COURSE TITLE: ENGINEERING RESIDENTIAL COLLEGE SEMINAR

TIME/ROOM: Tu 4:30 pm - 5:45 pm in MEC 114

INSTRUCTOR/FACULTY-IN-RESIDENCE (FIR): Dr. Krishna Pakala

OFFICE/EMAIL/PHONE: GAA 105, krishnapakala@boisestate.edu, 208-426-4005
307-399-6895 (mobile)

OFFICE HOURS: Evenings in Keiser KH-415 (anytime that our door is open) and by appointment

PROGRAM/TEACHING ASSISTANTS: Ethan Stieha, KH-407-G, ethanstieha@u.boisestate.edu, 859-653-4680
Aline Elquist, KH-412-G, alineelquist@u.boisestate.edu, 775-934-1212


COURSE DESCRIPTION: The purpose of this course is to provide participants in the Engineering Residential College (ERC) with an opportunity to meet on a regular basis to support an active living and learning community. Together, participants will explore aspects of success in engineering through a series of academic, community service, and team building activities.

COURSE OUTCOMES: Upon completion of this course, students will be able to do the following:

<table>
<thead>
<tr>
<th>ERC Outcome</th>
<th>Assessment Method</th>
<th>Sample Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased confidence in communicating with others; increased public communication skillset.</td>
<td>Discussion and participation in ENGR 150/250. Reflective writing. Surveys. Peer feedback.</td>
<td>Discussions in ENGR 150/250.</td>
</tr>
<tr>
<td>Increased digital fluency</td>
<td>Assignments</td>
<td>Assignments submitted/completed with the aid of iPads</td>
</tr>
</tbody>
</table>

RESIDENTIAL COLLEGE MISSION: The Residential Colleges enrich student learning through direct connection with live-in faculty who bridge academic and personal life and foster interdisciplinary inquiry.

RESIDENTIAL COLLEGE COMMON VALUES: Each of the residential communities is bound together by common values: Self-Assurance, Love of Learning, Intellectual Curiosity, Openness and Inclusion and Community Engagement.

It is an honor to be a member of the Residential College.
**GRADING:** Grades will be determined using the following breakdown.

- Project (45%)
- Community Participation (25%)
- Homework (30%)

Letter grades (LG) will be determined using the following scale.

<table>
<thead>
<tr>
<th>LG</th>
<th>%</th>
<th>Quality Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>97+</td>
<td>4.0</td>
</tr>
<tr>
<td>A</td>
<td>90-97</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>89-87</td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>86-83</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>82-80</td>
<td>3.0</td>
</tr>
<tr>
<td>B-</td>
<td>79-77</td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>76-73</td>
<td>2.3</td>
</tr>
<tr>
<td>C</td>
<td>72-70</td>
<td>2.0</td>
</tr>
<tr>
<td>C-</td>
<td>69-68</td>
<td>1.7</td>
</tr>
<tr>
<td>D</td>
<td>67-58</td>
<td>1.0</td>
</tr>
<tr>
<td>F</td>
<td>57-</td>
<td>0.0</td>
</tr>
</tbody>
</table>

**CLASS PARTICIPATION:** This is the most important part of university – going to class. (Second is – do your homework!). Clearly, your level of participation in this living-learning experience is your choice. It is to your benefit to actively participate in classroom and community activities. Being asleep or non-responsive in class counts as non-attendance. Please note that Failure to participate in the Engineering Residential College class activities could result in possible course failure and removal from the community.

**COMMUNITY PARTICIPATION:** You have made the choice to be a member of the Engineering Residential College community. Social interaction is an important element of community building; we all have something to share, learn, and teach. It is expected that you will attend and actively participate in the ERC community activities. We will have a number of these – and some are “optional.” Plan on doing at least half of the “optional” activities and all the mandatory ones. Failure to participate in the Engineering Residential College community activities could result in possible course failure and removal from the community.

**HOMEWORK/REFLECTIONS:** A lot of what we do in the class is project oriented – that is, our homework is to do things. Participation is therefore necessary. A failure to attend a mandatory activity, or passive participation instead of being engaged, results in a zero for that activity. There will be homework assignments that are due in class, as well.

**INDIVIDUAL MEETING WITH FACILITATORS:** It is expected that you will meet with the facilitators (INSTRUCTOR/FIR and PAs/TAs) for 30 minutes mid-semester. A sign-up sheet of times will be provided.

**ENGR 250:** Students enrolled in ENGR 250, the returning residential college seminar course are expected to take on an increased leadership role within the community. Requirements include: participation at periodic group meetings (about every 3 weeks), periodic worksheets to help you individually organize your thoughts and explore different ideas, periodic small group work within your specific community.
REFLECTION AND ASSIGNMENTS: An important element is assessing this impact of this living-learning experience on participants is in individual reflection. There will be reflective writing assignments specific to your personal and academic growth, community activities and community service activities, and specific assignments related to class presentation material.

