

## Syllabus - Math 501 – Spring 2020

**Instructor:** Dr. Qingying Bu                      **E-mail:** qbu@olemiss.edu  
**Office:** Hume 314                                      **Office Hours:** Tu,W, Th 9:30-11:30am or by appointment  
**Class Time:** Tu, Th 2:30-3:45pm                **Location:** Hume 331  
**Textbook:** James Munkres: Topology, second Edition, Prentice Hall.

### Course description:

This course is an introduction to the theory of topological spaces (also called point set topology). We will cover the following topics: basic topological concepts (e.g. open and closed sets, closure, limit points, interior, boundary, convergence, metric spaces, uniform convergence, completeness), subspaces and product spaces, the Hausdorff condition, connected spaces, compact spaces, sequential compactness. We will cover the most important aspects of Chapters 2 to 4. The prerequisite of the course is familiarity with the structure of mathematical proofs, elementary set theory, elementary logic and functions (e.g. as covered in Math 305).

### Course learning objectives:

The aim of the course is to teach the student the language and concepts of point set topology, which are so fundamental and universal in analysis, geometry and other branches of modern mathematics. The student will learn the usefulness of abstraction and generalization as a means of solving concrete problems. The course is proof based and thus will strengthen the student's logical reasoning and proof making skills.

### Course expectations:

Since this is a 500 level course, there are different expectations for undergraduate and graduate students enrolled in the course. The difference will be in the content of the homework and tests, which for undergraduate students will be less demanding than for graduate students.

### Grading Policy:

- There will be two major tests (each 100 points, the lower test grade will be replaced by the final percentage provided that this percentage is higher).
- Homework sets counting a total of 100 points will be given throughout the semester.
- Participation will count 20 points.
- The final examination is comprehensive and will count 200 points.

**A:**  $\geq 93\%$ ,    **A-:**  $\geq 90\%$ ,    **B+:**  $\geq 87\%$ ,    **B:**  $\geq 83\%$ ,    **B-:**  $\geq 80\%$ ,  
**C+:**  $\geq 77\%$ ,    **C:**  $\geq 73\%$ ,    **C-:**  $\geq 70\%$ ,    **D:**  $\geq 60\%$ ,    **F:**  $\leq 59\%$ .

**Test Dates:** to be announced in class. **Final Exam:** 4:00pm, Tuesday, May 5.

### Attendance Policy:

- Attendance is directly correlated with course success. You are expected to attend all classes and to be on time and prepared. Attendance will be recorded daily. It is the student's responsibility to make sure his/her attendance record is correct.
- Students who do not attend class within the first two weeks will be dropped automatically.
- **Attendance Calculation:** pts = 0 if  $1 \leq n \leq 13$ , pts =  $2(n - 13)$  if  $14 \leq n \leq 23$ , and pts = 20 if  $24 \leq n \leq 26$ , where  $n$  = the number of classes you attend.

**IMPORTANT POLICY:**

1. Late homework is accepted, but ten percent points will be deducted and no later than one week.
2. Students must show all work on tests and the final exam in order to receive full credit.
3. Each student is responsible for all work missed due to absences.
4. If a test is missed for any reason, a grade of 0 will be given. There will be no make up tests given for any reason other than official university functions. Any student who must miss an exam because of an official university function may reschedule the test before the test is originally scheduled. This is the only rescheduling allowed.
5. An "I" grade will not be given without the permission of the Department of Mathematics.
6. Any student having three or more final examinations scheduled for the same day will arrange with the instructor to take the noon examination or the 7:30 p.m. examination on some other mutually satisfactory date.
7. Every student must take the final exam at the time scheduled. The only exceptions are those students affected by # 4 or # 6 above.

**CALCULATORS:** Electronic calculators and cellular phones are prohibited on tests and quizzes.

**ELECTRONIC DEVICES:** All cellular phones and other electronic equipment should be turned off during the class period.

**CHEATING:** The following statement is the policy of the Department of Mathematics regarding cheating:

**Offenses:** Cheating on any exam or quiz, theft or attempted theft of exam questions, possession of exam questions prior to the time for examination, or the use of an illegal calculator on tests or quizzes shall all be offenses subject to appropriate penalties.

**Penalties:** The penalty for commission of any offense set out above is failure in the course and, subject to the approval of the Chancellor, dismissal or suspension from the University.

**WITHDRAWAL DEADLINE:** Monday, March 2.

After the Course Withdrawal Deadline, courses dropped will be recorded on University records and the W grade will be recorded if the student is not failing the course at the time of withdrawal; otherwise the grade recorded will be F. After the course withdrawal deadline, a student may drop a course only in cases of extreme and unavoidable emergency as determined by the academic dean; dropping a course after the deadline will not be permitted because of dissatisfaction over an expected grade or because the student is changing his/her major.

**DISABILITY ACCESS AND INCLUSION:** The University of Mississippi is committed to the creation of inclusive learning environments for all students. If there are aspects of the instruction or design of this course that result in barriers to your full inclusion and participation, or to accurate assessment of your achievement, please contact the course instructor as soon as possible. Barriers may include, but are not necessarily limited to, timed exams and in-class assignments, difficulty with the acquisition of lecture content, inaccessible web content, and the use of non-captioned or non-transcribed video and audio files. If you are approved through SDS, you must log in to your Rebel Access portal at <https://sds.olemiss.edu> to request approved accommodations. If you are NOT approved through SDS, you must contact Student Disability Services at 662-915-7128 so the office can: 1. determine your eligibility for accommodations, 2. disseminate to your instructors a Faculty Notification Letter, 3. facilitate the removal of barriers, and 4. ensure you have equal access to the same opportunities for success that are available to all students.