

University of Alaska Anchorage - School of Engineering

ENGR A151 - Introduction to Engineering - Fall 2012

My Process to Become a "World-Class" Engineering Student

by

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Introduction

The purpose of this report is to detail my process to become a “world-class” engineering student. Within this report I discuss my goals as an engineering student and as an engineer and my plan for achieving these goals. My ultimate goal is to graduate with a bachelor’s degree in mechanical engineering and gain employment as an engineer, doing something that I enjoy and find rewarding. In order to achieve these goals it will be helpful to become a “world-class” engineering student because this will allow me to achieve my goals with the greatest success and efficiency. Within this report I will discuss many of my objectives, including setting my goals, strengthening my commitment to my goals, clarifying my goals, setting up a road map, dealing with adversity, my attitudes and behaviors for success, self-awareness, building relationships, managing time and tasks, organizing my learning process, co-curricular activities, navigating the UAA system, handling stress, managing my personal life, and balancing work and school while this remains necessary. I discuss each of these objectives and where I currently am on implementing them, where a “world-class” engineering student would want to be, and what I need to do in order to get where I want to be. A great resource for me while developing this report was *Studying Engineering: a Road Map to a Rewarding Career*, a textbook by Raymond Landis [1].

Setting My Goals

My goal is to graduate and earn a bachelors degree in engineering. After graduating I hope to gain employment at an engineering firm or work in a job in which I can put my engineering skills to use doing something that I enjoy. Setting up the following list helped me to set my goals because it helped me to realize the benefits of graduating with a degree in mechanical engineering.

Ten benefits of graduating in engineering, ranked:

1. Varied opportunities/flexibility
2. Financial security
3. Social impact
4. Understanding how things work
5. Discovery
6. Creativity

7. Challenging work
8. Always in demand
9. Prestige
10. Professional

For me it is highly important to graduate with a degree in engineering. I am not a traditional engineering student because I already have an undergraduate degree in chemistry and am returning for a second degree. I have spent over a year working for an environmental consulting firm among other scientists and engineers. So far this work has been a great opportunity and experience for me. I have been able to determine aspects of work that I like and that I dislike. I have learned that I enjoy more active work activities, as opposed to sitting at a desk for eight hours a day. This is one of the appeals of becoming an engineer to me. There is so much that you can do with a degree in engineering and a huge variety of opportunities. I would be able to work in the field, at a desk, and at many of the levels in between.

The engineers whom I work with are able to perform many tasks as a result of the knowledge gained while taking engineering courses. Many of them I have spoke with also have had many different work opportunities and had several job offers upon graduating. When I graduated I had more trouble finding work; there is not a great need for chemists within Alaska. Not only that, but I earned a degree in chemistry because I had initially thought that I wanted to attend medical school. When I decided that medical school was not the place for me I decided to finish my degree in chemistry, though it was not one of my top interests. This is not the case with engineering. I am excited to receive a degree in engineering and to learn more about this field.

Though it is very important for me to graduate with a BSE, I do have some limitations at this point in my life. I am at a point in my life where I am not able to be a full-time student, so for now I am working full time and taking as many courses as I can to maintain a healthy balance. Though it is important for me to graduate with a BSE, it is not necessarily my top priority at this point because I have other things, such as bills and house payments, which will not allow me to graduate as quickly as I might like.

I feel confident that I will graduate with a BSE though, and know there are several things that I can do to make it happen sooner than later. I am considering taking student loans (something which I had not needed to do in the past) so that I can finance my education and other areas of my life so that I can further devote myself to my studies and finish as soon as

possible. I believe that this will allow me to graduate sooner and begin looking for my “real” job. I think graduating with a degree in engineering will become more and more important to me as I get further and further into my education. I think that the best thing that I can do at this point is to take things one semester at a time and do the most that I can. I do not want to burn myself out; I hope to maintain a high level of interest and excitement.

Strengthening My Commitment to My Goals

In order to strengthen my commitment to my goals it is important that I stay on track and continue to enjoy the process of becoming an engineer. I am currently enjoying my courses and I continue to work hard to be successful, though at times I have found it difficult to balance work and school. I believe that this will be a constant learning process for me. The important thing is for me to realize when I am having an issue and learn from it so that I can improve my situation for the future. A “world-class” engineering student would find ways to maintain and even increase interest in their field of study so that committing to goals comes relatively easily.

I believe that I need to take steps to ensure that I maintain my interest in my studies and focus on areas that appeal to me most. One thing that I can do to strengthen my commitment to my goals is to become involved in student organizations that appeal to me. If I become invested in a club such as Engineers Without Borders or the American Society of Mechanical Engineers I believe that my commitment to my goals will be forever strengthened. Becoming involved in these activities will allow me to enjoy some of the things that I will be doing after graduating and ultimately increase my commitment to graduating.