Reflections and assignments are meant to address how the activity affects you as an individual. Possible reflections questions include and are not limited to:

- What was the experience?
- How did this impact you?
- How do you think this impacted others?
- What value does this have to real world applications?
- How did this experience change you or make you feel?
- How would you improve this experience?
- If you could share your experience with anyone in the world, what part of it would you share and/or who would you share it with? Why?

Your reflections and assignments will be submitted electronically to dropbox.

The following is the rubric (25 points) by which your reflections and assignments will be assessed:

<table>
<thead>
<tr>
<th></th>
<th>Emerging (0)</th>
<th>Meets (2.5/5)</th>
<th>Exceeds (5/10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breadth and Depth (5)</td>
<td>Reflection does not explore the activity on a personal, societal, historical and/or a communal level.</td>
<td>Reflection explores the activity on either a personal, or a societal, or a historical or a communal level, but does not synthesize all components.</td>
<td>Reflection explores the activity on a personal, societal, historical and/or a communal level.</td>
</tr>
<tr>
<td>Reflection (10)</td>
<td>Information presented does not connect the activity to real-life/personal experiences. Little to no personal reflection</td>
<td>Information presented explains how the activity that the member participated in relates to their real-life/personal experiences.</td>
<td>Information presented explains how the activity that the member participated in relates to their real-life/personal experiences. Reflection on current (academic, personal, social) situation at Boise State University.</td>
</tr>
<tr>
<td>Clarity of Expression (5)</td>
<td>Many mechanical errors; errors detract from meaning and readability.</td>
<td>Several mechanical errors; errors do not detract from meaning and readability.</td>
<td>Strong command of standard written English with few mechanical errors.</td>
</tr>
<tr>
<td>Instructions (5)</td>
<td>Reflection does not follow any of the instructions given.</td>
<td>Reflection follows some of the instructions given.</td>
<td>Reflection follows all the instructions given.</td>
</tr>
</tbody>
</table>
COMMUNICATION: Activities, assignments, and community updates will be posted in various ways. These include announcements in class as well as email, Blackboard, and the community bulletin board in Keiser. You are expected to check your Boise State University student e-mail address daily (i.e. YourName@u.boisestate.edu). If you prefer to use another e-mail address, it is your responsibility to ensure that messages sent to your official Boise State University e-mail address are forwarded to your preferred address. If you require assistance, please feel free to contact your PAs (program assistants).

FUNDED ACTIVITY POLICY: It is expected that you will honor your commitments. When committing to participate in activities (e.g., camping, movies, ski trips, performances) funded by ANY of the Residential College communities, you are expected to attend that activity. If you do not attend, you must reimburse the responsible Residential College for non-attendance. Payment for non-attendance may be made in the form of a check payable to Boise State University Housing and is expected within five business days of the activity. If you are unable to make payment, the cost of the activity will be placed on your next university bill.

STUDENT CONDUCT: Students are expected to conduct themselves in a professional manner in accordance with the Boise State University student code of conduct. Standards of academic integrity will be enforced in this course. Students are expected to report cases of academic dishonesty to the instructor, which will then be referred to the appropriate University board for disciplinary action.

Students are also expected to conduct themselves in accordance with the Boise State University Statement of Shared Values. Boise State University upholds the following values as the foundation for a civil and nurturing environment. Campus community members are expected to adhere to these common values (Josephson, 2002). Academic Excellence, Caring, Citizenship, Fairness, Respect, Responsibility, Trustworthiness.

You must notify me by phone or by e-mail message if you will be absent from class. According to Boise State University policy, you are responsible for attending course for which you are enrolled. You are also responsible for making up any work you may have missed by failing to attend class, even if the absence was approved by the University, necessitated by illness, or necessitated by a personal emergency.

DISABILITY SUPPORT SERVICES: Any student who feels s/he may need accommodations based on the impact of a disability should contact the instructor privately to discuss their specific needs. The student also need to contact the Disability Resource Center at 208-426-1583 located in the Lincoln garage to meet with a specialist and coordinate reasonable accommodations for any documented disability.

For more information on BSU Disability Resource Center (DRC) see the web site at http://drc.boisestate.edu/
To schedule an appointment, contact the DRC at 208-426-1583 or send your e-mail request to ElyseTaylor@boisestate.edu.

