

wrt "lecture notes", source material, supporting notebooks.

colab was the development environment chosen for this course and colab notebooks for lecture notes is the result of classroom circumstance – and student requests. back in my day students had to take their own notes!

the computer lab that usually hosts numerical methods has inaccessible whiteboards; their usable space is quite far off the ground. lectures started out as handwritten with code walk-throughs but evolved to latex layered between code in colab notebooks and then to colab-generated pdfs with proofs, derivations, examples blocked out for handwriting via ipad. (handwriting remains an excellent speed for student digestion.) that is the intent of the colab notebooks.

the notebooks draw heavily from tim sauers [numerical analysis, 2nd edition](#). the lecture delivery itself often contained extra material, links, examples but the middle and later notebooks are selected or reduced content from sauers book, which had the basic flow desired for the class. early material and special lectures are sourced elsewhere and noted as such.

the book also provided some of the questions (or types of questions) used for homeworks and the final. all quizzes were written and delivered weekly and mostly do not repeat between semesters as they reflect the needs of the current students. some homeworks also repeated topics as required.

most python code was written in-house – including demos and tutorials. in the very rare case it was not, its source is noted. python is the programming language supported by this course but coursework was accepted in other languages – as long it was supported by a reputable online site. fyi, the demonstrations are incomplete bc they are extended or completed during lecture or recitation-style office hours or recordings.

ksa, spring 2024.