Clarifying My Goals

Throughout the course of this semester and over the past year or so I have been able to clarify some of my goals. I have recently decided that I want to pursue my degree in mechanical engineering. Making this decision took time and effort in order to make the decision that I feel is best for me, but it was well worth it. I have also looked into more specific goals, such as which classes I hope to take and pass each semester and deciding upon when I would like to graduate by.

Thinking about why I want to become an engineer has helped me to clarify my goals. There are many reasons why I want to become an engineer. One of my main reasons for wanting to become an engineer is my current work. I work among engineers and have learned to envy what they do and the knowledge and background that they possess from their undergraduate and graduate educations in engineering. I know that all of benefits I have thought of that come along with being an engineer are completely realistic and I hope to work hard and have all of these benefits and opportunities for myself in the near future. I find it hard to not relate many of the benefits with some aspect of my current work and the engineers with whom I work.

I love the varied opportunities and flexibility afforded by a career in engineering. Within school itself there are so many different majors and fields of study to choose from. There are so many that I sometimes find it overwhelming to consider the many options. Among these options there are also a variety of choices and opportunities. In choosing to major in mechanical engineering I have the option to take many different engineering courses as electives and to take courses that may be particularly beneficial for a future career. I have a variety of different research options and intern opportunities, both of which I hope to learn much more about. I also have the opportunity to actively participate in engineering clubs and organizations that meet or have chapters at the university. I am in the process of clarifying my goals that are specific to these many opportunities, such as exactly which courses I want to take and which organizations I want to join.

Along these same lines, when I do become an engineer it seems that I will have even more options. I will be able to work in many different engineering fields, or even in a field that is quite unrelated to engineering. Judging by the examples listed in Landis' book, *Studying Engineering* [1], it is apparent that the opportunities really are endless. This is something that is particularly important to me because I have not yet decided what it is that I want to do as a professional. With a degree in engineering I really will not lose any options. I also have the opportunity to continue on to graduate school, and not just for engineering. Although highly unlikely, if I decided that I wanted to go to medical school or law school I would still be able to do it and take few or possibly no additional undergraduate courses. As an engineer I will have the opportunity and flexibility to work just about anywhere in the world and do many different things. I have been able to see this at my current job. The tasks performed by the different engineers are many, though they are all likely qualified to perform another's job. This is a very

exciting aspect of a career in engineering to me. In my personal time I have already found exciting engineering careers that I may have the option to do, ranging from an “Imagineer” at Disney to an engineer at Apple designing the newest iPhones. Of course these are quite glamorous engineering jobs, but it does feel great to know that I may one day have the qualifications for such jobs after I have my engineering degree.

The potential to have a substantial social impact with a career in engineering is great. Before taking my introduction to engineering course this was one of the benefits of a career in engineering that I had not considered so much. After reading from Landis’ textbook [1] and participating in class discussions I have learned what a huge impact engineers really can have. Whether it is creating a form of communication that connects one side of the world to the other or engineering a cleaner, more efficient source of energy, engineers have unlimited opportunities to have a positive social impact. Before graduating with a bachelor of science in chemistry my goal was to become a medical doctor. I wanted to do this almost entirely for the social impact that doctors have. I loved the idea of helping people on a daily basis and making an impact in the lives of many. I hope that in my lifetime, and career, that I am able to make a positive social impact. I feel that a career in engineering will help me make this hope come to fruition. As an engineer I can do many things to have both a direct and indirect social impact on many people. Directly I can volunteer my skills to help those in need by participating in programs such as Engineers Without Borders and also on my own. Indirectly I will have the potential to bring ideas to reality that could have immeasurable social impacts. I also want to enjoy the process of becoming an engineer though and can wait to make these things happen. As an engineering student I can also make an impact and hope to begin doing so promptly.

Setting Up a “Road Map”

Setting up a road map for myself was an essential step in my process of trying to become a “world-class” engineering student. It was great to have a true visual of what I need to do and when I need to do it. Setting up the road map was also the first time that I was able to determine a realistic goal for when I can graduate. This is very motivating and reassuring; it is great to know that I will always have this road map to refer to.

