Informations about the course

- **Topics**
- **Evaluation**
- **Office Hours**
- **Lists of Exercises**
- **Grades**
- **Slides** [4 slides per page]
- **Important dates**
- **Knuth talking about Randomized Algorithms** (made available by Hsueh-I Lu)
- **Theoretical Computer Science Cheat Sheet** by Steve Seiden
- **Bibliography**

Links about randomized algorithms

- **Wikipedia**

**Topics**

- Basic concepts in probability.
- Moments and Deviations.
- Tail Inequalities.
- Ball, Bins and Random Graphs.
- The Probabilistic Method.
- Markov Chains and Random Walks.
- Applications in graphs, data structures, optimization, game theory, etc.

**Classes**
Tuesday and Thursday, from 16:00 to 18:00.

**Evaluation**

- The final grade is calculated from grades $T$, $A$ and $L$.
- The grade $T$ is the average score of six small tests (one for each given chapter).
- The grade $A$ is obtained from two parts. One part, corresponding to 80% of the grade $A$, is obtained from the oral presentation and short text detailing the contents of the presentation, about a paper using the techniques considered in the course. The second part, corresponding to 20% of the grade $A$, is obtained from the average grade of tests for each presentation.
- The grade $L$ is the average score of six lists of exercises. To obtain the score of a list of exercises, the professor will correct the same exercise of the list (randomly selected) for all students.
- The final letter grade is obtained converting the numerical value $N$, where $N=(2T+A+L)/4$, using the following table conversion.

<table>
<thead>
<tr>
<th>Value of $N$</th>
<th>Final grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>$N$&gt;=8.5</td>
<td>A</td>
</tr>
<tr>
<td>7.0&lt;=N&lt;8.5</td>
<td>B</td>
</tr>
<tr>
<td>5.0&lt;=N&lt;7.0</td>
<td>C</td>
</tr>
<tr>
<td>$N$&lt;5.0</td>
<td>D</td>
</tr>
</tbody>
</table>

**Important dates**

- Tests: will occur in the next class after the deadline of the corresponding list of exercises.
- Lists of exercises: at least one week after the list is published.
- Presentations: Will occur in the last two weeks of the course.

**Bibliography**

To learn about proof techniques and other aspects of discrete mathematics
- S. Seiden. *Theoretical Computer Science Cheat Sheet* by Steve Seiden

A good book to learn probability


Papers on the subject.