You will be required to complete homework assignments and a project that use a high-level language.

MATLAB is strongly recommended, but you may use similar packages such as Mathematica, MathCad, R, Octave, and SPlus.

I will include MATLAB code segments in my notes.

Will not teach you MATLAB — you are expected to learn on your own.

There are many tutorial books.

Dr. James McNames
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Electrical & Computer Engineering

My Background

- Ph.D. 1999
- Teaching in PSU ECE dept. seven years
- Fifth time teaching this course
- Formerly named “Learning from Data”
- Research area: Biomedical signal processing (see http://bsp.pdx.edu)
**Text Books**

- No required text book
  - Range of topics is too broad for one book
  - Primary source of information: lecture notes
  - Contact me for more information on a particular topic
- Two recommended books
- Will adapt notes to follow the first one more closely this term
- Will also include recommended reading

**Course Resources**

- Recommended text books
- Lecture notes (third draft)
- Distance learning classroom
- Web site: [http://ece.pdx.edu/~edam](http://ece.pdx.edu/~edam)
- Feedback on all encouraged (Email preferred)

**Course Web Site**

[http://ece.pdx.edu/~edam](http://ece.pdx.edu/~edam)

- Syllabus
- Outline
- Lecture notes — essential
- Links to data
- Homework assignments
- Project requirements
- Suggested books
- Grades
- Student reports & presentations from previous terms

**Lecture Notes**

- Posted on the class web site
- Will update throughout the term
- Watch for updates as late as 1/2 hour before lecture (11:30 am)
- Updates will not be drastic
- Old notes should suffice in most cases
- Workspace provided for examples worked during lecture
6-digit Codes

- I use 6-digit codes to post your grades online and for anonymous identification on exams
- Email code to me this week
- Can be any character that you can send via a plain-text email
- Remember it for the exam and quiz

Assessment

- 20% Homework
  - 5–6 assignments
  - Will consist of applying methods & algorithms discussed in class
  - Generally will have 1 week to complete
  - 557 students will have additional problems

Assessment Continued (1)

- 20% Midterm
  - Part conceptual, part application
  - Late in the term
- 10% Final quiz
  - In class
  - 30–60 minutes
  - All conceptual

Assessment Continued (2)

- 50% Project
  - 5% outline, introduction, and literature review
  - 5% first draft of report (based on completeness)
  - 5% blinded peer review
  - 10% oral presentation (includes attendance & participation)
  - 25% final draft of report (based on quality)
  - Key requirement: Must use or expand methods discussed in class
  - Report details on next slide
Final Report Format

- Must be in final submission format (5 page maximum)
  - Approximately 9 pt type, two justified columns
  - See BSP web site for examples: http://bsp.pdx.edu
  - Previously allowed IEEE peer-review, but not this term
- Must be written in \TeX or MS Word
- Must submit electronic copy
- Detailed formatting information is posted on the web site
- Scope should be similar to an IEEE conference paper

Final Report Assessment

- Will give a score final report for each of the following categories
  - Format
    - Does the report adhere to the IEEE format?
    - Does it adhere to requirements listed on the web site?
  - Grammar
    - Is the report written in past tense (it should be)?
    - Does the report use the terms "I" or "you" inappropriately?
    - Were there many grammar or spelling errors?
  - Organization
    - Is the report well organized?
    - Are the section headings appropriate and clear?
  - Clarity:
    - Was the report clearly written?
    - Could I understand what was done and why after reading it?

Final Report Assessment Continued

- **Scope**: Was the project of sufficient scope for the class?
- **Abstract**: Does the abstract give an accurate and concise summary of the report?
- **Significance**: Is the significance of the project explained?
- **Objectives**: Are the project objectives clearly specified in the introduction?
- **Methodology**: Were the methods and algorithms used appropriate for the data and project objectives?
- **Results**:
  - Were the results sufficient?
  - Were they clearly stated?
  - Was a table or plot used to display the results appropriately?
- **Citations**: Were appropriate citations made to previous work?

General Comments

- This course is still in the development phase
- May add or remove material as the term progresses
- I expect much of your learning to occur out of lecture working on the projects
- “Learn by doing” philosophy
Scope of Class

- Concepts, methods, & algorithms will be described in lecture
- You will demonstrate your understanding by implementing (i.e. coding) and applying these methods on real data
- Coverage will target time-proven methods
- Not necessarily the best or latest
- Many of these problems are still active areas of research
- Less structured than other classes, project-driven