NOTE: All class related materials will be posted on Blackboard site. Please check the course website regularly for class updates, grades etc. The instructor reserves the right to revise the syllabus during the semester.
<table>
<thead>
<tr>
<th>Week</th>
<th>Day</th>
<th>Date</th>
<th>Reading Assignment</th>
<th>Problem Assignment</th>
<th>Class Discussion</th>
<th>Class Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tue</td>
<td>26-Aug</td>
<td>Syllabus, Project</td>
<td>Freshman engineering survey</td>
<td>Purpose and philosophy of course</td>
<td>Syllabus discussion</td>
</tr>
<tr>
<td>2</td>
<td>Tue</td>
<td>2-Sep</td>
<td>-</td>
<td>Homework#1</td>
<td>-</td>
<td>Advising and Academic enhancement workshop (Meet in Library 203)</td>
</tr>
<tr>
<td>3</td>
<td>Tue</td>
<td>9-Sep</td>
<td>Ch. 1</td>
<td>Homework #2</td>
<td>Keys to success in engineering Study</td>
<td>Small group discussions on “ability” versus “effort”</td>
</tr>
<tr>
<td>4</td>
<td>Tue</td>
<td>16-Sep</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Bystander intervention training by Women’s center</td>
</tr>
<tr>
<td>5</td>
<td>Tue</td>
<td>23-Sep</td>
<td>Ch. 2, secs. 2.1, 2.2, 2.3, 2.4, 2.5</td>
<td>Homework #3</td>
<td>Rewards and opportunities of an engineering career, greatest engineering achievements</td>
<td>What is engineering?</td>
</tr>
<tr>
<td>6</td>
<td>Tue</td>
<td>30-Sep</td>
<td>Secs. 2.6, 2.7, 2.8, 2.9, 2.10</td>
<td>Homework #4, List of questions for Prof. Panel</td>
<td>Ask the professors!</td>
<td>Panel of engineering department representatives</td>
</tr>
<tr>
<td>7</td>
<td>Tue</td>
<td>7-Oct</td>
<td>Ch. 3</td>
<td>Homework #5</td>
<td>Learning and learning styles Metacognition Become an expert learner Teaching in college Learning as a reinforcement process Seeking help</td>
<td>Differences between engineering study and high school</td>
</tr>
<tr>
<td>8</td>
<td>Tue</td>
<td>14-Oct</td>
<td>Ch. 4</td>
<td>Homework #6</td>
<td>Early course preparation Preparing for lectures During your lectures Making effective use of your professors How to email your professor</td>
<td>Making effective use of your professors</td>
</tr>
<tr>
<td>9</td>
<td>Tue</td>
<td>21-Oct</td>
<td>Ch. 5</td>
<td>Freshman engineering survey, Homework #7</td>
<td>Reading for comprehension The forgetting curve Organizing your learning process Making effective use of your peers Priority management</td>
<td></td>
</tr>
<tr>
<td>Week</td>
<td>Day</td>
<td>Date</td>
<td>Reading Assignment</td>
<td>Problem Assignment</td>
<td>Class Discussion</td>
<td>Class Activities</td>
</tr>
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</tr>
<tr>
<td>10</td>
<td>Tue</td>
<td>28-Oct</td>
<td>-</td>
<td>Jung’s typology test, Project progress till date</td>
<td>-</td>
<td>Student Vs. Learning by Matt Sanders (Meet in SUB: Jordan D)</td>
</tr>
<tr>
<td>11</td>
<td>Tue</td>
<td>4-Nov</td>
<td>Ch. 6, secs. 6.1, 6.2, 6.3, 6.4</td>
<td></td>
<td>Personal development – receptiveness to change Making behavior modification work for you</td>
<td>Overcome barriers</td>
</tr>
<tr>
<td>12</td>
<td>Tue</td>
<td>11-Nov</td>
<td>Ch. 6, secs. 6.5, 6.6, 6.7, 6.8</td>
<td>Homework #8</td>
<td>Personal development – receptiveness to change Success Maslow’s hierarchy of needs “Needs” and “Wants” Self-esteem MBTI Oral and written communications</td>
<td>Positive aspects of being a college student</td>
</tr>
<tr>
<td>13</td>
<td>Tue</td>
<td>18-Nov</td>
<td>Ch. 8, secs. 8.3, 8.4, 8.5</td>
<td>Homework #9</td>
<td>Ask the guest</td>
<td>Guest speaker</td>
</tr>
<tr>
<td>14</td>
<td>Tue</td>
<td>25-Nov</td>
<td></td>
<td></td>
<td>Thanksgiving Break</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Tue</td>
<td>2-Dec</td>
<td>Ch. 7, sec. 7.1</td>
<td>Homework #10</td>
<td>Student organizations</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Tue</td>
<td>9-Dec</td>
<td>Incident at Morales video, Ch. 8, sec. 8.6</td>
<td>Incident at Morales worksheet, Homework #11, Project Due</td>
<td>Engineering ethics, academic integrity</td>
<td>ERC semester wrap-up</td>
</tr>
</tbody>
</table>

