

IA168 Algorithmic Game Theory

Exam manual

This manual specifies the knowledge demanded by the IA168 exam. Please, keep in mind that the knowledge described below is *mandatory even for the E grade*. Missing a single part automatically means F. You may repeat the exam as often as you wish (at the official exam dates); only the best grade goes into the information system.

You have to know **everything with all mathematical details from all slides starting with slide 21 and ending with slide 224 (if you are taking the exam before Christmas, then ending with the slide 202)** with the following notable exceptions:

- Slides 52 and 53 were omitted and will be omitted from the exam.
- Slides 102 - 104: You do not have to memorize all items in Theorem 38; just know one. Do not have to learn the content of slide 103. It would be nice to discuss slide 104, but if you do not have sufficient background, it's very difficult to get into the exotic complexity classes, so you may omit this slide.
- Slide 223: You do not have to reproduce the derivations from the slide but should know what the expected revenue means.
- Slide 224: Do not have to memorize all conditions of the theorem. Just know that there is a more general variant of the revenue equivalence than the one presented in the lecture.

Of course, you don't have to memorize exact numbers in examples if you can come up with your examples illustrating the same concepts or proving the same claims. You have to be able to communicate formally using proper mathematical notation, **rough informal explanations will not be accepted**. You may be asked to prove/disprove simple claims not present in the lectures.