ROB 501 Exam-I

Time, Place, Rules and Review Session

- The exam is Tuesday October 30, 6:10 PM to 8 PM. Please be seated by 6:00 PM. We will start passing out exams at 6:03 PM. **DO NOT OPEN YOUR EXAM until told do so. DO NOT COUNT PAGES. Everyone will start at the same time.**

- The exam rooms are assigned by First Letter of Last Name: **(A-E) in EECS 1303; (F-L) in EECS 1311; and (M-Z) in EECS 1500**. Please note your exam room.

- If you have a conflict with the exam time, please contact me by email no later than Tuesday October 23, 4 PM. Also, in your email, please include the nature of your conflict.

- Rules are exactly those on the first page of Exam I 2017. Note that you cannot use your cell phone as a clock. You are allowed to bring two sheets of US standard letter paper, and you can write on both the front and back sides of each sheet. It is preferred that you write them out by hand unless you have a medical reason to typeset them.

- **Review Sessions:** Sunday, Oct 28, 5:00 PM to 6:00 PM in room EECS 1500 (led by Prof. Grizzle) and on Monday Oct 29, in EECS 1303, 6:30-7:30 PM, (led by GSI Nils). These will be Q&A sessions. We are NOT lecturing. We will do our very best to answer questions that you pose. If there are no questions, we go home! Please bring questions.

- We will use approximately 50% of Tuesday's lecture (day of exam) also for Q&A.

Material Covered

- From Lecture 1 through Lecture 12 on 11 October 2018.

- HW 01 through Prob. 3 on HW 06. Orthogonal matrices, Positive Definite Matrices, and Weighted Least Squares are on Exam I.

- Exam material stops with lecture on 12 October. RLS will be saved for the final exam.

- You may have to invert by hand a 2×2 matrix.

The exam will **not** cover:

- Lagrange multipliers

- Probability

- RLS

Type of Questions

- Your exam will look similar to past copies of Exam 1 posted on the CANVAS site.

- This year, you do not have to record your Multiple Choice answers on Page 2 of the exam because we will scan your exams into GradeScope.

- There will be ONE proof on the exam. When doing the proof, you can use as a fact ANYTHING we have established in lecture or HW as long as your write it out and state that the used fact is from lecture or HW. **Example Fact:** In a finite-dimensional vector space, any set of linear independent vectors can be completed to a basis. **Source:** Lecture.

- If you give more than one proof or solution to a problem, you must tell me which one to grade. If you do not tell me which one to grade, I will grade the first one, even if it is wrong and something later is correct. What else can I do? The only reason I mention this is because it has come up in the past.

- Everyone always wants to come to me and ask if they have shown enough on the workout problems or the proofs. **I cannot answer that question.** My best advice is to show your work clearly. Show the steps you are following. You do NOT need to re-derive something we have established in class or HW. You can just state it as a fact and then use it. For example, you do not need to re-derive the normal equations; just use them if they are useful.

Suggested Strategy

Spend at most 25 minutes initially on the multiple-choice T-F questions. Mark the ones you are sure of and move on to the work-out problems. Then come back to the multiple choice questions at the end. Yeah, I know, we all hate multiple choice questions, but it is the only way to have a broad coverage of the material with very few calculations. The multiple choice questions actually consist of four T/F questions, worth 1.5 points each. **This year, you must mark each question as either T or F** with the stipulation that if you mark all as true or all as false, then you get no credit whatsoever because it is assumed that you are just guessing. **So, not matter what, even if you are guessing, please do mark at least ONE as T and ONE as F.**