The course will deal with the material in Chapters 2, 3, 4, 5, 7, 9 (pulling background material from Chapter 1 as needed), with some additions (possibly some of Chapters 10 and 11) and omissions. The main goals of the course are:

1. To understand the concepts of continuity, compactness, connectedness, and related concepts in a general topological setting.
2. To become familiar with important concrete examples of topological spaces and continuous functions and techniques for constructing examples with various properties.
3. To gain both technical and intuitive understandings of the fundamental group of a topological space, and the use of group theory to prove topological theorems.
4. To increase proficiency in mathematical writing (e.g. proofs, expositions of examples).

There will be regular homework assignments, and a take-home final examination. Each homework assignment will consist of some problems to be handed in, as well as some additional problems. Collaboration is not allowed on the problems designated to be handed in. The solutions you hand in should be your work alone. Of course, on the additional problems (not to be handed in) you may collaborate.

In your write-ups you should use reasonably good English (i.e. grammatical sentences) in conjunction with mathematical symbols. You should explain your notation and state your hypotheses (e.g. “Suppose $X$ and $Y$ are topological spaces with $X$ compact, and that $f : X \to Y$ is continuous. . .”). Your proofs should depend logically only on the material in the course covered up to the time of the write-up. It is not permissible to use results not yet covered in the lectures.

Each homework assignment should be handed in no later than the beginning of the class period on the due date. A penalty for late homework will be assessed as follows: No penalty for $\leq 5$ minutes late; a 2% penalty for each minute late in excess of 5 minutes. (Thus, e.g. if an assignment is 8 minutes late, a penalty of 6% of the achieved score will be assessed.)

The take-home final is due at 12:00 Noon on Friday, December 17. The same penalty scheme as above will be used for late submissions.

Grades will be determined by the formula

$$\frac{A}{56} (0.75H + 0.25F)$$

where $A =$ number of class meetings attended, $H =$ cumulative homework percentage, and $F =$ final exam percentage. I will use the following scale:

<table>
<thead>
<tr>
<th>A</th>
<th>A-</th>
<th>B+</th>
<th>B-</th>
<th>B</th>
<th>C+</th>
<th>C</th>
<th>C-</th>
<th>D+</th>
<th>D</th>
<th>D-</th>
</tr>
</thead>
<tbody>
<tr>
<td>85-100</td>
<td>80-84</td>
<td>75-79</td>
<td>70-74</td>
<td>65-69</td>
<td>60-64</td>
<td>55-59</td>
<td>50-54</td>
<td>45-49</td>
<td>40-44</td>
<td>35-39</td>
</tr>
</tbody>
</table>

Honesty is expected of you. Cheating will not be tolerated, and cases of such will be vigorously dealt with in accordance with University procedures.