	11	11	Homework 3 due Homework 4 out
13	11/20	Containerization and docker	12	12	
	11/22	Last day to withdraw (no refund).			
	11/27	No Class. Thanksgiving Break			
14	12/4	Catch up & review			Homework 4 due
15	12/11	Final Exam			

Homework Assignments

- There will be four (4) Homework Assignments.
- Assignments may involve writing code (in Python) and/or implementing projects using AWS and GCP cloud services.
- Each homework assignment will include submission instructions and due date.
- Assignments are to be uploaded to the designated D2L folder by 11:59 PM of the due date.
- Assignments are to be done **individually** → subject to Academic Integrity Policy
- Assignments are subject to Late Work Policy
- **I will select a random number of students each week to discuss their homework submission. The goal of this discussion is to make sure that you understand the work you submitted. Based on the discussion, your homework grade may be affected either positively or negatively.**

Course Policies

Course Administration

- Email is my preferred method of contact and will result in faster responses to you. Remember to use your Metro State email account to avoid your message going to the spam folder.
- All course materials (lecture slides, assignments, announcements) will be posted on D2L.
- Class notices and announcements will go only to your Metro State email account.
- You can send an email to the instructor with any question or concern regarding the course. The instructor will get back to you within 48-hours in week days.

Attendance

- For all ICS courses, participation must occur during the first week of class or the student is dropped from the course.
- You are expected to attend all the regularly scheduled online synchronous lectures, labs, and quizzes.
- In this course you will be practicing working on the cloud. I strongly recommend that you attend all synchronous class meetings and work on the lab during the class session so you can ask questions.
- Federal Financial Aid regulations require that the University track ongoing attendance. I will keep a record of your class participation based on attending the weekly class meetings and completing the weekly labs and quizzes.
- Quizzes and exams will take place during the regularly scheduled class meeting time.

Late Policy for Assignments

Weekly labs

- In order to earn credit, reports for weekly labs must be submitted by the due date listed on the lab handout. No makeup activities will be offered
- Each student is granted ONE LAB late submission (up to three days) without penalty.
- After the first late submission, any other submission will incur a 10% per day penalty for up to three days.
- Any submission that is more than three days late will receive a grade of ZERO.

Quizzes and exams

- I strongly believe that all students should take the quizzes and exams at the same time. This helps to ensure that all students are tested and graded in a uniform manner.
- All quizzes and the final exam will take place during regularly scheduled class times.
- No makeup tests will be offered.

Homework assignments

- Due dates are specified on each assignment's handout. All assignments are due before 11:59 PM of the assigned due date.
- Each homework assignment will include submission instructions. Assignment reports are to be submitted to the designated D2L folder. For some assignments, I will check your implementation on your account on the cloud.
- Each student is granted ONE HOMEOWRK late submission without penalty. The submission should not be more than three days late.
- After the first late submission, there is a late submission penalty of 10% per day for up to three days.
- Any submission that is more than three days late will receive a grade of ZERO.
- Late work may be granted with an approved absence or pre-authorized excuse. Please note that authorized excuses may require you to submit an official documentation that explains the reason and duration of the event. (e.g., accommodation letter from the Center for Accessibility Resources or a doctor's note for illness).
- No work will be accepted after the last scheduled class period.
- **DO NOT MISS CLASS IN ORDER TO WORK ON AN ASSIGNMENT**. This can only make you fall further behind.

Incompletes for Course

From time to time, I am asked to consider assigning a grade of incomplete. A grade of incomplete may be considered if the person requesting has successfully completed at least two thirds of the class and is a student in good standing in the class. "Good standing" means that the requester is earning a minimum of a B grade and has attended class regularly.

Requests must be made at least 7 days prior to the last day of class (i.e., by December 3, 2021).

I reserve the right to say no to any request for an incomplete without justifying my position.

Academic Integrity Policy

Academic integrity is a fundamental element of the learning process. Only by assessing your own original work can I determine whether you've learned and met the educational goals I have developed for you in this course. For that reason, we take academic integrity very seriously in our learning community.

The University does not accept knowingly copying the work of others without attribution (plagiarism), or colluding with other students to share answers unless permitted by the instructor (e.g. group project). At my discretion, the consequence of these activities may include failure for the assignment. You should be aware that the university subscribes to plagiarism detection software, and that your papers may be selected for plagiarism checking. In instances of plagiarism or other forms of academic dishonesty, instructors may impose academic sanctions. Allegations of plagiarism or other forms of academic dishonesty are also subject to investigation and additional conduct sanctions under the Student Academic Integrity Policy #2190, and Procedure #219: Student Academic Integrity. It is your responsibility as a student to read and understand Metropolitan State's *Academic Integrity Policy and Procedures*,

Plagiarism is defined as the act of claiming another person's work as one's own. This can be copying or copying even parts of sentences from an article, journal, internet site, another student's work, or other written work without attribution. It can also mean using another student's assignment and making minor changes. Changing a few words around in content is still plagiarism.

