Engineering 199
Class 4
Thinking About Your Career Decision
Deciding on A Career Path Maybe One of the Most Important Decisions in Your Life

I feel the most important thing I experienced at WVU was when you pulled me aside in the hallway one day to make a suggestion to me. I still remember you telling me that my personality type would likely suffer a great deal in a traditional engineering type role out in the real world. You suggested that I interview with APC that was hiring Engineer Graduates at the time for Technical Sales Positions. Now that I have been in the real world and working for APC for 14 plus years, I can totally see how right you were. I love Sales & Marketing Management yet many Engineering Lessons still apply!

Bryan West
Vice President – North American Operations
The Selection Process

1. Departmental Presentations
2. Evaluation of each major as a homework assignment
3. Selection of at least two majors to visit to obtain more information.
4. Completion of major declaration
5. Move to the department when first year courses are done
Moving Into Your Major

- You will be able to enter a major once you have completed the following courses:
  - Engineering 101, 102, 199
  - Chemistry 115
  - Math 155
  - English 101

- You have four semesters to complete these requirements.
You can enter your major early if you meet the following conditions:

- Have 7 credit hours of AP or prior college credit including at least 4 credits of Math 155, Chem 115/116 or Physics 111/112.
- Pass first semester Math (>155), Science (Chem 115/116, Physics 111/112), Engr 199 and Engr 101 with a C or better.
- Have an overall GPA > 3.00.

→ Pass first semester Math (>155), Science (Chem 115/116, Physics 111/112), Engr 199 and Engr 101 with a C or better.
- Have an overall GPA > 3.5

Note: Some departments do not require Engineering 102 if you enter the major early. Engineering 102 will be replaced with another course in your major.
At the end of this semester, we hope you will be able to decide on a major.

- You will be given a major declaration form to sign in E 199. While you don’t need to decide on a major until your second semester, we encourage you to make your choice at the end of the first semester.

- You will not be transferred to a major until you have signed this form.
Consequences of Your Selection Decision

- You can’t take courses in most majors until you are admitted to the major.
- In most majors, you take 1-2 courses in your major each semester of your sophomore year.
  - Changing majors in the first-semester Sophomore year is not a significant problem in most cases but you will lose credits.
  - Changing majors in the second-semester Sophomore year will generally delay your graduation by at least a semester.
- The sooner you start taking courses in your major, the easier it will be to secure internships and co-ops.
Things to Think About in Selecting your Major

- Select a major where you are likely to be a success
- Select a major that will meet your needs over your lifetime
- Select a major based upon realistic expectations
Some Things You May Want to Consider

- Compensation is based upon the industry you join, not your major.
- All engineering careers have the same compensation level after a few years.
- The only way to move into higher paying positions is to take on management responsibilities.
- Most companies would prefer to hire you with a BS degree and then support your pursuit of an MS degree.
- Think about where you want to be when you are 10 years out of college.
  - How flexible will your degree be?
  - Will your interests change?
Principle #1 –
*There is no such thing as a best career.*

**Key Points to Consider:**
- Most people would be happy in a variety of careers.
- No career choice is permanent or irrevocable.
- If you are undecided about what you want to do, pick a major that provides a foundation for a variety of possible career paths.
- Very few people find what they really want to do for a career until they have been out of school for 5-10 years.
- Don’t make a decision about a career based upon what you don’t want to do
Principle #2 –

Some majors provide a stage for many careers while others provide the grounding for excelling in one career.

Some majors provide you with a stage from which you can launch many careers.

Some majors provide you with a ladder by which you can excel in a specific career.
Principle #3 –
*Career selection should be your decision.*

**Key Points to Consider:**
- You can and should seek advice in your career selection decision, but no one can pick the career that is appropriate for you.
- You should not feel an obligation to your parents or anyone else when making your career selection.
Principle #4 –
Financial consideration should be only one factor in career selection.

Key Points to Consider:
- Selecting a career solely because of the earning potential of that career is not wise.
- Ignoring the earnings potential of a career is also unwise because your income needs to cover your living expenses.
- Earnings potential is generally directly linked with career demands. The greater the earnings potential, the more demands the career will impose.
Principle #5 – *Flexibility should be a key determinant in the career selection process.*

**Key Points to Consider:**

- Many jobs that will be available in the future do not exist today.
- Higher paying jobs today tend to go to people with diverse experience.
- Some early career decisions can limit your future opportunities. Don’t become ‘typecast.’
- Staying unfocused for too long can limit your chances for career growth.
Consider these Realities

Design
- Design is done in teams. Your design task is likely to be a relatively small part of the total product
- Design is most often done in the country of origin of the product
- Many engineers are involved in the process of transitioning the design to the manufacturing facility

Entrepreneur
- You will need to get experience in a larger business
- You will need to make significant personal financial and time commitment sacrifices for an extended time period.
- If your business is a success, you will have the highest earnings of any engineering career path
Consider these Realities cont.

Research
- You will need a PhD to pursue this career path
- Compensation (especially for University faculty) will never be as much as you could earn in other career paths

Operations
- This career path requires different personal qualities than other career fields
  - Quick thinking
  - Toughness
  - High energy level
- These are the hardest jobs to outsource
- You will need to have hands on engineering skills rather than “book smarts”
Consider these Realities cont.

Sales
- This career path requires a highly competitive self directed person
- You will need to have a broad engineering background to pick up quickly on the features of the technology
- This is an extremely high paying career opportunity

Management
- Most engineers end up in this career path
  - How soon?
  - How much responsibility?
- The only way to break through the ceiling on engineering salaries is to move into management
- You will need to accept responsibility for yourself and others
Past Experiences

Many students find these next series of classes to be the most helpful parts of Engineering 199.

Many students rethink their original thoughts on a major when they hear about all of the majors.

When students change their major in their sophomore year, it is generally due to:

- The courses in the major weren’t what they thought
- They felt they couldn’t be successful in the major.
Homework

Answer each of the following questions. Provide explanations for your answers

1. Are you a person who likes variety in what you do? Or do you prefer more routine in your daily work? Explain

2. Do you thrive being in responsible positions and being in charge? Or do you prefer a situation where your primary responsibility is doing your own job well? Explain
3. Are you someone who can stick with a task for a long period of time? Or do you get bored fairly easily and want to move on to something else? 
   Explain

4. Do you want to work with others? Or would you prefer to work more by yourself? 
   Explain

5. Are you highly competitive? Or do you generally shy away from situations that puts you in competition with others? 
   Explain

6. Do you seek out a lot of information before you decide what to do? Or do you feel comfortable in making decisions based upon limited information? 
   Explain
7. Do you like to see quick results from your work? Or are you patient and generally satisfied with longer term impacts? Explain

8. Are you fascinated by a specific technology? Or are you more fascinated by problem solving no matter the application? Explain

9. Are you comfortable with a career that can unfold in many different ways? Or do you want to have a firm idea about how your career will develop? Explain

10. Are compensation and position title very important to you? Or are you more interested in lifestyle, family and being part of a community? Explain