**Career and Degree Exploration Mini-project**

Choosing a career or a field of interest is not an easy task to accomplish. According to the National Center for Educational Statistics, 50% - 70% of all college students change their major at least once. Most will change their majors at least three times during their undergraduate career until they find the field that interests them and suits their strengths.

Many students choose an intended major with limited knowledge of potential careers. The purpose of this mini-project is to provide some direction for meaningful degree/career exploration, both in engineering and outside of engineering. We developed this model to incorporate a collection of tools, which will provide you with a holistic view of your talents, interests, and academic strengths.

It is in your best interest to take the time and fully explore every possible outcome that will be recommended upon finishing this series of assignments. We recommend that you follow the pathway in the order prescribed to maximize results.

This project is broken into three components:

1. Self-assessment: Building an aptitude, skills and personality profile
   1. Aptitude assessment
      1. Objective assessment of SAT + HS scores compared with national and UB Engineering Standards
      2. Objective assessment of UB technical course performance
      3. Reflection
   2. Skills & Personality assessment
      1. Plum (Skills and Personality)
      2. MyPlan (Skills Profiler)
      3. Reflection
   3. Interests & Values assessment
      1. MyPlan (Interest Inventory)
      2. Reflection
2. Career + Degree Exploration
   1. Careers linked to skills + interests
      1. Engineering specific exploration
      2. Other careers/occupations exploration
   2. Career deep dive and relevant majors mapping
   3. Discussion of findings with others
3. Final reflection

**Part 1. SELF-ASSESSMENT AND EVALUATION**

1. **Aptitude Assessment:**
2. Compare your standard test scores against national and UB SEAS benchmarks using the table below. The data in Table 1 will help you in the comparisons related to 'quartile assessment' and are intended to give you a sense of where students who have successfully graduated from SEAS started.

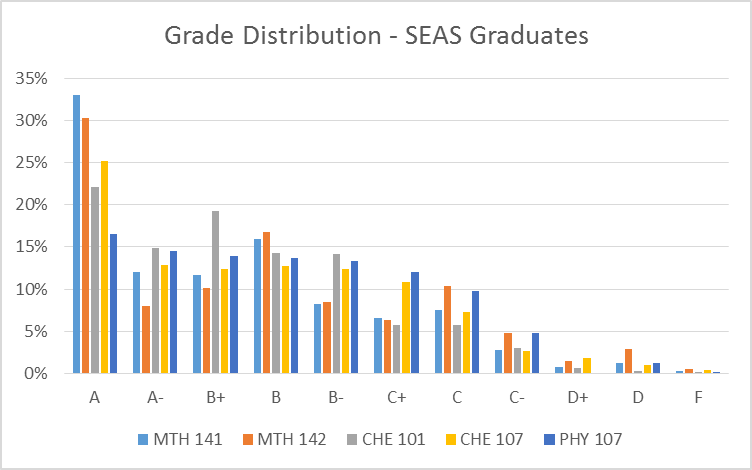
**Table 1.** Test score statistics for students who graduated from UB SEAS over the past five years (2012-2016).



|  |  |
| --- | --- |
| **Benchmarks** | **Your score** |
| UB SEAS 2016 freshmen mean high school average = **94.8** |  |
| National SAT average out of 2400 = **1500** |  |
| National SAT average out of 1600 = **1000** |  |
| UB SEAS 2016 freshmen middle 50% SAT score (out of 1600) = **1200-1320**  *Note: This benchmark reflects the* ***incoming freshmen for Fall 2016****. The 1600 score only considers the Math and Reading components of the SAT.* |  |
| UB SEAS 2016 freshmen average ACT Score = **28**  *Note: This benchmark reflects the* ***incoming freshmen for Fall 2016****.* |  |
| Using **Table 1**, identify the quartile you fall into for the following SAT metrics: | **Your quartile** |
| SAT Math |  |
| SAT Reading |  |
| SAT Writing |  |
| SAT 1600 or 2400 |  |
| Using **Table 1**, identify the quartile you fall into for the following ACT metrics: | **Your quartile** |
| ACT Math |  |
| ACT Reading |  |
| ACT English |  |
| ACT Science |  |
| ACT Composite |  |

1. In addition to these scoring benchmarks, consider your performance in any math and science courses over the past 1-2 semesters. Compare your grades against UB SEAS benchmarks in the table below. The benchmarks provided include minimum grades associated with success in the engineering curriculum ("Min. success marker"). The data in Table 2 will help you in the comparisons related to (approximate) 'quartile assessment' and are intended to give you a sense of where students who have successfully graduated from SEAS started.

**Table 2.** Grade distribution statistics for students who graduated from UB SEAS over past five years (2012-2016).



|  |  |
| --- | --- |
| **Benchmarks** | **Your grade / Your quartile** |
| **MTH 141/MTH 153** | Min. success marker = B- |  |
| **MTH 142/MTH 154** | Min. success marker = B- |  |
| **CHE 107/CHE 101/CHE 105** | Min. success marker = B- |  |
| **CHE 108/CHE 102/CHE 106** | Min. success marker = B- |  |
| **PHY 107/PHY 117** | Min. success marker = B- |  |
| **PHY 108/PHY 118** | Min. success marker = C |  |

(3) Now that you have compared your scores with these benchmarks, what is your reaction? Take a few minutes to jot down a few thoughts/notes. You do not need to be extensive; you will build on these initial ideas in the final reflection.

