# ME 444
# MATLAB® FOR ENGINEERS


Lecturer:

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*Office Hours:*

*Tuesday: 13.30- 15:00*

*Friday : 10.00- 11.30*

# CHAPTER 1

## INTRODUCTION

Course plan, Course Evaluation Criterias, Textbooks, Content

# Information about the course

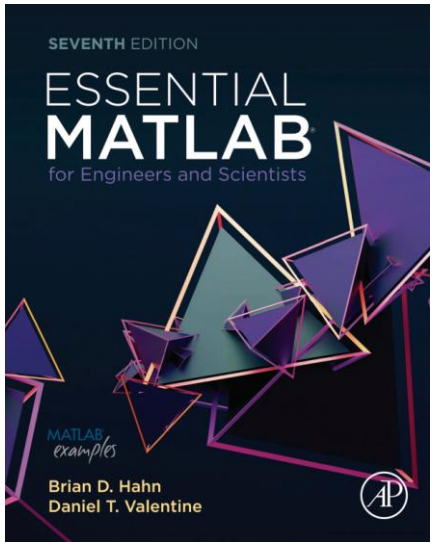
- The aim of the lesson is that provide the students:
  - ✓ To be able to develop an algorithm for solving a problem,
  - ✓ To be able to express algorithms with a flowchart,
  - ✓ To have programming knowledge,
  - ✓ To be able to create MATLAB functions,
  - ✓ To be able to use MATLAB as a symbolic calculator to solve linear algebraic problems, ODEs,
  - ✓ To be able to use MATLAB Toolboxes.

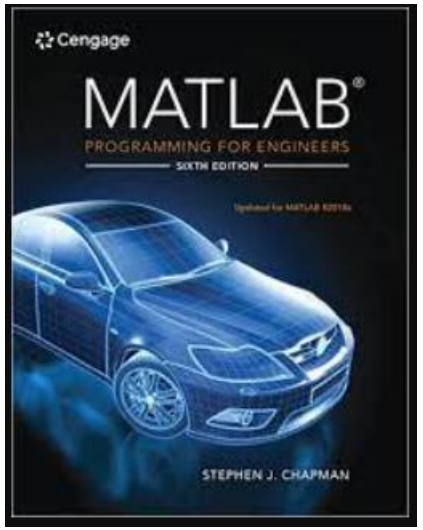
# Information about the course

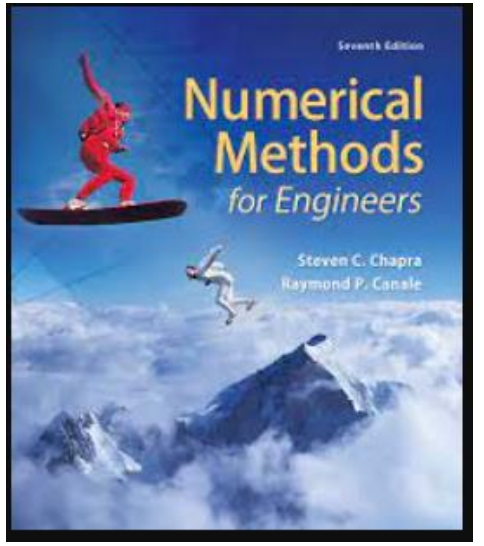
- Evaluation of the course:
  - Midterm 1 (30 %) + Midterm 2 (30%) + Final Exam (40%)
- Attendance:
  - You must attend classes on time.
  - You must attend classes for at least 70% of the total class hours.
- MATLAB version:
  - MATLAB 2018b or latest versions can be used.

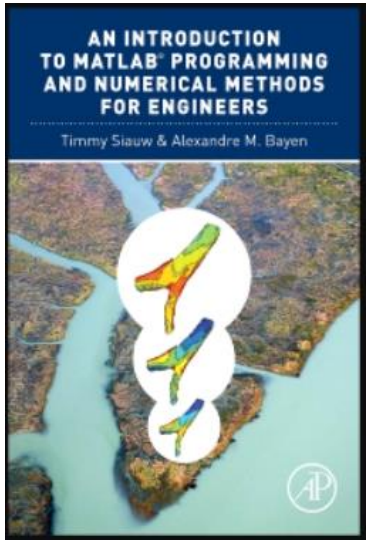
# Information about the course

- Course books:
  - Essential MATLAB for Engineers and Scientists, Hahn Brian and Valentine Daniel T., Elsevier.
  - MATLAB programming for engineers , Chapman, Stephen J., Toronto, Ont. : Cengage Learning, 2013.
  - An introduction to MATLAB programming and numerical methods for engineers , Timmy Siauw, Alexandre M ,Amsterdam : Academic Press, an imprint of Elsevier, 2014.v
  - Applied numerical methods with MATLAB for engineers and scientists, Chapra, Steven C., New York : McGraw-Hill, 2012.



# Information about the course

- Content:

1. Introduction
2. Making Algorithms and Flow Charts
3. MATLAB Fundamentals (Using MATLAB, Windows, The Desktop, Variables, The workspace, Arrays, Data Types, Arithmetic Operations etc.)
4. Vectors and Matrices
5. Program Development ( MATLAB Functions, Built-in Functions and Data Import- Export)
6. Logical Operators and Functions
7. Loops
8. Function m-files (Writing your own m-files)
9. MATLAB Graphics
10. Numerical Methods with MATLAB
11. MATLAB Toolboxes

# Next week

## Chapter 2

## Making Algorithms and Flow Charts