Garrett's Mechanical Engineering Roadmap

Year	2012, Fall	Credits	Year	2013, Spring	Credits
	ENGR A151	1		ES 209	3
	MATH 302	3		MATH 302	3
	ENGR 105A, B, C	3			
Total Credits		7	Total Credits		6
Year	2013, Fall	Credits	Year	2014, Spring	Credits
	ME 280	3		ENGR 161	3
	ES 210	3		ES 331	3
	ES 346	3		ES 341	4
	ES 309	3		ME 306	3
	ES 331	3		ME 334	4
Total Credits		15	Total Credits		17
Year	2014, Fall	Credits	Year	2015, Spring	Credits
	MATH 314	3		ME 308	3
	ME 441	4		ME 313	3
	ME 414	4		ME 403	3
	ES 411	3		ME 438	3
	ME 453	3		ESM 450	3
Total Credits		17	Total Credits		15
Year	2015, Fall	Credits			
	ME 459	3			
	ME 450	3			
Total Credits		6	Total Credits		0

My above road map likely varies significantly from most traditional engineering students because of the credits I attained with my previous degree and because I will be working full time through the spring semester of 2013. I am currently in the process of joining the mechanical engineering club at UAA and have recently become a member of Engineers Without Borders. I

hope to work throughout the summers leading up to my graduation, preferably at the same place I am working now if they will allow me to do so. Beginning in the fall of 2013 I will discontinue working while I am attending classes in order to complete my degree as quickly as possible. I see my current work as a form of internship, but may try to intern elsewhere as my background in mechanical engineering is strengthened. I will also try to take some of the advanced engineering credits during the summers if they are available so that I can graduate in the spring of 2015 rather than that fall. This depends on the availability of classes though and thus my above road map represents the longest scenario that I can envision.

Dealing with Adversity

Adversity is something that will almost always be present while in school, while working, and in my personal life. Over the course of this semester we discussed several types of adversity that we will face while we are students and beyond. It is amazing how many barriers to our goals and to performing productive actions there can be; so many that it can be overwhelming at times. The good thing is that there are many ways to overcome these barriers.

One significant barrier has to do with current behaviors and those things that appeal to us in the moment, but may not be productive tasks. These can often be quite difficult to overcome because it is in our nature to satisfy our current wants and needs, though often our current want is for something that is not productive or in many cases it is something that may be regarded as counter-productive. An example of such an issue that has directly affected me in the past is watching sporting events on television. I often regard these as “important” and try to watch them, sometimes at the expense of things that truly are important and productive. Although I strongly believe that it is important to do things for pleasure as well as things that aim towards accomplishing important tasks, it is important to have a balance and to not sacrifice the important activities. I think that to overcome this barrier one must be able to step back from the situation and realize that it truly is an issue. Without realization and acceptance it will be difficult to combat the problem. Once you have realized that this is an issue, it is important to make a plan to solve the problem and commit to that plan. A good plan might be to schedule breaks for the less productive activity in a controlled manner, so only a limited amount of time is spent doing things that are not productive. It can also help to think about the big picture and of long-term rather than short-term satisfaction. Ask the question, “Will I be more satisfied in two years if I have spent

days watching sporting events or if I have earned my engineering degree?” The answer to this question should be evident and motivating.

Another significant barrier is the tendency to dislike doing things that aren't easy and/or enjoyable. This is an important barrier to discuss for engineering majors because it will most often be the case that classes are difficult. There will also be some classes that are not so enjoyable for several reasons, possibly because they are too difficult or just because they cover a subject that has little appeal. A good way to handle barriers of this manner is to try and develop positive attitudes towards these things. Rather than disliking a class because it is difficult, it would be better to enjoy it for the challenge it poses and celebrate mastering topics that are considered difficult. Mastering a difficult topic is much more rewarding than mastering an easy one. It would also be helpful to find things that you do like about the less enjoyable activities. For example, if you do not like physics because it often involves difficult math problems, perhaps you can find some aspects of it that have more appeal, like the applicability of physics to real life phenomena or something of that sort. Creating a positive attitude towards these things can make a huge difference and make them much more enjoyable and might even make them seem less difficult.

Another barrier is the fear of failure. It is not unusual for students to not perform as well as possible simply because they are afraid to fail. This is a negative attitude that can result in negative results. I am thankful to have already graduated with a degree in chemistry, a major that is generally considered relatively difficult, because doing so has eliminated just about all fears of failure that I may have had. I suppose for me it is more important that I do not become overconfident because this can be just as harmful. In order to overcome the fear of failure one must change their attitude. It is important to realize that you must work hard to find success, and that though it will not be easy, with hard work failure can be avoided. Also, rather than viewing failures as a completely bad thing it can be helpful to simply view failures as an opportunity to learn and improve. Learning from our mistakes and failures is an essential part of life.

Another barrier to choosing productive actions is the tendency to blame others for our personal issues, mistakes, and failures. To avoid this we must be willing and able to step back and take responsibility for our own actions. We must open up to our own thoughts and feelings and realize our own shortcomings and determine ways that we can resolve issues for ourselves. It

does no good to blame others for our own shortcomings. We should be happy if we can blame ourselves for our own failures because this means that we can control whether or not we have success, not anyone else.