More specifically, all programs and documentation must be individual and original work unless the assignment specifies otherwise. Two or more submissions which closely resemble each other may result in a a score of zero or a failing grade in the course. A pattern of academic dishonesty may result in expulsion. Acts of plagiarism may be reported to the Associate Provost for Student Success.

To avoid having your assignment solutions look similar to someone else's, you should not look at another person's solution until you have written down yours.

An academic integrity violation is considered *first-level* if the violation affects a small proportion of the course's overall grade or would not have increased a student's grade in the course significantly. Examples of first-level violations include but are not limited to: (1) unauthorized collaboration on a homework assignment or lab, (2) copying from another student during a quiz or examination, **or** (3) using unauthorized materials during an exam.

On the other hand, an academic integrity violation *is considered second-level* violations if it involves serious breaches of academic integrity. These violations involve premeditated dishonesty or repeated ethics violations and result in disciplinary procedures. Examples of second-level violations include, but are not limited to: (1) committing a second first-level violation, (2) acquiring or distributing an exam answer key from an unauthorized source, **or** (3) making unauthorized copies of examination materials.

In this course, I will administer penalties for integrity violations in accordance to the University's policy as follows: for *first-level violations*: (1) assignment of zero in the assignment for all student(s) involved, **and** (2) Provost/Vice President of Academic Affairs will send the student a *Breach of Academic Integrity Letter* informing the student about the violation of the Academic Integrity Policy and the action(s) taken by the instructor.

For *second-level violations:* (1) assigning disciplinary failure for the course, and (2) sending to the student(s) a copy of *Breach of Academic Integrity Letter* documenting the student's academic integrity policy violation, history of violations (if applicable), and disciplinary action(s) taken by the instructor.

Students who believe that they have been falsely accused of plagiarism should request assistance from the Ombudsperson at (651) 793-1517.

What you can expect from me

- I will share my technical knowledge with you as effectively as I know how.
- I will grade your work and return it to you in a timely manner.
- I will provide you with written feedback on the quality of your work. If you do not understand why you were assigned a particular grade or if my comments are not clear, I will explain more thoroughly if you ask me to.
- I will show up for class or provide a substitute teacher. I will start and end class on time.
- I will return your phone calls and emails. I will make every effort to respond within 48 business hours.
- I will listen to you respectfully. I will answer your questions respectfully.

What I expect from you

- I expect you to read the syllabus and to know the class policies outlined there.
- I expect you to seek help if you are having difficulty with your course work. I expect you to talk to me if you are having problems. If a stressful work or home situation arises which is affecting your ability to perform well, please talk to me as soon as possible.
- If you do not understand why you received a particular grade, I expect you to approach me and ask questions. I expect you to treat me with respect even if you disagree with the grade you were assigned.
- I expect you to log in to class zoom meeting on time and stay for the entire session except when you have an unavoidable conflict. If you must miss class, assignments and most handouts can be obtained from D2L.
- I expect you to turn in your assignments. I expect them to be submitted in a timely fashion.
- I expect you to come to class prepared to discuss all homework assignments on the day they are due.
- I expect you to participate in class.
- I expect you to know the class late policy. A penalty of 10% per day will be assessed for late submissions. No submissions will be accepted more than three days past its assigned due date.
- I expect you to turn in individual and original work. Please be respectful of copyrights and document your sources appropriately. This means that what you turn in must be your own work and it cannot be work previously done for some other class. Nor is it acceptable to download solutions from the web. If you copy the words or code snippets of another, you must acknowledge the source. Otherwise, you have committed plagiarism. If you turn in work done by someone else you may be assigned an F in this course. Repeated instances of academic dishonesty can result in expulsion from the University.
- I expect you to say no if another student asks you for a copy of your work. The penalty for permitting another student to copy your work is the same as if you yourself had turned in work that was not individual and original.
- I expect you to turn off your cell phone during class. If your cell phone must remain on, please turn your phone to vibrate.
- I expect you to refrain from reading email, texting, surfing the web, playing computer games or doing your homework assignments during class.

Respect

Metro State is privileged to serve students from many different nations, racial, ethnic and religious backgrounds. Students, staff and faculty practice a variety of lifestyles and come from many walks of life. We expect our classrooms to be safe havens where the opinions, practices and beliefs of others are treated respectfully. If you feel that you are not being treated appropriately by others in the class, I ask that you bring this to my attention so that the issues can be addressed. If I offend you, I ask that you approach me to share your concern so that we can learn from each other how to live together with respect and honor.

