

NOTE: INDIVIDUALS: Use engineering format for problems 1 through 3. Use non-engineering format for problem 4 and 5. Each student should turn in problems 1 through 5 separately from the team homework.

TEAMS: Complete problems 6 and 7 as a team, and turn in one paper for each team. Use non-engineering format for these problems. Write the names of all team members on the paper that you turn in for the team. This homework will be part of your design journal due class 19. Make an electronic copy of this homework for your records before you submit it.

1. You receive a loan for \$4500 to buy new furniture. The loan has no interest for 12 months. After the 12 months the interest increases to 5.2% annual interest compounded monthly. You paid off \$1200 of the loan during the no interest period. Once the 5.2% interest period starts, you start consistently paying off the loan with monthly installments. If the loan is paid off in four years from when you start making the monthly payments, how much are your monthly installments? **\$76.23**
2. Andy invested a certain amount of money which he saves in account that earns 4% per year, compounded annually over a 15-year period. Starting in year 16, he begins making equal annual withdrawals \$3500 for the next 10 years. Assuming Andy's account is fully depleted after making these withdrawals, what is the amount invested in the account initially? **\$15762.93**
3. Karen owns a rental house in Ruston. Her policy requires the renter to make an initial deposit equal to the monthly payments which are \$750. Whenever she receives her payments, she places the money into a savings account that has a 3.5% annual interest compounded monthly. Her renter gives the initial deposit on February 1, 2018. He pays on the first of the month every month for the next three years. How much will Karen's savings be worth on February 1, 2021. **\$29257.70**
4. As an engineer in a world that is becoming increasingly "flat," it is very likely that you will work with people from other cultures during your career. Using the Internet and other sources, learn about cultural differences to help you prepare for these future interactions.

Pick a country other than your native country and discuss some of the things that you would need to consider when interacting with these people. Write a couple of paragraphs describing what you have learned (about ½ page is fine), and come to class ready to participate in an open discussion on this topic. **We expect you to spend about one hour completing this problem; this is not meant to be an exhaustive study of the topic.**

5. As you finish up your first year engineering courses, you will no longer be taking the same courses as students with other engineering majors. It is important that you be advised by a faculty member in your chosen major. You can also check BOSS to see if you have an advisor already assigned to you. If not, please go to the Program Office for your major and ask the secretary there that you need an advisor:

Discipline	Program Office
Biomedical Engineering	BEC 103
Chemical Engineering	BEC 110
Civil Engineering	BOGH 257
Electrical Engineering	NETH 123

Discipline	Program Office
Industrial Engineering	BOGH 222
Mechanical Engineering	BOGH 257
Nanosystems Engineering	BEC 110
Cyber Engineering	NETH 123

Please go by to meet your advisor to determine when he or she will be advising students. It is very important that you get a curriculum check sheet and start filling in your grades and planning your quarters. You can find a curriculum sheet online using a Google search such as "civil engineering curriculum Louisiana Tech," and these are also available outside Bogard Hall 210. Your advisor will be helping to make sure you stay on track, but

please remember that you are the one with the most at stake, so ask questions to figure out when you should enroll in various courses and which courses are only offered once per year.

The Associate Dean for Undergraduate Studies and the Student Success Specialists primarily provide advising of incoming students, so please start developing relationships with your advisor and the Program secretary as you move forward.

This is the start of the team homework. Please submit one paper per group. Use non-engineering format for your solutions.

6. Bring your third prototype to class. Include a picture of your prototype along with a written description of your third prototype. Also include a brief summary of the next steps your team will take as you move forward with the product.
7. Bring what you need to class next time to work on your prototype; while it's not necessary to work on your prototype in class, you do have a limited amount of time to use the classroom equipment. It's also a good time to talk with your instructor about technical issues. Only a few more class periods remain before the Design Expo. Be sure to bring your safety glasses if you plan to do any fabrication.