A perceived lack of time can be a barrier to choosing productive actions as well. It is not uncommon to hear people say that they didn't have enough time to get to something or weren't able to do something as well as they would have liked. In the textbook I had an awakening moment when the Landis discussed the fact that we all really have the same amount of time [1]; it is just a matter of how well we budget that time. In order to avoid this barrier we must create a realistic schedule and try to adhere to it. Overtime we should adjust this schedule and find a way that works best to achieve all of the desired goals. Of course this will not be easy without first admitting that we all have the same amount of time and that it is simply a matter of budgeting and prioritizing our available time.

I think that the most important thing to do when trying to overcome barriers and deal with adversity is to step back from the situation and realize that there is a problem and identify all of the existing barriers. This can be quite a difficult task in itself and should not be taken lightly. Once all of the existing barriers are identified, a plan must be made to overcome them. This plan should be well thought out and realistic. Once an adequate plan has been thought up it is essential to commit to that plan and make adjustments to it as you see fit in order to overcome all barriers to the best of your ability.

Attitudes and Behaviors for Success

Having previously earned a degree in chemistry at UAA I feel that I have established good attitudes and behaviors for success. I know the hard work required to earn a degree and the dedication that is necessary. I feel that my current attitudes and behaviors are similar to those of what a "world-class" engineering student would have.

There are a few differences between my situation when I last earned a degree and my current situation that I need to keep in mind. Now that I am working while attending classes there are additional elements and responsibilities that I need to be aware of. I now have to balance school and work and make sure that I am meeting the responsibilities of each as well as I can. I need to be aware of this situation and maintain a positive attitude, even though at times it

is likely that it will get tough. I need to find ways to stay positive. A good way to do that is for me to set small goals and feel good about accomplishing those small goals as they lead me to achieve the larger goals I have set for myself.

I also need to make sure that I adhere to the other areas which I discuss further in this paper, such as building relationships, managing stress, and managing my time well. Sticking to the ideals which I have established within this paper will keep my attitudes and behaviors positive and allow me to accomplish all of my goals.

Self-Awareness

A good sense of self-awareness is a key to my success and to becoming a “world-class” engineering student. This objective is actually very similar to the last objective that I discussed (attitudes and behaviors for success). Being self-aware can be a tough task, but it is something that I feel I’ve learned to do well with years of practice. One thing that actually helps me to be self-aware is to have a good support system around me so that when I am not entirely aware of something on my own they can help and point it out to me. Although this is not complete self-awareness, it is an exercise that certainly improves self-awareness because with time you learn to recognize these signs on your own.

I think becoming completely self-aware will be a constant challenge throughout my schooling, career, and life. I have learned some ways that have enabled me to become better at this and I know that this will benefit me for life. A key to being self-aware is setting some personal time aside on a daily basis to evaluate what happened that day and evaluate feelings and attitudes. Writing all of this down on a daily basis can be even more helpful and rewarding.

Building Relationships

I have learned how important it is to build relationships with peers and with university faculty and staff. They can all act as part of a fantastic support system as well as being great resources for success. This is an area that I have begun to work more on, but I do need to improve on significantly. A “world-class” engineering student would have a great network established, consisting both of many engineering student peers and professors. This really can be a key to success while in school and beyond and is essential.

My plan, in my goal to become a “world-class” engineering student, is to make acquaintances with as many of my classmates as possible. When it is necessary I would like to establish study groups for each of my courses to meet on a regular basis and work through issues together. I would also like to get to know my teachers more and build relationships with them. This is a process which I have already started in several of my classes and hope to continue. I know that benefits of building relationships with professors can and likely will help me throughout both school and my career.

Managing Time and Tasks

Managing time and tasks is without a doubt essential to my success. Below is a list of items/activities that I have determined that I need to do and below that is a matrix that prioritizes these items into four categories.

List of 20 items/activities I need to do (in no particular order):

- Become involved in student societies/organizations
- Get to know faculty/staff
- Build relationships with peers
- Setup/participate in study groups
- Setup a “Road Map”
- Set academic goals
- Set personal goals
- Strengthen commitment to goals
- Prepare a calendar
- Pinpoint academic weaknesses and determine ways to improve them
- Live a healthy lifestyle
- Eliminate procrastination
- Balance work, school, and personal life
- Study/read effectively
- Pinpoint academic strengths and use them to my advantage
- Keep up in classes
- Deal with adversity
- Continue to learn about and navigate UAA system
- Visit the Learning Resource Center
- Determine major

Prioritizing Matrix

<p>I. Urgent and Important</p> <ul style="list-style-type: none"> - Build relationships with peers - Setup/participate in study groups - Setup a “Road Map” - Set academic goals - Set personal goals - Prepare a calendar - Live a healthy lifestyle - Eliminate procrastination - Study/read effectively - Keep up in classes 	<p>II. Not Urgent, Important</p> <ul style="list-style-type: none"> - Become involved in student societies/organizations - Get to know faculty/staff - Strengthen commitment to goals - Pinpoint academic weaknesses and determine ways to improve them - Balance work, school, and personal life - Pinpoint academic strengths and use them to my advantage - Deal with adversity - Continue to learn about and navigate UAA system - Visit the Learning Resource Center - Determine major
<p>III. Urgent, Not Important</p> <p>-</p>	<p>IV. Not Urgent, Not Important</p> <p>-</p>

My priority matrix splits my list of twenty items/activities between regions one and two. I do believe that my matrix is accurate, though somewhat skewed. I took into account primarily activities that directly affect school and my academics and left some other, less important items off. I did this because I considered items that affect the scope of this class and was easily able to generate twenty without having to list less important items. If I did create a list of all possible activities that I could think of I know that several would fall into regions three and four as well.