**NOTE:** The instructor reserves the right to revise the schedule during the semester. The assignments are listed when they are due, not when they are assigned. No late submissions will be accepted.
## ENGINEERING RESIDENTIAL COLLEGE SEMINAR

<table>
<thead>
<tr>
<th>Day/Date</th>
<th>Time</th>
<th>Event/Activity Name</th>
<th>Event/Activity Details</th>
<th>Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friday, September 05, 2014</td>
<td>7:15 PM</td>
<td>Rafting/Camping Trip!</td>
<td>Getting one step closer to a strong community</td>
<td>For Credit</td>
</tr>
<tr>
<td>Saturday, September 06, 2014</td>
<td>8:00 PM</td>
<td>Football vs CSU</td>
<td>Go Broncos!</td>
<td>Optional</td>
</tr>
<tr>
<td>Wednesday, September 10, 2014</td>
<td>4:15 PM</td>
<td>EASE Event</td>
<td>Learn about engineering clubs and meet faculty!</td>
<td>Highly recommended</td>
</tr>
<tr>
<td>Thursday, September 11, 2014</td>
<td>8:00 PM</td>
<td>Movie on the Blue</td>
<td>22 Jump Street</td>
<td>Optional</td>
</tr>
<tr>
<td>Saturday, September 13, 2014</td>
<td>9:00 AM</td>
<td>Saturday Market</td>
<td>Downtown</td>
<td>Optional</td>
</tr>
<tr>
<td>Saturday, September 13, 2014</td>
<td>2:00 PM</td>
<td>ERC Game day!</td>
<td>Room 412 Pick a fun game for everyone to play!</td>
<td>For Credit</td>
</tr>
<tr>
<td>Thursday, September 18, 2014</td>
<td>8:00 PM</td>
<td>ERC Movie Night</td>
<td>Room 407 picks a movie!</td>
<td>For Credit</td>
</tr>
<tr>
<td>Saturday, September 20, 2014</td>
<td>8:30 PM</td>
<td>Football vs LSU</td>
<td>Homecoming Football Game!</td>
<td>Optional</td>
</tr>
<tr>
<td>Sunday, September 28, 2014</td>
<td>5:00 PM</td>
<td>Dinner Night</td>
<td>BRC/Home</td>
<td>For Credit</td>
</tr>
<tr>
<td>Saturday, October 04, 2014</td>
<td>2:00 PM</td>
<td>ERC Movie Night</td>
<td>Room 415 picks a movie!</td>
<td>For Credit</td>
</tr>
<tr>
<td>Saturday, October 11, 2014</td>
<td>10:30 AM</td>
<td>Renaissance Faire</td>
<td>Fun Event</td>
<td>For Credit</td>
</tr>
<tr>
<td>Sunday, October 12, 2014</td>
<td>2:00 PM</td>
<td>All LLC Game Day</td>
<td>Ann Morrison Park</td>
<td>For Credit</td>
</tr>
<tr>
<td>Friday, October 17, 2014</td>
<td>6:00 PM</td>
<td>Football vs Fresno</td>
<td>Family Weekend!</td>
<td>Optional</td>
</tr>
<tr>
<td>Thursday, October 23, 2014</td>
<td>8:00 PM</td>
<td>ERC Movie Night</td>
<td>Room 409 picks a movie!</td>
<td>For Credit</td>
</tr>
<tr>
<td>Saturday, October 25, 2014</td>
<td>7:00 PM</td>
<td>Corn Maze</td>
<td>Fun Event</td>
<td>For Credit</td>
</tr>
<tr>
<td>Sunday, October 26, 2014</td>
<td>5:00 PM</td>
<td>Dinner Night</td>
<td>BRC</td>
<td>For Credit</td>
</tr>
<tr>
<td>Saturday, November 08, 2014</td>
<td>2:00 PM</td>
<td>ERC Game day!</td>
<td>Room 411 Pick a fun game for everyone to play!</td>
<td>For Credit</td>
</tr>
<tr>
<td>Thursday, November 13, 2014</td>
<td>8:00 PM</td>
<td>ERC Movie Night</td>
<td>Room 403 picks a movie!</td>
<td>For Credit</td>
</tr>
<tr>
<td>Sunday, November 16, 2014</td>
<td>5:00 PM</td>
<td>Dinner Night</td>
<td>BRC/Home</td>
<td>For Credit</td>
</tr>
<tr>
<td>Saturday, December 06, 2014</td>
<td>2:00 PM</td>
<td>ERC Game day!</td>
<td>401 Pick a fun game for everyone to play!</td>
<td>For Credit</td>
</tr>
<tr>
<td>Saturday, December 13, 2014</td>
<td>5:00 PM</td>
<td>Study Party</td>
<td>Make cookies and have a study party!</td>
<td>Optional</td>
</tr>
</tbody>
</table>

**NOTE:** These are great opportunities to get to know each other better and take a break from school work. All students are expected to attend at least 5 of the “For Credit” events, and should attend at least one “For Credit” event each month. We strongly encourage participation in all of the events you can make! It will be fun! The instructor reserves the right to revise the schedule during the semester. More fun activities may be added.
Project Statement

Design your Process for Becoming a “World-Class” Engineering Student

Engineers “design products or processes to meet desired needs.” In engineering education, most of the focus is on designing products. Through this project you will design a process. You will “Design Your Process for Becoming a ‘World-Class’ Engineering Student.” The text Studying Engineering will be a valuable resource in this design project.

