INTRODUCTION TO TOPOLOGY

1. **Course:** Math 141, Spring 2006
   Lecture (Zeman): M-W-F 12:00 – 12:50 in PSCB 120
   Discussion (Bjork): Tue-Thr 12:00 – 12:50 in SST 220A

2. **Instructor:** Martin Zeman
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   Office Hours: M: 1:00pm – 2:30pm, W: 10:30am – 12:00pm

3. **Teaching Assistant:** Andrew-David Bjork, RH 420B, Office hours: Tue: 9:00am – 11:00am


5. **Goals and the Material Covered.** The goal of the course is to:
   - Gain the knowledge of the basic notions and methods of point set topology.
   - Improve the understanding of mathematical proofs and to practise proving mathematical theorems.

   The course will cover parts of Chapters I and II from the book and possibly more, if the time permits. The book will not be followed very closely and there will be material that is not included in the book. Although the notions from topology are closely related from those in analysis, they are abstract, and the first contact with them will naturally be difficult. Therefore it is important to go over these notions thoroughly and learn how to work with abstract notions.

6. **Lecture and Discussions.** The class will meet five times in a week; M-W-F is reserved for the lecture and Tue-Th for discussions. **Attendance on all days is expected.** In the event you must miss a lecture, you will be responsible for all class work that was missed. Discussions will be devoted to homework and quizzes.

7. **Exercises.** There will be regular exercise assignments. It is **very important** to work through the assigned problems. **As it was stressed above, one of the goals is to continue developing the ability of proving theorems. This is impossible without doing the problems.** After each lecture I will posted some exercises on my web page that will contain material illustrating and extending the material from the lecture. You will be supposed to go over these exercises and discuss them in the discussions.

8. **Graded Homework** On Monday each week I will assign **graded homework** that will consists of two or three problems. You will have one week to work on it. The graded homework is supposed to be **turned in on the due day,** which will usually be Monday the week later. The day will be specified on the webpage. **Graded homework will significantly count towards the final grade.**
9. **Quizzes.** The problems/questions given on quizzes will be chosen from assigned exercises. Thus, working carefully through the exercises will help you to do well on quizzes. The questions chosen for quizzes will be simple and their purpose is to check whether you understand the basic notions. Quizzes will be given usually on Thursdays; the dates will be specified on the webpage.

10. **Examinations.** The following will count towards the final grade. One midterm exam, 8 quizzes (about one per week), graded homeworks and the final exam.
   - **Quizzes:** These will be held usually on Thursdays and each will take approximately 15 – 20 minutes.
   - **Midterm:** Monday, May 8
   - **Final:** As in the Schedule of Classes: Monday, June 12, 1:30 p.m. – 3:30 p.m.

11. **Grading.** Grading will be based on the relative score, which is the ratio
    
    \[ S = \frac{0.3F + 0.3M + 0.10Q + 0.3H}{\text{number of obtained points}} \]
    
    The score \( S \) for determining the final grade is given by the formula:
    
    \[ S = 0.3F + 0.3M + 0.10Q + 0.3H \]
    
    where \( F, M, Q \) and \( H \) is the score of the final exam, the score of the midterm exam, the mean value of the quizzes scores and the mean value of the homeworks score, respectively. (That is, the final exam will count by 30%, midterm exam by 30%, quizzes by 10% and homeworks by 30%.) The lowest quiz and lowest homework will be dropped. **No extra credit will be given.**

    **Final Grade.** The final grade will be calculated as follows:
    
    - A: more than the mean plus standard deviation
    - D: less than the mean minus standard deviation
    - The remaining interval will be divided into equally large parts to provide the remaining grades.

12. **Rules for the exams.**
    
    - You should arrange your schedule now to take the exams at the assigned times. A make-up exam will be given only in the case of a fully documented serious illness or personal emergency and generally, by its very nature, will be more difficult than the regular exam.
    - Cheating during exams will not be tolerated whatsoever and the guilty party will receive an F in the class and a letter put in his/her personal file.
    - Calculators will not be allowed at the exams and quizzes.
    - Cellular phones will be supposed to be turned off and kept out of reach during the exams and quizzes.

13. **Incompletes.** The grade of Incomplete is given only when “the student’s work is of passing quality, but is incomplete because of circumstances beyond the student’s control” (quote from Academic Regulations.) Therefore it is essential to keep up with the course work. Any problems that develop should be discussed immediately with the instructor.
14. **Feedback** Questions and comments are strongly encouraged during lectures as well as at other times. You are encouraged to make use of e-mail as well as office hours. A student who interacts more during lecture is likely to have a more fulfilling experience in the class.

15. **Good study habits.**

   A. Work on exercises as they are assigned after the lecture (do not delay).
   B. Read the previous lecture notes before attending the next class.
   C. Keep a list of all definitions, and a list of relevant theorems.