There will be number of exam questions covering the topics discussed in lectures, exercises, and mandatory projects during the class. The below list is a tentative list of questions related to the topics covered in the first seven weeks of the class.

**Question 1 - Algorithms and Graphs**

* + What is an algorithm and how you reason about its complexity?
  + What is a graph and what is a path in a graph?
  + How do you find the shortest path between two nodes in a graph?
  + Applications of graphs?

**Question 2 - Algorithms and Dynamic Programming**

* + What is an algorithm and how you reason about its complexity?
  + What is dynamic programming and when can it be applied?
  + What is the benifit of using dynamic programming?
  + Applications of dynamic programming?

**Question 3 - HMMs and Viterbi decoding**

* + What is a hidden Markov model
  + What is a Viterbi decoding?
  + How can you compute a Viterbi decoding efficiently?
  + Applications of Viterbi decoding?

**Question 4 - HMMs and learning from data**

* + What is a HMM?
  + Applications of HMMs?
  + How do you construct an HMM for a specific problem, e.g. gene finding?
  + How do you estimate/learn the parameters of a HMM from data?