This project will help you realize that the following objectives are critical for your success:

- Community building
- Professional development
- Academic development
- Personal development
- Orientation

Task:

For each of the following items, develop a plan that will indicate:

a. Where a “world-class” engineering student would want to be on each item
b. Where you are currently on each item
c. What you need to do to move from where you are to where you would need to be to become a “world-class” engineering student

By analyzing a. and b. you will be able to answer c., which will tell you what your process to success is! Keep in mind that your report will describe your process to success.

Items:

1. Set goal(s) for what you want to achieve through your engineering education (major, time to graduation, GPA, etc.) and beyond
2. Develop a strong commitment to the goal of graduating in engineering by:
   a) Clarifying what success in engineering study will do to enhance the quality of your life (rewards, benefits, opportunities, payoffs, etc)
   b) Understanding the essence of engineering (be able to articulate an answer to the question “What is engineering?”)
   c) Being aware of past engineering achievements, current opportunities (academic disciplines, job functions, industry sectors) and future directions.
   d) Preparing a “road map,” a term-by-term plan to guide you to graduation
   e) Other strategies identified by you.
3. Be prepared to deal with inevitable adversity
4. Do a good job of managing various aspects of your personal life including interactions with family and friends, personal finances, outside work, and commuting.
5. Change your attitudes to those appropriate to success in math/science/engineering coursework. Among those that are candidates for change are:
   a) Low self-confidence or overconfidence
   b) Reluctance to seek help
   c) Resistance to change, grow, develop, improve
   d) Tendency to procrastinate
   e) Avoidance behavior (avoid difficult or unpleasant tasks)
   f) Reluctance to study with other students
   g) Negative view toward authority figures
   h) Other negative attitudes identified by you
6. Understand teaching styles and learning styles and how to make the teaching/learning process work for you.
7. Understand and practice the concept of “metacognition” to improve your learning process by observing your learning process, feeding back to yourself what you observed, and making changes based on that feedback.
8. Change your behaviors to those appropriate to success in math/science/engineering coursework to include at least:
   a) Devoting adequate time to studying
   b) Adopting the principle that you master the material presented in one class before the next class comes
   c) Make effective use of your peers through sharing information and group study; build productive relationships for college and beyond
   d) Make effective use of your professors both inside and outside of the classroom
   e) Prepare for lectures by reading ahead, attempting a few problems, formulating a few questions
   f) Other behaviors identified by you
9. Manage your time and tasks effectively
10. Understand the principles of teamwork and leadership and develop skills to be both an effective team member and also an effective team leader
11. Participate in co-curricular activities to good benefit
12. Understand and respect differences in learning styles and personality types and in ethnicity and gender
13. Engage in good health and wellness practices including management of stress
14. Develop a high sense of personal and professional integrity and ethical behavior
15. Become effective at getting what you want and need from the educational system by utilizing campus resources (such as advising, tutoring, job placement services, health center, etc)
16. Add up to three additional objectives that you perceive are important for your success in engineering study

**Deliverable:**

Describe your plan in a 10 - 12 page report
Some tips to get started on the project:

- Start early, meaning now!
- Make use of your notes. For example, always write down notes when reading new material before class and during class with focus on how you would implement the topics covered to make them work for you.
- Assignments, in class-activities and homework are aimed to accumulate material which will be very useful for your report, for example there will be a homework where you will need to develop a 4-5 year plan to graduation which you can copy into your report.
- Although this will be your process, study/discuss topics with other students from the course
- Avoid copying verbatim from the textbook or other resources. You can reference to sections of the textbook, e.g., "Understanding the importance of early course preparation, as Landis [1] discusses in Chapter 4.1, will help me to implement the following changes in my attitude and behavior..."

Length of Report

The length of the report should be around 10 pages. The minimum acceptable length is 8 pages, there is no maximum page limit. Reports that contain verbatim copied passages without proper citation will receive 0 credit. In addition, reports that contain lengthy copied passages from sources, even if they are properly cited, will be severely marked down.

Format Requirements

Your report as to be to be written in Microsoft Word or some other software program with the following specifications:

- use font styles Arial, Calibri or Times New Roman with a font size of 12
- use 1.5 line spacing
- use 1 inch margins on all sides

Your report needs to have a cover sheet which must include the name of the course, the title of the report, the submission date, your name as the author. You can find a template on blackboard in the "Project" folder.

