Exam in Algorithms in Bioinformatics – Sequences, Q1/2014

The final exam in “Algorithms in Bioinformatics - Sequences” (AiBS) is an individual oral exam (20 minutes without preparation time) where you give a presentation of an exam question related to one of the mandatory projects. The question is chosen randomly among the questions below. For each question you should prepare a 10-12 minutes presentation covering the topics you find relevant related to question. The official curriculum for the exam is also listed below.

The exam takes place on Tuesday, October 21, in Lecture Room 1111-100, and Wednesday, October 22, in Lecture Room 1110-214. The exam starts at 09:00, the final schedule will be available on the class www-page one week before the exam.

Exam questions

Question 1: Pairwise alignment - gap costs
• Computing the optimal score of a pairwise alignment.
• Computing an optimal pairwise alignment in quadratic space.
• Handling different types of gap costs (general, affine).

Question 2: Pairwise alignment - space consumption
• Computing the optimal score of a pairwise alignment.
• Computing an optimal alignment (with linear gap cost) in linear space.

Question 3: Multiple alignment
• Computing an optimal multiple alignment using SP score.
• Approximating an optimal multiple alignment using SP score.

Exam curriculum

• Every reference listed under “Reading material:” on the weekly schedule for Week 1-7, see http://www.cs.au.dk/~cstorm/courses/AiBS_e14/schedule.html.
• The descriptions of the mandatory projects.