

Monday 3/18/2019 : Engr II Last Lecture 😊

Announcements:

□ EII, Exam 1 corrections are due today Mon 3/18/2019 by

□ This coming Wednesday 3/20/2019 we will have our 1st draft of the final exam during lecture time 8am-9:50am

□ We agreed on allowing option to start at 7am in Rm 4718

□ Please submit your "write your own Exam Questions" by the end of this lecture (9:50am on Mon 3/18/2019)

□ We are allowed up to 6 double-sided note sheets or 12 single-sided note sheets (no larger than 8.5" x 11")

Notesheets must be HANDWRITTEN in almost all cases.

(You're welcome to get creative + eliminate white space from previous notes but, remember to use this as a study skill to remember/understand material)

□ I will collect every sheet of paper used on this exam to help me grade. My goal is to have these fully graded by Friday 3/22/2019 at 8am

□ Exam corrections ~~would be~~ will be due on Monday 3/25/2019 by 8:30am...

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Possible proof questions that I've already solved: differentiable function

B Derive Newton's method for $f(y) = 0$

Initialize $\hat{y}_0 = ?$

recursive:
$$\hat{y}_{n+1} = \hat{y}_n - \frac{f(\hat{y}_n)}{f'(\hat{y}_n)}$$

$$y - y_1 = m(x - x_1)$$

$$y = y_1 + m(x - x_1)$$

$$0 = f(\hat{y}_n) + f'(\hat{y}_n)(x - \hat{y}_n)$$

$$x - \hat{y}_n = \frac{-f(\hat{y}_n)}{f'(\hat{y}_n)}$$

$$x = \hat{y}_n - \frac{f(\hat{y}_n)}{f'(\hat{y}_n)}$$

$$y^3 - x = 0$$

Show $\sqrt{x} = y \Leftrightarrow y^2 - x = 0$

Show that for $f(y) = y^2 - x$, we have an algorithm to compute square roots

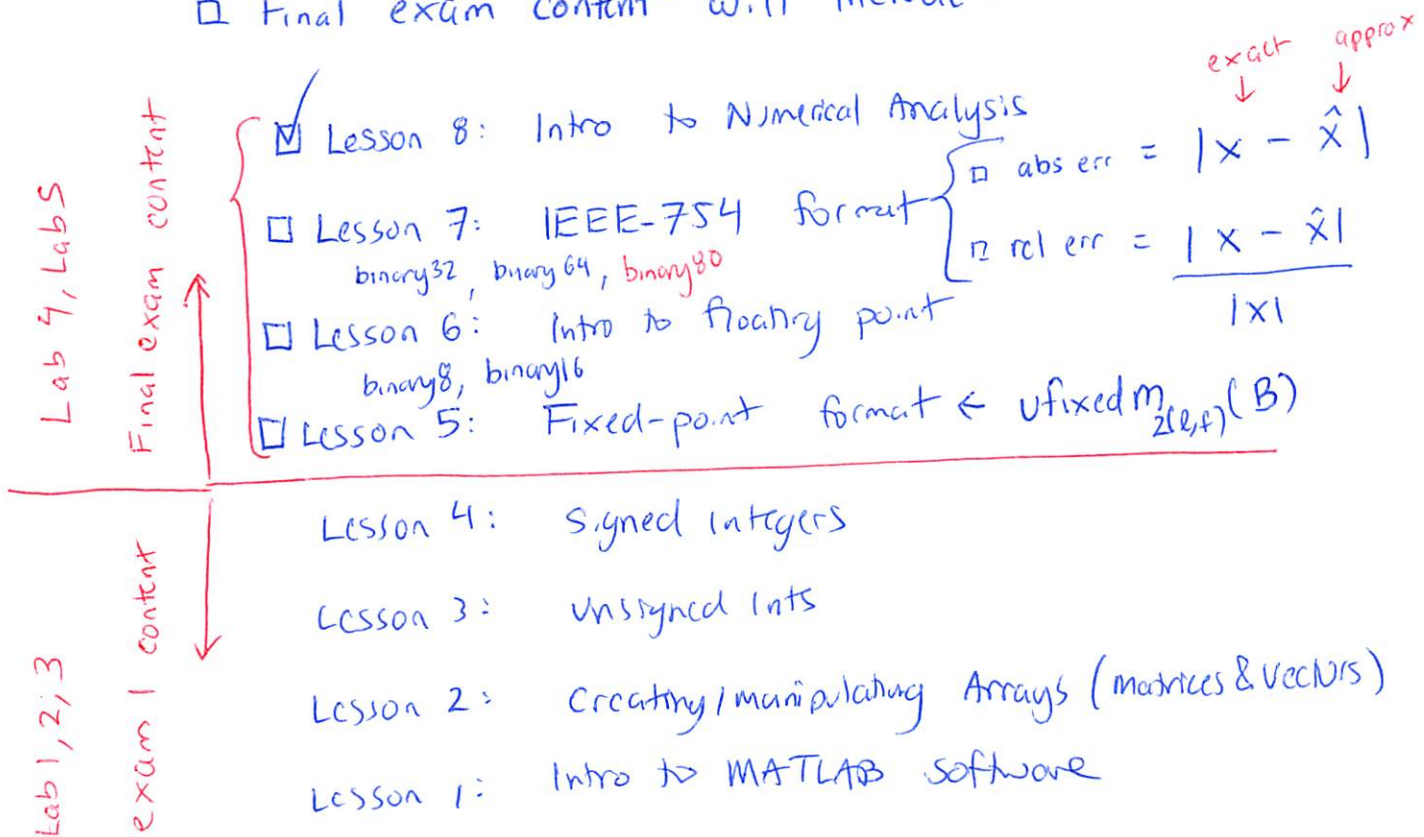
$$\hat{y}_{n+1} = \frac{1}{2} \left(\hat{y}_n + \frac{x}{\hat{y}_n} \right)$$

□ To get credit for the final graded exam, you must submit your exam corrections in person

□ On Mon 3/25/2019 we will

- submit corrected exams
- complete final course evaluation ("anonymous") and personal study plan
- 50min talk about MATLAB in action by Sivaram @ UC Berkeley

□ Final exam content will include:



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datatypes: $\left\{ \begin{array}{l} \text{uint8}, \dots, \text{uint64} \\ \text{int8}, \dots, \text{int64} \\ \text{single}, \text{double} \end{array} \right.$

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