



Research Methods in Science in Engineering

Course Introduction

Slide 1

Outline

- About this course
- Rules, policies and procedures

About This Course

Course Logo



- Almost everything in research is built on the ability to communicate.
- This course will work hard to build and emphasize communication skills.
 - Graphics & Visualization
 - Writing & Speaking
- On top of communication skills is ethics and methods in research.
- Reward comes only after mastery of all these skills.

About This Course

Course Website:

<https://empossible.net/academics/research-methods/>

Expect this course to be more like a group discussion and workshop than a traditional course.

This class will be as much work as an ordinary course, but the material will be *life-changing*.

IMHO

The topics covered in this course are highly subjective.

Your course instructor is just one opinion on some very complicated topics.

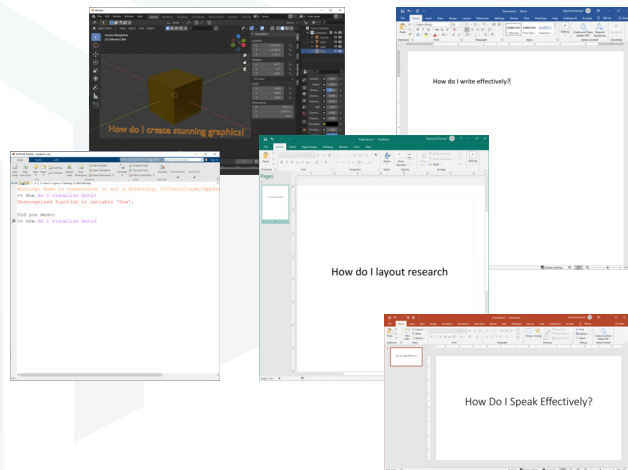
Do your own research, form your own opinions, and identify what practices work best for you.

Software You Will Need

- Blender
- MATLAB
- Microsoft PowerPoint (or equivalent)
- Microsoft Word (or equivalent)
- Microsoft Publisher (or equivalent)
- Microsoft Excel (or equivalent)

Course Topics

1. Professional Communications
 - a. Graphics and visualization
 - b. Writing
 - c. Speaking
2. Scientific Practices
 - a. The scientific method
 - b. Searching and reading the literature
 - c. Proposing and defending your research
 - d. The scientific method
 - e. Dissemination and the peer-review process
 - f. Data management
 - g. Intellectual property
 - h. Responsible conduct and ethics
3. Business Development
 - a. Branding
 - b. Networking
 - c. Showcasing
 - d. Proposal development and budgets



Rules, Policies & Procedures

Grading

Participation.....	30%	90% to 100%	A
Homework.....	30%	80% to 89%	B
Midterm Exam.....	20%	70% to 79%	C
Final Exam.....	20%	60% to 69%	D
		0% to 59%	F

Participation (30%)

- Ask questions!
- Respond to polls and give professor feedback
- Treat all correspondence as professional
- Show up to class on time and be prepared
- Do not disrupt the class, turn off mobile phones, etc.

Homework (30%)

- Homework is meant to practice and demonstrate skills
- Always attach a cover sheet
- Always attach quality checklists when applicable
- Staple at upper left corner
- Homework shall be neat, well organized, and problems solved in the order they were asked.
- Computer codes should be located in an Appendix at the end.
- Follow formatting instructions exactly.

Midterm Exam (20%)

- Write a letters paper.
- Apply what was taught in the course.

Final Exam (20%)

- Write a graduate research proposal.
- Apply what was taught in the course.

Flexibility in Assignments

- Deviations from assignments allow the student to customize their homework for their own purposes.
- Deviations that make the homework easier or exercise less skills taught in class are not allowed.
- **All deviations from the assignments must be agreed to by the professor via e-mail or in writing.**

Academic Dishonesty

- Do you own work.
 - Generate your own graphics, do your own writing, etc.
- Do not copy or borrow from any other sources.
- **Zero tolerance policy.** All infractions will be reported immediately to the Office of Student Conduct and Conflict Resolution (OSCCR).

COVID-19

- Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms!
- Class will follow UTEP policies and procedures for SARS-COV-2.
- Use common sense and error on the side of safety.