If you do not feel comfortable sharing your concern directly with me, you can report any problems to be my direct supervisor, Dean Kyle Swanson, at 651-793-1681 or kyle.swanson@metrostate.edu.

University Academic Policies and Procedures

University Non-Attendance Verification and Reporting Policy and Procedure

The purpose of the Non-Attendance and Reporting Policy is to ensure Federal Title IV regulations are adhered to with respect to a student's enrollment level for the purpose of calculating and paying financial aid. While Metropolitan State University is not required to take attendance, Federal Title IV financial aid regulations require a procedure to establish that students have attended, at a minimum, one day of class for each course in which the student's enrollment status was used to determine eligibility for the Pell Grant Program. In addition, the university needs to determine a last date of attendance for those students who receive all failing grades or unofficially withdraw. Attendance is defined based on course delivery mode. A student is "in attendance" if he or she meets the following conditions before the end of the second week of the course:

- Classroom Courses –the student is present in the classroom.
- Web-Enhanced (Reduced Seat Time Courses) –the student is present in the classroom or submits at least one academically relevant assignment.
- Online Courses –the student submits at least one academically relevant assignment.
- Independent Studies – the student contacts the instructor or submits at least one academically relevant assignment

If a student does not attend the first two classes, either live and/or online, that student is automatically dropped from the course. If a student adds the course past the drop/add date, he/she will not receive points for any assignments, discussions, quizzes, or exams for which the due date has already occurred.

Refer to the Non-Attendance and Reporting Policy 2259, and the Non-Attendance and Reporting Procedure 259.

Note: The above description is the University Policy, but for ICS courses, participation must occur during the first week of class or the student is dropped from the course.

Diversity and Disability Statement

Our institution values diversity and inclusion; we are committed to a climate of mutual respect and full participation. Our goal is to create learning environments that are usable, equitable, inclusive and welcoming. If there are aspects of the instruction or design of this course that result in barriers to your inclusion or accurate assessment or achievement, please notify the instructor as soon as possible. Students with disabilities are also welcome to contact the Center for Accessibility Resources to discuss a range of options to removing barriers in the course, including accommodations.

Phone: 651-793-1549
Web: Center for Accessibility Resources

The University provides access to its programs and services by making reasonable accommodations for qualified students. Accommodations may include approval for early registration, note-takers, interpreters for the deaf, adaptive equipment, and testing arrangements.

Student Code of Conduct

Students at Metropolitan State University deserve the opportunity to pursue an education, and it is the responsibility of the university to provide an environment that promotes learning and protects the safety and well-being of the university community. Therefore, the university establishes this Student Conduct Code. Any action by a student that interferes with the education of any other student or interferes with the operations of the university in carrying out its responsibility to provide an education will be considered a violation of this code.

The Student Code of Conduct balances individual student due process rights with the broader interests of the safety, wellbeing and academic integrity of the university community. The Dean of Students Office administers the student conduct process at Metropolitan State University. It operates with the philosophy of balancing the need for student accountability with the opportunity for education and making amends. Students are encouraged to review the Student Conduct Code University Policy #1020 and the Student Conduct Code Procedure #112 to understand their rights and responsibilities under the Code.

If you are aware of a potential student conduct violation, you may report it HERE. If you are not certain and would like to inquire about whether something falls under the Student Code of Conduct, please email dean.students@metrostate.edu.

Sexual Violence, Sexual Harassment, and other Gender Related Discrimination Concerns

If you believe you have experienced sexual misconduct, harassment, or violence and would like the university to formally investigate the situation, you may submit a formal complaint. These complaints can be student to student, employee to student, employee to employee, and non-students or non-employees.

Information about student(s) involved or investigation itself are confidential and protected under Family Educational Rights and Privacy Act (FERPA). However, information about instances of sexual misconduct must be shared among university staff whose are investigating the situation and responsibilities for rendering a decision.

Students who have experienced or observed related issues may submit a report **HERE**. If you are certain if something falls within this category, you may email dean.students@metrostate.edu . Additionally, the Dean of Students and other related offices provide training and education on these important issues.

Email

Metropolitan State University has designated e-mail as an official method of communication with students. **The university expects** students to be responsible for all information sent to them via their official university email account. Refer to Policy 1050, University E-mail, for further information.