Submission Requirements

Submit a digital copy of your report by [DATE] to dropbox (see the "Project" folder on blackboard). Only doc(x) and pdf files are accepted! Name your file in the following way:

- lastname_firstname_ENGR150_Project

For example, if your name is Krishna Pakala your file name should be: pakala_krishna_ENGR150_Project
Boise State University

College of Engineering

ENGR 150 - Engineering Residential College Seminar - Fall 2014

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

by

Madeline Ross

Date of submission
December 9, 2014
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Introduction

“World-class” Engineer

The purpose of the following project is to describe my perspective of striving to be a “world-class” engineer. Each topic outlines traits an engineering student should posses to obtain the status of a “world-class” engineer. Without the following traits a student will find graduating with any engineering major a difficult task. As an engineering student I will need to work hard and focus on my goal of becoming a “world-class” engineer.

Goals

Present and Future

During my time at Boise State University I hope to graduate with a degree in electrical engineering. I currently am able to complete my degree in three years, but I also want to get at least one minor. In order to keep my scholarship I have to maintain a GPA of 2.5 and in order to be in good standing with my sorority I must maintain a 2.5 as well. My personal goal is to keep my GPA above a 3.0 and strive to get all A’s and B’s. Another goal I have is either completing an internship or work in a research lab before I graduate. After I graduate for Boise State I would like to work in Boise putting my education in electrical engineering to good use. I also want to strive for a job that allows me to travel the world and live in various places.

Commitment to Goals

Exploring the World and Creating Tomorrow

There are many reason why I want to be an engineering ranging from doing something I enjoy to exploring the world. The following reason will help strengthen my commitment to my goals. My top reason is doing something I enjoy. I want a job where I go to work and enjoy what I do. I don’t want a job that I hate going to and isn’t any fun. My second reason is that I
want to understand how things work. As an engineering I can learn how to make things work and invent new things. My third reason is that as an engineer there are many job opportunities. As an engineer I will have more job opportunities then other majors. I want to be able to work on planes or create roller coaster as an electrical engineer. My fourth reason for being an engineer is financial security. This is also very important to me because in the future I want to be able to give the best life to my family. I don’t want to have to worry about money. My fifth reason discover and build new things. As an engineer I can invent new things for the world using my sixth reason, which is creativity. Using creativity engineers can create amazing new inventions. My seventh reason is challenging work. This is important to me because I want my job to be interesting if my job is too easily I will get bored and no longer enjoy what I’m doing. My eighth reason is helping society. As an engineer I want to help society by inventing new inventions that will make the world a better place. This connects to my next reason which is solving real world problems. My last reason is exploring the world. This is important to me because I love to travel. I want to be able to do what love, traveling, in my job. It’s very interesting to see different parts of the world. I would love to help these different parts in our world.

According to our textbook Studying Engineering, “Engineering is the profession in which a knowledge of mathematical and natural sciences, gained by study, experience, and practice, is applied with judgment to develop ways to utilize, economically, the materials and forces of nature for the benefit of [hu]mankind.”

**Inevitable adversity**

*When Life Gives You Melons, it Means You’re Dyslexic.*

In order to be a “world-class” engineer I have to be prepared to deal with unavoidable misfortunes. Most engineers probably had moments in their studies or careers where nothing was going as planned, and giving up seemed like the only option, but the best ones never give up. There is no way to be completely prepared for such misfortunes. Although previous adversity will help strengthen, improve growth and help shape a “world-class” engineer.

I have dealt with many inevitable adversity throughout my childhood. In kindergarten I was diagnosed with Amblyopia (lazy eye) and had very poor eyesight. This made learning and
paying attention very difficult for me. I soon fell behind the class reading and math level. In second grade my teacher thought I was dyslexic. My mom refused to have me tested for dyslexia and told the teacher I was just fine. During the summer for at least three years I took reading and math summer school in order to catch up. In third grade my teacher had me attend a special reading and writing class apart for the rest of the class. At the end of the year I could read and write well above my grade level. During my fifth grade year and all of middle school I achieved high grade point averages and was able to skip a level of math. Although I was faced was difficulties very young in school I was able to overcome them and succeeded in school.

During my freshmen and sophomore year of high school I was often bullied and harassed for being the smart unpopular teen. During my freshmen year I had trouble making real friends and ended up hanging out with unsupportive people. This made me very depressed. I didn’t feel accepted at school and started to isolate myself from friends and family. At the end of my sophomore year I had the opportunity to attend a community college nearby in a program called running start. Eager to get away from my high school and take more challenging classes I tested into the program. Once I started attending the college I made new friends and was no longer bullied for being shy or too smart making depression a thing of the past.