I think it is good that the items that concern school are all important to me. If many were not important I would need to reevaluate my current situation and see if I really am doing what I want to be doing and if it is the best thing for me. From reading the course textbook I feel that I have a healthy spread in my items, though ideally more of these items would be in region two, rather than the even split I ended up with after distributing my list within the matrix. The best way to shift more items into region two will be to get on top of the items in region one as soon as possible and get them taken care of. I think some things in life will always be both urgent and important though and so I can't stress about having some items in this region; it is simply inevitable.

I think that it is urgent to build relationships with my peers because this will help me immediately and I stand to gain a lot. Building such relationships will make setting up and

participating in study groups much easier as well. Participating in these study groups and interacting with my peers will help me to achieve academic success. As we have learned throughout the course, studying with others is important for many reasons and I know that it is something that I can clearly work on and reap the benefits. The sooner I do this the more I will benefit so this is urgent.

From region one I also think that setting clear academic and personal goals is important and will benefit me immediately. It will give me something to work towards and look forward to. I do have a set of both personal and academic goals, but they could both use refining and depth. I have general goals, such as to graduate with an engineering degree and get a job afterwards, but I know having more concrete and precise goals will benefit me. I should set goals such as setting up research by a certain time and attaining a certain GPA so that I continually have something to work towards. I should also set up smaller goals on a consistent basis such as studying a certain amount of hours per day so I can feel that I am meeting goals often.

Preparing a calendar and living a healthy lifestyle are both urgent and highly important. A calendar will benefit me immediately in many ways; I will have a better idea of how much time I have and I will use my available time more effectively. I think I live a relatively healthy lifestyle already, though I know that I do not sleep enough and could also improve on some other things. My personal, professional, and academic lives will all benefit from me living a healthy lifestyle. Eliminating procrastination, something which I have been pretty good about so far, and keeping up in classes will never cease to be both urgent and important.

Most of the items I have put in region two are very important, though less urgent than those in region one. These are things that I do need to do, though I do not need to do them immediately. Some, such as determining my exact major, are highly important but depend on several other factors. For the case of choosing a major, I must first take classes pertaining to the particular majors I am considering before I can come to an adequate decision. I am happy with where I am in this category right now, as I have my options for a major down to two and have not lost focus on getting it down to one.

The other items in region two that are particularly important to me are getting to know faculty/staff, joining student organizations, and balancing work, life, and school. Though all of

the items in region two are important, these are the ones that I want to focus on most and more immediately. Overall I am happy with how my priority matrix looks at this point. I know that I have work to do, but I think that this will always be the case to some extent. It is definitely beneficial to put the list on paper though so I can see it in front of me and easily prioritize. Doing such things in my head is not nearly as effective.

Organizing My Learning Process

I can to organizing my learning process was establishing my learning type. Below is a sample of my results from the *Index of Learning Styles Questionnaire* developed by Barbara Solomon and Richard Felder [2] which I took to help me determine the type of learner that I am, along with my interpretation of the results.

My Survey Results

ACT	11	9	7	5	3	1	1	X 3	5	7	9	11	REF
						<---	-->						
SEN	11	X 9	7	5	3	1	1	3	5	7	9	11	INT
						<---	-->						
VIS	11	9	X 7	5	3	1	1	3	5	7	9	11	VRB
						<---	-->						
SEQ	11	9	7	5	X 3	1	1	3	5	7	9	11	GLO
						<---	-->						

The results from taking the online survey are actually pretty different than the results I predicted I would have when reading chapter 3 of Landis' textbook [1]. After reading the text I thought that I would likely be more of an active learner than a reflective learner. I see myself as liking to learn and process information as I do something active with it, rather than just thinking it out. I do certainly prefer to work alone though rather than in groups, which is one reason my results likely show me as more of a reflective learner. I do not have a difficult time sitting through lectures at all though, which would pin me as a more reflective learner. Overall I am happy to see that I am a pretty good balance of both learning styles. I know that I should work in groups more and alone less so that I can become even more balanced between these two learning

styles. I think that it is important to both think things out and to actively process information and feel that I do have a good balance between these learning methods.