Academic Appeals

The university has written procedures for appealing decisions concerning grades. You should first attempt to resolve an appeal issue informally with the instructor. To file a formal appeal, you must begin the formal appeal process within 60 calendar days of the posting of the grade or evaluation. A staff member in Student Affairs serves as ombudsperson to work with students in preparing formal appeals. For details, refer to Procedure 202, Academic Appeal Procedure.

University Policy on Academic Progress

The university's academic progress policy may affect students who withdraw from classes. Be aware that a W (withdraw) is different from a drop. A drop occurs at the very beginning of the term (no later than August 27, 2021 for this course), while a withdraw occurs after the first week (between August 27 and November 27, 2021 for this course). Withdrawing from this class may put you at risk for academic probation. If you have questions about your situation, contact your academic advisor as soon as possible.

Technology Requirements and Expectations

Technical Assistance

IT Helpdesk (it.desk@metrostate.edu; 651-793-1240) provides general computer assistance.

Center for Online Learning (online.learning@metrostate.edu; 651-793-1650) provides general assistance with online learning and course access. Please include your tech id number and course name and number.

Computer Hardware and Software

For this course, your computer must fully pass the System Check found on the D2L login page.

Students must have internet access in order to log into the D2L system multiple times per week in order to check for updates and complete required work. Your skills should include the ability to add browser plug-ins for viewing files and content presented within the course or be able to get such assistance from non-campus sources at your own expense.

File Management

Intermediate or higher level skills at file management (ability to create folders, move and rename folders and files, identify type of file by its file-extension, attach files to emails, etc.)

Anti-Virus Software

Updated virus scanning software for all files sent and received (such as McAfee Antivirus, Norton Internet Security, etc.) is required.

Computer Software

Computer skills include proficiency with using a web browser and in using the Internet to access online resources and sites as well as competence at using Microsoft Office products such as Word and Power Point.

Email

This course requires students to use their campus email account for all communication for related to this class. Emails originating from outside the campus email servers may accidentally be blocked as spam. This policy prevents viruses and spam. Please include in the subject line of your emails a brief description that summarizes the content of the email.

Additional Resources for Student Support

Technical Assistance

IT Helpdesk (it.desk@metrostate.edu; 651-793-1240) provides general computer assistance.

Center for Online Learning (online.learning@metrostate.edu; 651-793-1650) provides general assistance with online learning and course access. Please include your tech id number and course name and number.

Accessibility Resources

Phone: 651-793-1549
Web: Center for Accessibility Resources

The University provides access to its programs and services by making reasonable accommodations for qualified students. Accommodations may include approval for early registration, note-takers, interpreters for the deaf, adaptive equipment, and testing arrangements.

TRIO Student Support Services

Support for first-generation students, low-income students and students with disabilities. They can be reached at trio.center@metrostate.edu or 651-793-1525.

Center for Academic Excellence—Tutoring and Testing Center

Phone: 651-793-1460
Web: Center for Academic Excellence
Email: centerfolk@metrostate.edu

Our tutoring mission: to help students learn. We strive to role-model resourcefulness, active learning, and collaborative problem-solving, such that students build self-confidence and efficacy as independent life-long learners. Our professional and peer tutors help students navigate conceptual difficulties and develop study skills. Our tutors are devoted to helping currently-enrolled students achieve their academic goals in one-to-one and small group tutorials.

Collegiate Recovery Program

Phone: 651-793-1579 (Dean of Student's Office)
Web: Collegiate Recovery Program

Metropolitan State University's Collegiate Recovery Program provides support and resources for students who have challenges with substance use or other behavioral addictions. We also support students working toward long-term recovery to increase overall well-being and meet educational, professional and personal goals. For general information or questions, you may email at Collegiate.Recovery@metrostate.edu.

Counseling Services

Phone: 651-793-1568
Web: Counseling Services

College students often experience issues that may interfere with academic success, such as academic stress, sleep problems, balancing multiple responsibilities, life events, relationship difficulties, discrimination / oppression, or feelings of anxiety, hopelessness, or depression. If you are a friend is struggling, we encourage you to seek support. Helpful, effective, and culturally-responsive services are available on campus free of charge.

For immediate help during or after hours, on weekends and holidays, contact Counseling Services at 651-793-1568 and choose option zero to access the Metro CARES support line. Counseling Services is providing telehealth services to students during the COVID-19 pandemic. To schedule an appointment with our staff counselors, call 651-793-1568 during business hours.

International Student Services

Phone: 651-793-1315
Web: International Student Services

The International Student Services (ISS) aids with immigration, cultural, financial, academic, and personal issues for international students at Metropolitan State University.