1. **Skills & Personality Assessment**

Being successful in a particular degree program and career requires more than cognitive ability. A holistic view is important and should consider a broad range of skills and personality traits. The following activities will assist you in building a skills and personality profile. Upon completion of this assessment, we hope that you will gain some insights for what environment may allow you to express your full potential and develop a life long career. To provide a robust perspective of your skills and personality, we ask that you complete two assessments described below.

1. **Plum:** Plum is a service intended to help companies find the best employee match and recognizes that successful candidates have the right mix of intelligence, skills (talents) and personality; a mix that varies by job. You can learn more about Plum from the employer perspective here: <http://plum.io/how-it-works> and from the job-seeker perspective here: <http://plum.io/job-seekers>. You are encouraged to review those perspectives before completing the Plum assessment.

**Before completing the assessment**, rank (or at least identify) what you think are your top 5-6 talents. To complete the Plum assessment (it takes about 25 minutes), go here: <http://plum.io/ub-student> and create an account.

After completing the assessment, make note of the rankings provided by Plum. You may also want to download your Plum report and append to this series of assignments for future reference.

|  |  |  |
| --- | --- | --- |
| **Plum Talents (Skills)** | **Pre-assessment ranking** | **Post-assessment ranking** |
| Adaptation |  |  |
| Persuasion |  |  |
| Leadership |  |  |
| Teamwork |  |  |
| Decision making |  |  |
| Communication |  |  |
| Innovation |  |  |
| Cultural awareness |  |  |
| Task management |  |  |
| Powerhouse |  |  |
| Conflict resolution |  |  |
| Vision & execution |  |  |

Plum also provides feedback on your personality. Make note of your personality profile below.

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| **Plum Personality Notes** |
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1. **Skill Profiler:** Next, visit the MyPlan website: <http://buffalo.myplan.com/>. Create an account and then proceed to take the **'Skills Profiler**' under the ‘**Assessment**’ tab. Once done, use the Skills Test Report to document the top 2-3 skills from each of the skills categories. (The report will also provide some leads/suggestions on career paths, which you will come back to in Part 2 of this mini-project).

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| --- | --- | --- |
| **Profile Review** | **Top (3) Skills** | **Score** |
| Basic Skills |  |  |
|  |  |
|  |  |
| Social Skills |  |  |
|  |  |
|  |  |
| Problem Solving Skills |  |  |
|  |  |
|  |  |
| Technical Skills |  |  |
|  |  |
|  |  |
| Resource Management Skills |  |  |
|  |  |
|  |  |

1. **Skills & Personality Comparison:** After completing these two assessments, what is your reaction? Do these results concur or conflict with one another? How do your personality traits from Plum compare with your own perceptions of your personality? Take a few minutes to jot down a few thoughts/notes. You do not need to be extensive; you will build on these initial ideas in the final reflection.

**C. Interests & Values Assessment**

Knowing your interests is a very important piece of the puzzle that will help you develop a better understanding of who you are, and ultimately, where you want to be. Thus, we ask that you complete the following assessment in order for you to identify and narrow your interests.

1. **Interest Inventory:** For this phase of the assessment, return to MyPlan - <http://buffalo.myplan.com/> - and log in to your account. Upon doing so, click on the **‘Assessment’** tab in the top of the page. Next, click on **‘Interest Inventory’** and begin this assessment. After completing this assessment, you will get your ‘Interest Inventory Report’, which will highlight your primary and secondary interests. Using this report, please fill out the following blanks:

* **Primary Interest Area**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  + Which (3) words (from the provided list) describe you the most?
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Which (3) things (from provided list) do you care for the most?
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* **Secondary Interest Area**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  + Which (3) words (from the provided list) describe you the most?
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Which (3) things (from provided list) do you care for the most?
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Values Assessment:** For this phase of the assessment, return to MyPlan - <http://buffalo.myplan.com/> - and log in to your account. Upon doing so, click on the **‘Assessment’** tab in the top of the page. Next, click on **‘Values Assessment’** and begin the assessment.
2. **Interests and Values Reflection:** After completing this assessment, what is your reaction? Take a few minutes to jot down a few thoughts/notes. You do not need to be extensive; you will build on these initial ideas in the final reflection.

**Part 2 – CAREER + DEGREE EXPLORATION**

In this set of assignments, you will use the data generated from the assessments in Part 1 to explore potential careers and relevant degrees. This exploration will include both engineering and non-engineering options.