When reading the textbook I initially predicted that I am a mix between a sensing learner and an intuitive learner. I thought this because I do like facts, data, and relevance and I am very detailed, but I also felt that I look for more meaning and like theories and abstractions. My results indicate that I am much more a sensing learner than an intuitive learner. Upon further reflection I must agree that I am more of a sensing learner than an intuitive learner. I like facts and data and I like to see how and why things work rather than simply speculate. These are among the reasons that I have always preferred math and science over philosophy type courses. I like to work with subjects that are relevant and proven rather than speculative. In the future I need to try and look for more meaning in things and delve deeper. I do not know if I will ever change my likes and dislikes but I can certainly be more open to other ideas and try new things. I should try solving problems a variety of ways rather than finding a way that I like and understand and sticking with that because I may discover a more effective method.

I also predicted that I would be fairly well balanced between visual and verbal learning, though I did think that I would likely be more visual than verbal. I thought this would be so because I tend to enjoy classes more when the teachers bring in examples and demonstrations and use the white board rather than PowerPoint slides to illustrate their points. I love to see drawings and schematics because they make sense to me and I can interpret them much faster than simply reading the information reflected within visuals. The survey results indicated that I am much more of a visual learner than a verbal learner, though not too extreme either. I think that teachers are using methods that are less effective for me more and more, relying on textbooks and bland PowerPoint presentations so it is important that I find a way to visualize the information to better receive it. I can try to make my own diagrams and sketches when material is not making sense to me so that I can get a better understanding of it.

When reading the textbook I predicted that I am more of a sequential learner than a global learner and it appears that I was correct based on the survey results. I was more of a sequential learner, though I did have a fair balance of global learning as well. I feel that I do like to follow logical paths to draw conclusions rather than gathering a mass amount of information and reasoning from that to draw conclusions. For me, it makes sense to take things one step at a time in a logical order. I do like to see the “big picture,” but I prefer to learn the smaller

components to build up to that picture rather than using the big picture to reason out the finer details. In the future I need to pay attention to the professor's teaching style and see if it meshes with my learning style. If it does not then I will need to break the big picture down and try to work backwards. It will also help me to seek help from the professor and my peers when this is the case.

Co-Curricular Activities

From my time earning my previous undergraduate degree and from the time I have put into earning this degree so far it is apparent that involvement in co-curricular activities is important and will help me to become a "world-class" engineering student. This is another area where I can stand to improve some at this point. A "world-class" engineering student would be involved in a number of co-curricular activities in order to both broaden their education and give it further depth.

I have taken some steps towards becoming involved in co-curricular activities. I recently joined the local Engineers Without Borders organization and I am in the process of joining the American Society of Mechanical Engineers. In addition to these two organizations, I would like to learn more about and become a member of other university clubs and organizations. I think it would also be beneficial to join a university sports club because this would be a great way to meet other students and possibly to network. These are opportunities I hope to pursue immediately.

Navigating the UAA System

I am lucky to have previously graduated from UAA because I have an in-depth knowledge of the UAA system. I know of many great utilities and resources offered by the university and utilize them regularly. I am familiar with the library, the learning resource center, and the availability of tutors for many different subjects. I am also familiar with the hours of the various studying locations around campus and how and who to contact in order to determine needed information.

UAA also has quite a lot of online resources available to students that I am familiar with. I know my way around the UAA website, UAOnline, the library website, and Blackboard quite

well. Though I know much of the resources that UAA offers, I am still learning about new things regularly and try to keep my eyes and ears open for them. I have found that other students and professors are a great resource for this.

Handling Stress

My body responds to stress several different ways and to different degrees depending on the type and level of stress that I am feeling. Some of my common physical responses to stress are headaches, fatigue, insomnia, restlessness, and neck and shoulder aches and pains. I generally use several methods to cope with these physical responses to stress. The most effective method is to identify the stress and do my best to lessen it or eliminate it completely. Getting a good amount of sleep and exercising are great methods to help with these physical issues. Taking a hot bath and eating well are also effective methods. If I get a very strong headache or pain I will sometimes take Tylenol for relief, but this is generally a last resort. I find that physical responses to stress are some of the most common responses that I experience, but they are generally easy to identify and treat, especially relative to emotional and mental responses to stress.

Some of my mental responses to stress are poor concentration, low productivity, negative attitude, no new ideas, and boredom. Mental responses to stress can be some of the more difficult to cope with because it is hard to change your attitude and mental state when this is the case. Sometimes the solution can be as easy as finding a temporary distraction to ease your mind. For me this is generally something like going for a walk, exercising, or conversing with family and friends. I think it is important to have a strong support system to help deal with mental responses to stress because an outsider's view can be invaluable.

