

Math 372 – Topology

Syllabus

www.uwsp.edu/mathsci ar.hv.gppointmont A225 Science huilding	Professor Cindy McCabe Office: B246 Science Building Phone: 715-346-2085 Email: <u>cmccabe@uwsp.edu</u> www.uwsp.edu/mathsci	Office Hours in B246 Sci & via Zoom (check Canvas for Zoom link) 10:00-10:50 am Tuesdays 1:00-1:50 pm Wednesdays	Class meets Monday, Wednesday, Friday 10:00 – 10:50 am A225 Science building
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Text (available for rental): *Topology Through Inquiry*, by Michael Starbird and Francis Su (MAA Press, an imprint of the American Mathematical Society, ISBN 1470452766 or 978-1470452766). Topics include most of those in Chapters 2 – 11, but perhaps only a small amount from Ch. 5, 6, and 9. Some knot theory may be added.

Prerequisites: Math 230 (Introduction to Linear Algebra) and Math 300 (Introduction to Proof)

Objectives for students in this course:

- To journey further in abstract mathematics by working with topological spaces, continuity, homeomorphisms, connectedness, metric spaces, knots, and manifolds.
- To be able to think and communicate better mathematically through the study of topology, including discussing topics in groups and writing mathematical proofs.
- To build confidence in your own proof-writing abilities, your capacity for learning new concepts, and your ability to identify good arguments and to communicate mathematical ideas.

Course Communication: Announcements, homework assignments, grade information, and other course information will be in Canvas. To access Canvas, go to <u>https://www.uwsp.edu</u>, choose Canvas from the "Logins" dropdown menu, and use your regular campus login ID and password. Email is a good way to contact me (<u>cmccabe@uwsp.edu</u>).

There are times when I will send the class an email using your UWSP address. Please check for those.

Academic Integrity: It is important for you to engage with our topics, use your brain, use appropriate resources, and turn in work that is your own. Please ask if you are not sure which resources are appropriate. It is not okay to turn in another's work as your own. It is okay to talk with others about the ideas we discuss in class.

Support is available: <u>Ask questions</u> as they occur to you. <u>Come to see me</u> before or after class, stop by during my office hours or join via Zoom, or schedule an appointment with me for another time.

One of the great parts of my job is working with conscientious students!

<u>Talking with others about your work</u> also helps you understand concepts or helps you understand what questions to ask, so try talking with other students, professors, etc.

Unless specified otherwise, the use of <u>calculators</u> (including most graphing calculators) will be permitted during quizzes and the final exam. *However, any calculator, phone, smartwatch, or other device with any connectivity must be stowed away, silenced, and not used during exams and quizzes.*

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Evaluation: Final course grades will be determined by the following:

48 points for presenting explorations in class (top 8 scores, worth 6 points each)

30 points for relevant, positive contributions to class discussions (top 10 scores, 3 points each)

72 points for bi-weekly written assignments (top 6 scores, 12 points each)

75 points for in-class quizzes (top 5 scores, 15 points each)

25 points for your focus (choose between extra presentations, formal write-ups, or a project)

<u>30 points</u> for the Final Exam

Total: 280 points for this course

Course Grades at or above	93.3	90	86.7	83.3	80	76.7	73.3	70	66.7	60	%
	261.3	252	242.7	233.3	224	214.7	205.3	196	186.7	168	Points
will receive at											
least a grade of	А	A -	B +	В	В -	C +	С	C -	D +	D	

I reserve the right to exercise discretion in raising a student's grade if the final weighted average does not appear to reflect the quality of a student's work (for example, because of one low exam score early in the course). I will not use discretionary judgments to lower a student's final grade.

Graded Work: To accomplish the course objectives, you need experience working on new topics on your own, expressing your ideas and conclusions in written form, and talking with others about topology. Therefore:

- There will be time to show your explorations on new exercises or proofs almost every Monday and Friday. These short presentations will be worth 6 points each time. Your highest 8 scores will be part of your semester grade. I expect at least one of these scores will be dropped. This is meant as time to learn (formative assessment), so high scores come from your engagement with the problem and application of our focal points, not on complete work or percent correct.
- 2) Perhaps three people will present each day, but this is meant to be learning time for everyone. You are expected to make positive contributions to the conversation at least half of our presentation days. I am hoping everyone will have the full 3 contribution points for 10 of these days.
- 3) Most Wednesdays we will alternate between a written assignment being due and taking a quiz. The written assignments include one or two formal write-ups of proof or exercises presented in class recently, in addition to your thoughtful work on a few additional exercises/proofs. The formal write-ups will be shared with the class.
- 4) The six quiz dates have been set (the first being on Sept. 20). The material covered on each will be announced in class ahead of time. The lowest quiz score will be dropped. Our only exam will be the final exam, scheduled for 12:30 2:30 pm on Wednesday, December 20. A topics list will be given.
- 5) You will have choices in how you earn 25 points this semester. Would you like to focus on presentations? If so, you can put up 4 or 5 extra proofs or exercises. Would you prefer to do 5 additional formal write-ups? A third option is to take on a project, learning a supplemental topic and presenting it or writing it up. I look forward to talking with you about which option you prefer.

I do not anticipate other graded items, but if any arise, they will be announced and the course points will be adjusted.



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Attendance Policy: Attendance is expected at every class meeting when you are well, but we are all expected to take extra care to not spread germs. If you have a fever or symptoms such as coughing or sneezing, please stay home and email me as soon as you realize that you will not be in class. It is the student's responsibility to make prompt arrangements for finding out what was missed and for making up any assigned work in the case of an absence, but I am very willing to work with you to find solutions. Canvas is also a great resource at these times. If you miss class, check there first for things you need to know. Quizzes and exams may only be made up in special circumstances, and normally only if arranged with me ahead of time. If a medical emergency occurs, contact the Dean of Students or the Disability Resource Center as soon as possible (* contact info. below *). Then we can see if an exception is in order.

Inclusivity Statement: It is my intent that students from all diverse backgrounds and perspectives be well-served by this course, that students' learning needs be addressed both in and out of class, and that the diversity brought by everyone in this class be viewed as a resource, strength, and benefit. It is my intent to present materials and activities that are respectful of diversity. I encourage you to make suggestions to this end. Please let me know ways to improve the effectiveness of the course for you personally, or for other students or student groups.

If you have experienced a bias incident (an act of conduct, speech, or expression to which a bias motive is evident as a contributing factor regardless of whether the act is criminal) at UWSP, you have the right to report it using this <u>link</u>. You may also contact the **Dean of Students** office directly at <u>dos@uwsp.edu</u>.

UWSP is committed to providing reasonable and appropriate **accommodations** to students with disabilities and temporary impairments. If you have a disability or acquire an impairment or injury during the semester and you need assistance, please contact the Disability Resource Center * as soon as possible, in room 108 of the Collins Classroom Center (CCC), at 715-346-3365, or at <u>drc@uwsp.edu</u>. You may also want to visit their website,

Disability Resource Center (DRC) - University of Wisconsin-Stevens Point (uwsp.edu).

All students are expected to know the UWSP student **responsibilities** found on the Dean of Students webpage. Information on Academic Concerns is available at <u>https://www.uwsp.edu/dos/Pages/stu-academic.aspx</u>. Information on Conduct Concerns and on Personal Concerns is also available on the Dean of Students site.

Incompletes: A grade of incomplete may be given when circumstances arise which are beyond the student's control, and which result in the student being unable to complete the course. A grade of incomplete will only be used if the student is passing when the circumstances arise.



