Introduction to Topology
Instructor: Dr. Rachel Schwell
schwellrac@ccsu.edu
Office: Marcus White 321     Office Phone: 832-2844
Office Hours: M 6:00-7:00; T 2:00-3:00; Th 12:50-2:30; F 12:30-1:50; or by appt.

Course Description: This course is an introduction to the fundamental structures of point set topology, with connections made to algebra and analysis along the way. The course material will include the concepts of open set, topological spaces, homeomorphism, quotient space, bases, subspace topology, product topology, compactness, connectedness, continuity, and possibly Euler characteristic of surfaces and introductory homotopy theory. There will also be a smattering of applications spread throughout.

Class Times: The class will meet MW 4:30-5:55 pm in MS 321.

Text: None! Handouts/Notes only.

Moore Method: We will be using a modified Moore method this semester. I may occasionally lecture at the board to provide an introduction to a certain topic or clarify a particular problem or question. Approximately half the class time will be spent on student presentations of solutions at the board. The rest of the class time will be spent working on problems in groups. Note that there will not be enough class time for you to work on every problem together, so many of the problems you will need to work on outside of class, either alone or with classmates (either the assigned group or not).

Any problem you turn in or present to the class should be written in your own words. When you present or turn in a problem, you will be asserting that you have not received any unauthorized help on the work and that you understand the argument you are presenting. You must not look to any source other than your classmates or me for solutions to problems: this includes books, magazines, the internet, or completed solutions of your fellow students.

Presentations: You should be volunteering frequently to present. The presentations will be graded on a 5-point scale, based on correctness, clarity, and demonstrated understanding (meaning you should definitely aim to be presenting solutions you fully understand). When presenting, keep in mind that your audience is not me, your instructor. Your audience is your classmates, and so your presentations must be aimed toward your peers, to ensure that they understand and are convinced of any claims you are making. If you make a mistake, you can either attempt to fix the problem on the spot (with the help of the audience if you like), or you can try again the next class. Either way, don’t stress out about it. Everyone makes mistakes, and it’s a sign that learning is taking place. I’ve made plenty of mistakes in my career.

As an audience member, you will be expected to follow along with your peers’ presentations, and it is certainly in your best interests to do so since you will be responsible for those concepts. Also, I expect you to be supportive of your classmates when they are at the board presenting. We are all in this together, and so attempting to boost your own standing by putting others down will not be met with approval. However, questions and other constructive contributions are encouraged and included in your participation grade as noted below. Note: once a classmate has begun his or her presentation, we must follow along with the direction in which (s)he is going and not attempt to direct him or her toward alternative solutions.
**Participation Grade:** Your class participation will be graded. The components of this grade are, in weighted order:

1. Oral presentations of problems – this includes the scores you received weighted by the frequency of presentation (60%)
2. Your feedback on other students’ presentations (20%)
3. Your participation in solving problems within your groups (20%)

Clearly, the above components cannot be fulfilled without regular attendance and presentation.

**Hand-in Homework:** Written homework must be done in LaTeX. There will be homework sets due every 2-3 weeks, which will consist of problems I choose from the text. These problems will not be presented. Your homework grade will be based on both the clarity of the solutions as well as their accuracy, as the communication of your ideas is an essential part of mathematics. It is often difficult to even gauge the correctness of a solution if it has not been clearly communicated. Thus, your solutions must be clearly expressed using correct terminology and precise language (which will in turn help you to better understand the concepts). As this is an upper-level elective for math majors, I expect you to know how to write proofs, and I expect you are familiar with the various proof techniques you have learned throughout your major: contradiction, induction, existence and uniqueness, etc. While you may collaborate with classmates on homework, you must write up your own solutions in your own words. Simply copying another’s work (or allowing another to copy your work) is considered cheating and is not acceptable. This includes solutions found on the internet or anywhere else.

**Exams:** There will be just a midterm and a cumulative final exam, the latter of which will take place on Monday, May 9, from 4:30-6:30 pm.

**Grading:** Your grade will be calculated by the following distribution: 25% each homework, participation (including presentations), midterm, and final.

**Expectations:** As noted above, I of course expect you to attend class and participate. I also expect that you will genuinely try. I expect you to be personally invested in not only your grade, but the material itself. Why else would you be in this elective class?

**University Policies:**

1. You must take the final examination at the time specified in the course selection book: **Monday, May 9, 4:30-6:30 pm.**

2. Please contact me privately to discuss your specific needs if you believe you need course accommodations based on the impact of a disability, medical condition, or if you have emergency medical information to share. I will need a copy of the accommodation letter from Student Disability Services at least two days before the accommodation is needed in order to arrange your class accommodations. Contact Student Disability Services, room 101, Willard Hall if you are not already registered with them. Student Disability Services maintains the confidential documentation of your disability and assists you in coordinating reasonable accommodations with your faculty. Note my contact information given on the first page.

3. In the event of a weather emergency which requires curtailment or cancellation of classes, listen to WTIC (1080 AM) or call (860) 832-3333 for the “general snow message.” You can also check on the main CCSU website under “Cancellations and Delays.”
4. The last day to withdraw from a course is Monday, April 18. Approvals for withdrawal are not required; however, it is strongly recommended that students consult with their academic advisors prior to deciding to withdraw. Cessation of attendance, notice to the instructor, or telephone calls to the Enrollment Center are not considered official notice of a student’s intention to drop the course.

After April 18 withdrawals are allowed only under extenuating circumstances and require approval of the course instructor, department chair and dean of the School of Arts and Sciences. Poor academic performance is not considered an extenuating circumstance.

5. You are responsible for understanding and abiding by the University’s policy on academic integrity. Please be careful! The internet is a useful place for information, but a dangerous place for risk of plagiarism. Do not tempt it. Not only will you not learn and thus fail the course anyway, you will also get yourself in serious trouble. Information on the University’s policy may be found at http://www.ccsu.edu/AcademicIntegrity/. This policy is rigorously enforced by your instructor and by the Department of Mathematical Sciences.