Whenever I am faced with inevitable adversity I can reflect onto my previous misfortunes to get strength and encouragement to successfully become a “world-class” engineer.

**Prioritizing**

*Managing the College Experience*

Prioritizing is a very important skill for a “world-class” engineer to practice. In order to manage classes and activities while still remaining healthy in college everything needs prioritizing. All items/activates concerning school are top priority. Attending class is very important and urgent to success during college. If you don’t not show up to class you will most likely fail the class. Homework, projects and exams are also very urgent and important. The reason for attending a university it to learn that is why those items come first. Staying healthy
(eating, sleeping, etc.) is also a top priority because if I am not healthy it will be difficult to complete any other task and will hinder my academic performance.

Family, friends and social events come next in priority. I believe social events are important but are not urgent. It is important to be social and make the most of your college experience, but it is not urgent compared to class or homework. I also want to have time for family and friends because making those relationships and keeping them are very important. Next I have Sorority and Ultimate Frisbee both are equally important to me because I want to be involved in the university more than just academic wise. Activities such as social networking which includes websites such as Facebook or Instagram are at the bottom of my list along with watching a movie and, or TV. Keeping track of priorities will help me make the best decision when faced with choosing between items or activities.

**Overcoming Barriers**

*Changing Negative Attitudes*

Barriers can cause us to stray from choosing productive actions. It is important to recognize your barriers and find ways and develop strategies to overcome them. Barriers:

1. Current behaviors satisfy some need or want that you have. I believe that this barrier is describing negative or unimportant actions we take to stratify our human nature. No Clue what you’re saying. For example spending too much time on social network sites such as Facebook or watching too much TV. This can become a problem when you are doing something else that is distracting you from completing homework, projects and taking care of yourself in a healthy way. In order to overcome this barrier some strategies could be limiting yourself to small amounts of time to satisfy wants or needs that are not important or healthy. Often when I study I turn off my phone to keep it from distracting me when I’m busy working. Taking away distractions can help you get over this barrier as well as setting time limits.
2. Having difficulty choosing to do things you don’t find easy or enjoyable. When faced with a task that I don’t find easy or enjoyable I normally set aside specific times complete the task. I also find it very helpful to split the task up in sections so I can take a break and do something enjoyable or to give my brain a break from a difficult problem. Often when doing my math homework if I come across a problem that is harder to solve I work on it briefly then come back to it later after doing some other problems. Normally after doing other problems for a while I can come back to the more difficult problem and use what I learned from the previous problems to figure out the solution. It is also very helpful to look on the positive side of doing something difficult or something unenjoyable. An example could be that although sometimes homework is boring or hard I came to school to learn new things and challenge myself.

3. Afraid to study because if you do and still fail, it will reflect on your ability. I have personally never come across or even thought of not studying because I was afraid to fail. I usually study because if I don’t then I will definitely fail. If someone is afraid to studying because of failing anyways then there could be more to this problem then just studying. For example if the person is so afraid of failing they might not even show up to class. Someone who has this a problem could seek help through a tutoring center that could help them become more confident in studying. The person could also realize that if they don’t studying at all they will fail anyways, so they might as well at least try to not fail the test or exam.

4. Prefer to blame your failure on people or factors external to yourself. I personally have a problem with blaming myself for everything and normally do not blame others for my failures. Although people who do blame others for their own failures have a serious problem, they are not recognizing their own actions that are causing them to fail. They will not be able to change their actions and attitudes if they do not recognize the true reason behind their failure. A strategy to overcome this barrier would be to talk to someone that the person trust to help them realize what actions are causing them to fail. Once they realize that their own actions are causing them to fail they can evaluate their actions and make better choices to keep them from failing.
5. The barrier I have chosen is procrastination. I struggle with this often especially when I have a long list of tasks to complete I get overwhelmed and distract myself with friends or something unrelated to my task. I can overcome this barrier by creating a schedule to help make the task seem easier to accomplish. I also find it helpful to create incentives for myself to finish something early. An example could be if I get my math homework done early I will have time after to hang out with friends or watch a movie. Scheduling and incentives help me overcome procrastinating.

Learning/Teaching Styles

Active, Sensing, Visual, and Global

Knowing your learning style is very important when striving to be a “world-class” engineer. After taking an online learning style test I got the following results.

For the first results I am more of an active learner than a reflective learner. I agree with this result I like working on thing in able to learn compared to being lectured for an hour. During lectures I find it hard to retain very much of the information and end of teaching myself by looking at examples in the book and trying to solve the problems on my own. In order to stay focused and to retain more information during lectures I often take notes and write down examples.

My second result is sensing over intuitive learner. As a sensing learner I like learning facts as compared to discovering possibilities, as well as solving problems the same way every time. In order to learn and retain information easier I have to seek outside real world connections to the problem. Working in study groups also will help with both active and sensing leaners.