Library and Information Services

Phone: 651-793-1616
Web: Library and Information Services
Email: library.services@metrostate.edu

The Library and Learning Center on the Saint Paul campus offers a full array of library resources, services, computers, and study spaces for the Metropolitan State University community. Librarians are available to assist you in finding information on virtually any topic. They can also guide you in evaluating scholarly and other resources for your coursework and research. Assistance is available by phone (651-7983-1614), email (library.services@metrostate.edu), or chat and Zoom from the library's homepage. Through this homepage you can access more than 100 research databases and thousands of ejournals, streaming videos, and ebooks.

Multicultural, American Indian and Retention Services (MAIR)

Phone: 651-793-1543
Web: Multicultural Success Services

Founder's Hall, St. Paul Campus

MAIR promotes the academic success of historically underrepresented incoming, current and graduating students by providing retention programming and a wide range of services that includes advocacy and educational planning. MAIR department comprises of the following student services: American Indian,

Indigenous, Asian, Asian American and Native Pacific Islander, Black, African and African American, Latinx and Undocumented, Veterans and Military Student Services Center, and Women's & LGBTQ+ Student Services and Resources. MAIR Success Coordinators provide coaching, educational and belonging services: holistic individual success plans, cultural events that highlight Metropolitan State University's diversity, equity and inclusion, special brave/courageous spaces for student groups: Native Circle, Women's and LGBTQ+ Student Resource Center, and Veterans and Military Student Services Center. Also, Success Coordinators advise student clubs and organizations such as Black Student Union, Hmong Student Organization, Lavender Bridge, Metropolitan State University's Veterans Network, Pueblo, and Voices of Indian Council for Educational Success (VOICES). Success Coordinators provide support to empower students and promote successful college transitions and graduation.

Student Parent & Resource Center

Phone: 651-793-1564
Web: Student Parent & Resource Center
St. John's Hall, L.14; St. Paul Campus

The Student Parent Center is in St. John's Hall L14 and provides a child-friendly study space (visit our website for updates regarding availability of the space). The center seeks to provide support and connect currently enrolled students and their families with campus and community resources to ease obstacles that may be interfering with their education. Students can schedule a phone or Zoom appointment to meet with the coordinator here: https://calendly.com/studentparentresourcecoordinator/60min

Food for Thought Food Pantry

Phone: 651- 793-1571
Web: Food for Thought Food Pantry
St. John's Hall, L.10; St. Paul Campus

The Food for Thought Food Pantry is a collaborative initiative between Metropolitan State University and our community partners Good in the Hood and Every Meal. Students seeking additional support with subsidizing their food budget can schedule an appointment to pick-up free prepackaged food boxes and bags from the library. Please visit our website for changes and updates regarding the operations of the pantry. Schedule an appointment to pick-up food here: https://calendly.com/foodforthoughtpantry/food-for-thought-food-pantry-pick-up.

Veterans & Military Student Services

Phone: 651-793-1561
Web: Veteran Services
Founder's Hall 201, St. Paul Campus

We assist all who have served or are currently serving in any branch of the United States Armed Forces. Veterans Services will advocate on your behalf. We provide help with understanding admissions requirements and academic programs, getting college credits for your military training, accessing federal and state educational and financial benefits, and VA certification of yourregistered courses. Thank you for your dedication, sacrifice, and service to our country.

Women's and LGBTQ+ Student Services and Resources

Phone: 651-793-1544
Web: Women's and LGBTQ+
Founder's Hall, Room 140, St. Paul Campus

Women's and LGBTQ Student Services fosters a safer and more inclusive campus by providing support, resources, leadership development, and education related to diverse sexual orientations and gender identities. Metropolitan State University supports a large contingent of LGBTQ+ students and there are multiple services and resources available. To help foster a safer and more inclusive campus, the center has confidential resources and information available for those who experience discrimination based on sex, gender identity, or sexual orientation

Zoom

As part of being a student within the Minnesota State Colleges and Universities System, you have access to a premium license of the web conferencing tool: Zoom. Due to recent events your instructors will likely be using this more frequently to host class sessions online, but you can also personally use it for meetings with your classmates!

You can access your MinnState Zoom account from: https://minnstate.zoom.us/, just click the "Sign on" button and login with your StarID and password.

Visit the following link to learn more about connecting to a Zoom conference: https://services.metrostate.edu/TDClient/1839/Portal/KB/ArticleDet?ID=101232

Visit the following link to learn more about hosting a Zoom conference for presenting or teaching: https://services.metrostate.edu/TDClient/1839/Portal/KB/ArticleDet?ID=100273

If you get stuck or need some extra help, you can reach out to our Information Technology Services or the Center for Online Learning.

Also, the Zoom Help Center has many great resources, live trainings, and even fantastic technical support representatives waiting to help you if need-be.