How to read a course description

1. Welcome to University of Copenhagen course catalogue

2. NDAA9023U Advanced Algorithms and Data Structures (AADS) 2015/2016

3. Course information
   - Language: English
   - Credit: 7.5 ECTS
   - Level: Full Degree Master
   - Duration: 1 block
   - Placement: Block 1
   - Schedule: C
   - Course capacity: No limit
   - Continuing and further education
   - Study board: Study Board of Mathematics and Computer Science
   - Contracting department: Department of Computer Science
   - Course responsible: Mikkel Thorup
   - Saved on: the 27-04-2015

4. Learning Outcome
   - Knowledge of:
     - Graph algorithms such as max flow
     - NP-completeness
     - Approximation algorithms
     - Randomized algorithms
     - Computational geometry
     - Linear programming and optimization
   - Skills to:
     - Analyze algorithms with respect to correctness and efficiency.
     - Explain and use basic randomized algorithms.
     - Recognize NP-hard problems and address them, e.g., using approximation algorithms.
     - Explain and use algorithms for different abstract domains such as graphs and geometry.
     - Formulate real-life problems as algorithmic problems and solve them.
   - Competences to:
     - Analyze a computational problem in order to find an appropriate algorithmic approach to solve it.

5. Literature
   - See Absalon when the course is set up.

6. Teaching and learning methods
   - A mix of lectures and exercises.

7. Academic qualifications
   - It is assumed that the students are familiar with basic algorithms (sorting, selection, minimum spanning trees, shortest paths) and data structures (lists, stacks, binary trees, search trees, heaps).

8. Sign up
   - Self Service at KUnet
   - As an exchange, guest and credit student - click here
   - Continuing Education - click here

9. Exam
   - Type of assessment: 7.5 ECTS
     - Oral examination, 30 minutes
   - Exam registration requirements: In order to qualify for the exam the student must complete 2 mandatory exercises.
   - Aid:
     - All aids allowed
   - Marking scale: 7-point grading scale
   - Censorship form: External censorship
   - Re-exam: If student is not qualified then qualification can be achieved by hand-in and approval of equivalent exercises.
   - Re-exam same as ordinary exam.
   - Criteria for exam assessment: See learning outcome.

10. Workload
    - Category Hours
      - Lectures 36
      - Theory exercises 84
      - Preparation 84
      - Exam 2
    - Total 205
<table>
<thead>
<tr>
<th></th>
<th>Course number and title</th>
<th>11</th>
<th>What year the course is offered in (autumn/spring)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>The programme that offers the course</td>
<td>12</td>
<td>Teaching language</td>
</tr>
<tr>
<td>3</td>
<td>What you can expect the course to involve</td>
<td>13</td>
<td>Amount of credits granted course completion</td>
</tr>
<tr>
<td>4</td>
<td>Your expected outcome from the course</td>
<td>14</td>
<td>What level the course is offered at. This can be bachelor- or master level</td>
</tr>
<tr>
<td>5</td>
<td>Literature (curriculum) to be studied during the course</td>
<td>15</td>
<td>Course duration</td>
</tr>
<tr>
<td>6</td>
<td>Teaching methods used in the course</td>
<td>16</td>
<td>What schedule group the course is placed in</td>
</tr>
<tr>
<td>7</td>
<td>The academic qualifications you are expected to possess to attend the course</td>
<td>17</td>
<td>Maximum number of continuing-education-students to attend the course</td>
</tr>
<tr>
<td>8</td>
<td>Where and how to sign up for the course</td>
<td>18</td>
<td>The institute that offers the course and what study board it belongs to</td>
</tr>
<tr>
<td>9</td>
<td>Overview of the form(s) of exam used in the course</td>
<td></td>
<td>Name/names of the people responsible for the course, and who you may expect to be taught by</td>
</tr>
<tr>
<td>10</td>
<td>Overview of your expected workload during the course</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>