Some of my emotional responses to stress are anxiety, mood swings, irritability, nervous laugh, worrying, and easily discouraged. Emotional responses can be another difficult area of stress to cope with. I have found that relaxation techniques are an effective way to cope. Stopping to clear my mind, breathing deeply, and having a warm cup of caffeine-free tea are all effective coping techniques that I use regularly. My family has also helped me cope when I show signs of anxiety by talking through the issue at hand with me and helping me realize that the anxiety is both unnecessary and detrimental.

I am generally good at avoiding social responses to stress because I have some really great people around me that help me to keep these things from being an issue, but I have experienced some before. I have experienced resentment, nagging, and fewer contacts with friends in the past. To cope with these stress responses I generally try to clear my mind by going for a walk or making a trip to the gym. Sometimes I have had to just convince myself that I need to spend some time with people, even if it does not seem appealing to me at that time. With time and experience this becomes easier because you begin to realize how important it is to have people around you for support.

My stress score equated to 134 from the Holmes and Rahe Stress Scale. This tells me that my stress level is at a manageable level because it is below 150, but could certainly be much lower. I found it useful to look through list of potential stressors and identify the particular stresses that can and do affect me than just determining the number. The list delivers a clear message of what some of the more stressful events in life are and what can be done to help alleviate overall stress. Obviously some items on the list, such as a death of a family member, are unavoidable, but several of them are certainly fixable and avoidable. I know that with time many of my stressors from the list will leave, but it is likely that others from the list will also occur. It is good to know what may be on the horizon though so I can better prepare myself.

Managing My Personal Life

In order to be a “world-class” engineering student it is important that I not only manage my school and work lives, but also my personal life. When one of these three areas of my life begins to falter, it is highly likely that the others will follow suit. I feel that I do a fairly good job of managing my personal life at this point, but also know that I have room for improvement.

My most important tool for managing my personal life is having good people around me. I surround myself with family and close friends because to me they are the most important people in my life and they help to make life good. These people help me through my struggles and I help them, which is a great feeling. I also try to schedule my time so that I have adequate time for my personal life because this is essential. It is important to do some fun activities that allow you to take your mind off school and work. Much like for school and work, I try to take

appropriate steps in order to avoid problems in my personal life. I try to deal with issues as they emerge rather than putting them off and I work hard to do things right.

Balancing Work and School

A key for my success is balancing work and school. This is a topic I am constantly faced with and will continue to deal with for the next several months at least. This is an area of my life that I need to dedicate particular focus because unlike the most of the other aspects of school, this is something that is new to me. When I first began working and taking classes I struggled to balance the two. I had pressure to perform well at work because that is my job and it is not something that I want to lose, but at the same time I want to do well in my classes so that I can learn as much as possible and to maintain a high GPA. At first I had difficulty finding a good balance, but with time I have figured out a much better system. It was a great exercise for me to sit down and determine a reasonable school and work schedule for the next year because I was able to really think through the time that I will have available for work and school and balance the time that I will need for each.

This is an ongoing learning process for me, but with time I know that I will master it and feel that I am already heading in that direction. It is important for me to prioritize and determine what things really are the most important to me and design my schedule accordingly. My goal is to become a full-time student again in the fall of 2013 and I hope to do all that is within my power to make this happen. This will allow me to graduate as soon as possible while also giving me adequate time to earn enough money to get me through in the meantime.

