Exam "Genes, Populations, and Evolution"

Exam mode: The total length of the exam is 30 minutes. It consists of a period of 15 minutes of preparation in isolation of a particular topic from the course and a 15 minutes oral interrogation period by the professor and an expert. The topic to be prepared is blindly sampled from a set of topics that have been covered in the course (e.g., density-dependent population dynamic, natural selection, parent-offspring conflict, heritability, kin selection, etc.). During the preparation period you can have access to lecture slides and notes, computer; that is, any information you like to prepare your question. During the interrogation period you are allowed to have access only to the notes you have prepared during the 15 minutes.

Oral interrogation period: During the interrogation period we will assess your understanding of the material of the course and thus ask questions on (1) the specific topic you have sampled and prepared and (2) topics from the whole course. Thus the interrogation consist of two parts and you thus need to understand the entire course. **The exam is in english**.

Exam grading: Your grade of the exam will consists of two parts: (1) how well you address the specific topic you have prepared (50%) and (2) how well you answered the general questions (50%). Questions on the specific topic are generally more focused than general questions.

Exam purpose: The purpose of the exam is to assess wether (1) you have understood the broad ideas behind the course and (2) be able to connect the various parts of the course to each other and thus have acquired a broad and synthetic understanding of the course.

Equations: The main equations given in the lectures slides should be understood; that is, you need to be able to explain the terms in the equations and understand the corresponding graphics (e.g., know the components of Hamiltons's rule, be able to explain the models of natural selection, mutation, understand the selection gradient and all the corresponding graphs to these models, etc.). In fact, it is crucial that you are able to understand the graphics and we often ask during the exam that you redraw a certain graph pertaining to some part of the course. However, you will not be asked to do any calculation or derivation during the exam. For the specific part of the interrogation (1) you can thus write down the main equations pertaining to your topic (if any). During the second part (2), we may ask you if you remember a particular equation that was insisted on in the course to be important (say Hamilton's rule or heritability, but never a complicated one), or we may write down an equation (say the selection gradient on female trait values) and ask you to explain it.