Minor in Applied Sciences and Engineering

Dr. Richard Goldberg
Teaching Associate Professor
Director of Undergraduate Studies

Dr. Heidi Harkins
Associate Chair of Departmental Initiatives
Why an engineering minor?

• Learn skills for the workplace
  • Tools and techniques used in engineering, such as...

MATLAB

BEAM
BE A MAKER

AUTODESK® FUSION 360

LabVIEW

APPLIED PHYSICAL SCIENCES
Why an engineering minor?

• Complement the learning in your STEM home department
Why an engineering minor?

- Develop an entrepreneurial mindset as a life-long skill
  - Demonstrate curiosity about the world around them
  - Make connections to integrate knowledge
  - Identify unexpected opportunities to create value
Why an engineering minor?

• If you think that designing, making, and modeling things is fun, then the minor will be fun!
What is the APSE minor?

• Pre-requisite courses that are common for most BS majors
• Introduction to Engineering (2 courses)
• Engineering Fundamentals (1 course, choose from list)
• Engineering Topics (2 courses, choose from list)
Pre-requisite courses that are common for most BS majors

- MATH 231 Calculus of Functions of One Variable I 4
- MATH 232 Calculus of Functions of One Variable II 4
- MATH 233 Calculus of Functions of Several Variables 4
- PHYS 104/114/116/118/L Mechanics 4
- PHYS 105/115/117/119/L Electromagnetism and Optics 4
- CHEM 101/L General Chemistry I 4
- CHEM 102/L General Chemistry II 4
- And a choice of (1 course, 3 credit hours):
  - COMP 110 Introduction to Programming 3
  - COMP 116 Introduction to Scientific Programming 3
Introduction to Engineering (2 courses)

All students must take both courses

• APPL 101 – Exploring Engineering
• APPL 110 – Introduction to Design & Making: Developing Your Personal Design Potential
Engineering Fundamentals (1 course, choose from list)

• APPL 240 Developing your 6th sense: Designing Sensors and Electrical Circuits to Make Measurements
• APPL 260 Living in a Material World: Intro to Materials Science and Engineering
• APPL 280 Fluid relationships: An Intuition Building Approach to Fluid Mechanics
• PHYS 231 Physical Computing
• ENVR 205 Engineering Tools for Environmental Problem Solving
Engineering Topics (2 courses, choose from list)

• Long list from many departments in the Division of Natural Sciences and Mathematics

• In Computer Science and Neurosciences, you must be majoring or minoring in those departments to take their courses on our list
Questions

• Can I get a job as an engineer if I complete the APSE minor?
• Can I go to graduate school in engineering if I complete the APSE minor?
• Can I do the APSE minor if my major is not a Bachelor of Science degree?
• How can I get more engineering experience outside of the APSE courses?
Other questions?

• Feel free to contact me at r.goldberg@unc.edu