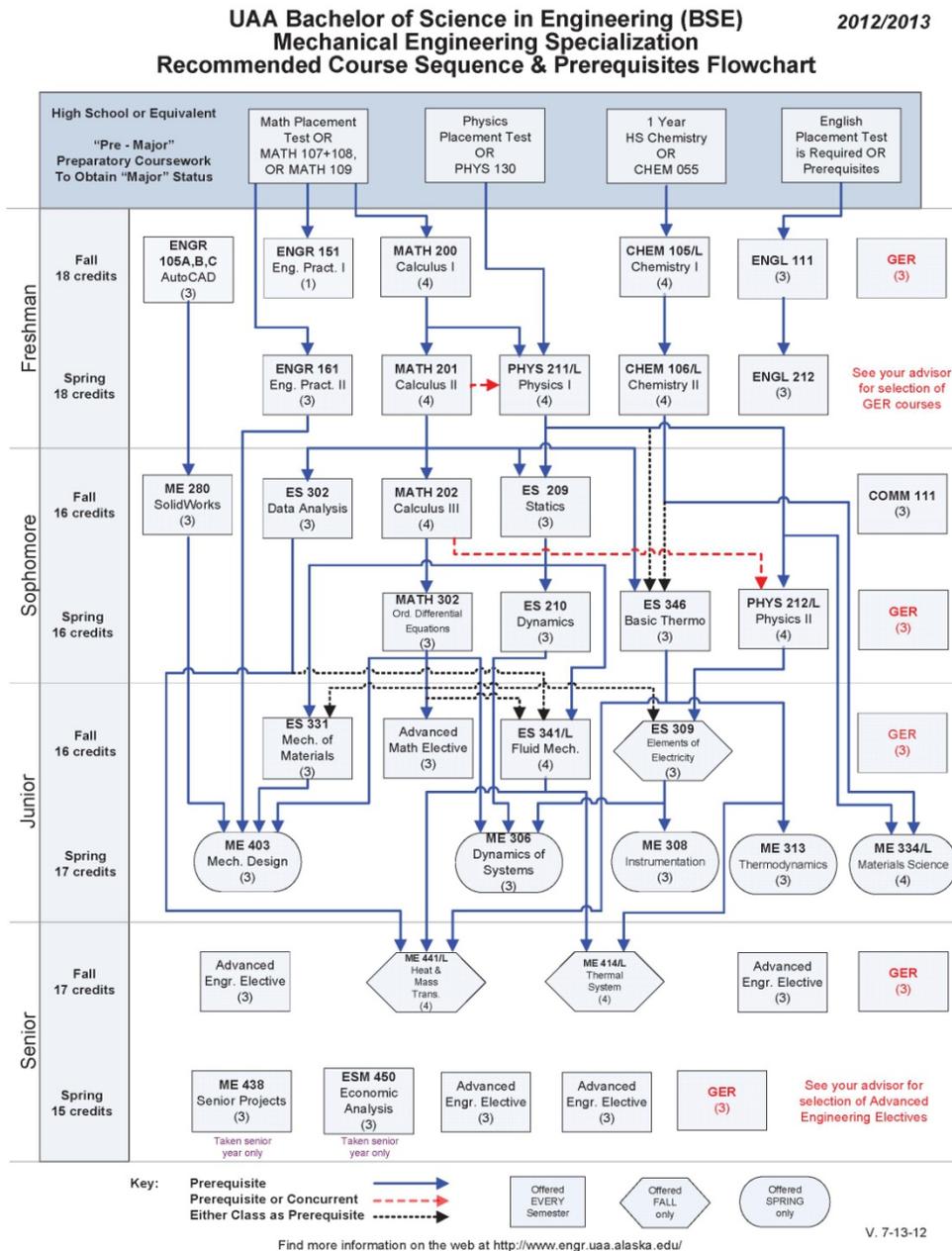
Summary

In this report I have discussed many different areas and objectives specific to my becoming a “world-class” engineering student. I will need to focus on each and every one of these objectives because they are all essential to my success. Some of my key focuses were on managing my time, dealing with stress, balancing my personal, work, and school activities, setting my goals and sticking to them, and setting up a road map for the rest of my undergraduate studies. For each of these objectives, and for others as well, I have tried to discuss where I currently stand and where I want to get to in order to become a “world-class” engineering student

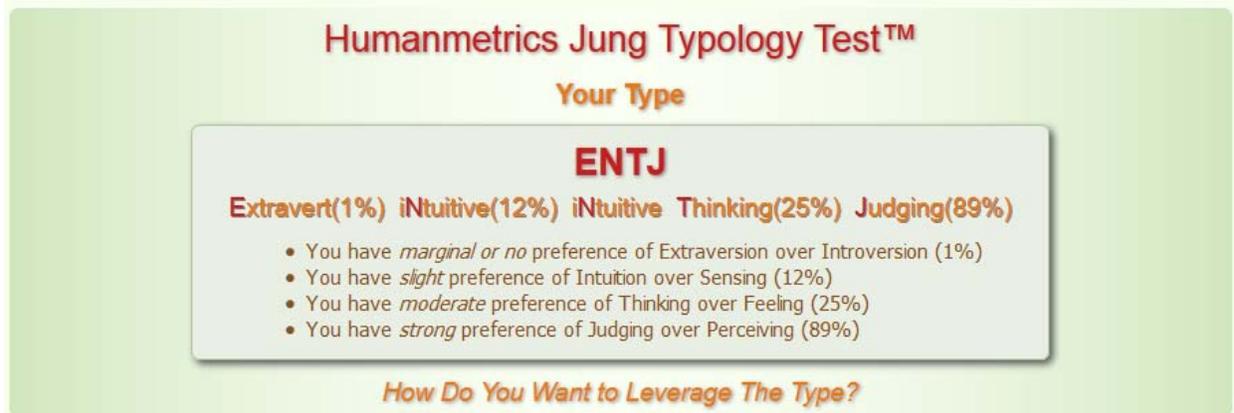
and make all my aspirations come to fruition. My hope is to use this report as a reference for the rest of my student career and also well into my future as a professional, whatever that may be. I also know that I can use this report as a guide for my personal life as well because it is all-encompassing.

Appendix

UAA Mechanical Engineering Flow Chart



Jung Typology Test Results [3]



References

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