Modern Astrostatistics
Exam 2019

Student name:

Student university-ID number:

Notation:
Vectors and matrices must be visually distinguishable. Transposed vectors and matrices are to be marked as such, also in scalar products and outer products.

Part I: Understanding . . . . . total: x CP

Read the script, the handwritten notes, and the slides; prepare for questions that test your understanding beyond computation. Expect that you might have to plot or sketch.

Part II: Analytics . . . . . total: x CP

Prepare for simple analytical computations. Prepare for keeping a calm head when the exercise confuses you at first. This is normal in statistics.
Expect inference problems to be solved, and expect that as with any riddle, the problem is not the computation per se, but rather how to crack the riddle.
Your solutions will be graded well-meaningly. If you come up with unexpected but correct solutions, you still achieve the top grade.
Ask the lecturer and the assistants, if you have difficulties comprehending the (English) exercise descriptions.

Part III: Numerics .....total: x CP

Submission for marking:
Create a folder with your name and student identification number. Submit this folder at the end of the exam. Only *final* versions of code are accepted, multiple precurser-versions are ambiguous and will hence not be graded.

1. Check all your code mentions your names in an introductory comment line.
2. Copy your folder to have a security backup.
3. Open a terminal.
4. using cp, copy one of your folders to /path/to/be/revealed.
5. Additionally submit your files by storing them on our provided USB sticks.

Do not send code by email, it will be rejected by the university spam filter. Before leaving the room, please come to the front and confirm receipt of your files.

Allowed:
You are allowed to read and search the python documentation, the GSL documentation, C/C++ and gnuplot documentation. You are allowed to read Wikipedia, the github repository of Elena Sellentin, and you are allowed to google in order to find the right documentation. You are allowed to access and use the code you created during the tutorials. We will track 'strangely' similar codes.

Not allowed:
Everything that is not allowed is forbidden. Reading any other websites, e.g. stackexchange, crossvalidated, Facebook, or your emails, or loading high-level astrophysics libraries, will lead to the student failing the exam. In case of doubt, please ask the lecturer and the assistants.