1. **Career Exploration**

Return to MyPlan - <http://buffalo.myplan.com/> - and log in to your account. Under the **'Assessment'** tab go to the CareerMatch category at the bottom of the page. The CareerMatch tool allows you to rank best career matches according to each of the assessments from Part 1 – Skills, Interests and Values. It also provides ranking by a composite score that considers all three assessments together.

For each list you develop, choose (5) engineering and (5) non-engineering matches and record the associated 'Match Score'. **You do NOT need to choose the top (5) in each category**. You are looking for options that sound interesting to you for further exploration. Choose matches that have at least a 60% 'Match Score'. As you document your choices below, *also click the 'Portfolio' folder icon* to add the career to the 'My Careers' section of your portfolio.

"Skills" CareerMatch findings

* Which Test? – Set to Skills Test
* What Level of Education? – Set to Level 4: Four-Year Degree (College)

|  |  |
| --- | --- |
| **Engineering Career Matches** | **Non-engineering Career Matches** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

"Interests" CareerMatch findings

* Which Test? – Set to Interests Test
* What Level of Education? – Set to Level 4: Four-Year Degree (College)

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| --- | --- |
| **Engineering Career Matches** | **Non-engineering Career Matches** |
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|  |  |

"Values" CareerMatch findings

* Which Test? – Set to Values Test
* What Level of Education? – Set to Level 4: Four-Year Degree (College)

|  |  |
| --- | --- |
| **Engineering Career Matches** | **Non-engineering Career Matches** |
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"Composite" CareerMatch findings

* Which Test? – Set to Composite Score
* What Level of Education? – Set to Level 4: Four-Year Degree (College)

|  |  |
| --- | --- |
| **Engineering Career Matches** | **Non-engineering Career Matches** |
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1. **Career Deep Dive and Degree Program Mapping**

The purpose of this assignment is to do a 'deep dive' on a few of the engineering and non-engineering career matches identified in part A. Through this exercise, you will ultimately build a better understanding of the roles and responsibilities of a particular career area and degree programs that map to those career areas.

Return to MyPlan - <http://buffalo.myplan.com/> - and log in to your account. Go the 'My Careers' folder in the 'My Portfolio' menu on the left of the screen. For each career, there is a collection of information covering everything from the career basics, to employment and salary estimates, to training and qualifications (i.e. degree areas) typical of the career. The 'Articles' area is especially useful in breaking down each career area and providing additional resources.

For (2) engineering and (3) non-engineering career matches that you saved, answer the following questions in your own words (i.e. do not just copy and paste from the website). You may need to do preliminary investigation for multiple options you identified but you need only document those that are of greatest interest to you.

* What is the general role and job tasks/activities/duties for the career? Is there particular focus on using math, science or other scientific area? Technology or Communication/documentation?
* What skills, abilities and knowledge are most important? (Focus on the top 1-2 in each category)
* What are the working conditions and environment (i.e. deskwork, indoor/outdoor, laboratory, etc.)?
* What are the typical/minimal educational requirements? What degrees do individuals in this career typically have?
* Which degrees at UB map to this career? This link can help you in answering the question - <http://undergrad-catalog.buffalo.edu/academicprograms/> - but you may also need to do further research by visiting department websites.

1. **Discussion with Others**

Before moving to the final reflection, it may be helpful to seek feedback from a third party. Please discuss your assessments and career and degree exploration findings with a friend, mentor, family member, advisor, alumni, or a professional currently in the field of interest. Ideally, seek conversation with 2-3 different individuals and get their thoughts; the questions below may be helpful to the conversation.

Discussion #1

|  |
| --- |
| Relationship of individual: |
| Occupation of Individual: |
| Insights provided by this Individual: |

Discussion #2

|  |
| --- |
| Relationship of individual: |
| Occupation of Individual: |
| Insights provided by this Individual: |

Discussion #3

|  |
| --- |
| Relationship of individual: |
| Occupation of Individual: |
| Insights provided by this Individual: |

**Part 3 - FINAL REFLECTION**

Congratulations, you have reached the final phase of this career exploration assessment! At this point, you are asked to reflect on the knowledge you had before you began this assessment and the knowledge you gained through this assessment. In this reflection paper, you are asked to simply elaborate and answer the following questions regardless of how many words/pages you need to express yourself.

* What was your initial career choice (i.e. before you completed this series of assignments)?
* How did you choose it or who inspired you to pursue this field/degree?
* What kind of skills did you think you had before taking the assessment, and did this assessment confirm what you have? What did you find to be different?
* What kind of talents/skills do you have, that are relevant to your field/degree?
* After taking this assessment, do you believe your credentials (SAT/ACE/GPA) are competitive, average, or below average? If below average, what will you do to improve your standing that you have not been doing already?
* What are some alternative fields/degrees that you have discovered? Which ones interest you and why? Based on this exploration, are you reconsidering your planned career/degree choice? What will you do to make a final decision?
* Did the insights and the advice of the friend, family member, mentor, alumni, or professional align with your field of interest or the alternative field of interest?
* Did you learn something about yourself that you did not know before?
* Would you recommend a friend(s) to take this assessment to better understand and explore themselves and their potential profession?