For the third result I got visual leaner over verbal leaner. I agree with this result, I find it easier to retain information when there are pictures, chart, and examples to follow. In order to
help myself learn better during lectures that are mainly geared toward verbal learners I can color code my notes, draw diagrams and arrows that relate to the information.

For the last result I got global, but I am acceptable to both global leaning and sequential leaning. I believe that it is good and beneficial that I am able to learn both ways and really help mw understand both learning styles when presented with them. As a global leaner I tend to learn thing randomly and all of the sudden understand things, but as a sequential learner I often complete problems step by step. Global leaners tend to solve problems in different ways compared to what is normal. Paying attention to each step of a problem will help me understand things better.

Knowing all my leaning styles will help me become more acceptable to retaining information in class.

Study like an Engineer

*Taking Notes and Transitioning from High School*

Note taking is a very important skill to have in order to do well in college classes. Note taking helps students listen and engage while a professor is giving a lecture. Notes also help aid comprehension and retention. Taking notes will help clarify main points and ideas that were not clear in the reading. The notes can then be used to help with homework or review before an important exam. There are many different types of note taking strategies a well-known type is the Cornell Note Taking System. According to Dartmouth College there are five main parts in the Cornell note taking system, record, reduce, recite, reflect, and review. In the main column of notes main idea are recorded. After lecture the notes are then reduced into small summaries. The recite column is used to write as many thing as you can remember from the lecture without looking at the record column of your notes. Students can then reflect on what they have remembered from lecture and what they still have troubles with. The writer suggested to spend 10 minutes every week reviewing the notes you have taken. Chapman University also has tips for taking good notes during their lectures. A few tips are: 
To limit what you write down to main ideas and important details
• Use your own words or use citations when quoting the speaker
• If you miss a key point leave a blank space and find the information after class from a classmate
• Keep your notes organized so that you can easily review them before a test or when doing homework.

Note taking is key to college success and being a “world-class” engineer.

Students often have a rough first semester when attending college for the first time. When striving for a “world-class” engineer title you must be able to make transitions to a new environment, such as the transition from high school to college. I only went to high school for two years, so I only had a short experience with high school learning. I did not enjoy high school very much and choose to go to a community college instead my junior and senior year of high school. My first quarter at a community college was a little bit of a struggle compared to how easy high school had been for me. I did and do enjoy college and college classes way more than high school and high school classes. While attending a community college for two years and attending Boise State the past 8 weeks I have learned a few important strategies to help adjusting to new teaching styles and harder classes.

In high school there was little to no homework that wasn’t due till right before the test, so it was easy to procrastinate till the last day. College classes, on the other hand, assign homework at the start of every week that is due by the end of that week. In order to manage all this homework it is important to keep track of which assignments are due. A great strategy is to use a daily planer to write all the assignments in and then cross them off when completed. Planning time every week for each homework assignment is also very important. Spreading the time for studying and homework throughout the week makes completing every assignment more manageable then doing them all last minute.

In college you are required to purchase text books and red them on your own time. Sometimes it can be boring and tiresome to read a whole chapter at once. Breaking of texts
books into sections and taking notes while reading helps me understand what the author is trying to say. Reading the text book is very important in college classes.

In high school most day’s class involved hands-on or team activities that helped students stay engaged, but in college most classes involve long lectures that can be easy to lose focus on the subject. A strategy to staying focused and awake in class is to always take notes when the teacher is talking or writing on the board. Another way that helps me stay awake in class is to chew gum or drink water.

College classes are very different from high school classes. The above strategies have helped me with the transition between high school, community college, and university classes. Using these strategies regularly will help me be a successful student in my college career and to become a “world-class” engineer.

Managing My Time

*Procrastinating is NOT an Option*

In order to manage time and task effectively it is important to organize task based upon how urgent or important the task may be.

<table>
<thead>
<tr>
<th>I Urgent and Important</th>
<th>II Not Urgent, Important</th>
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<tr>
<td>- Attending Class</td>
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<tr>
<td>- Homework</td>
<td>- Friends</td>
</tr>
<tr>
<td>- Projects For Classes</td>
<td>- Sorority Events</td>
</tr>
<tr>
<td>- Exams</td>
<td>- Ultimate Frisbee Club Sport</td>
</tr>
<tr>
<td>- Staying Healthy (eating and sleeping)</td>
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</table>

<table>
<thead>
<tr>
<th>III Urgent, Not Important</th>
<th>IV Not Urgent, Not Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Cleaning</td>
<td>- Social Networking</td>
</tr>
<tr>
<td></td>
<td>- Watching TV</td>
</tr>
</tbody>
</table>
Team Work

*Working Together and When to Take the Lead*

In class or in the working world as an engineer I will be working in groups. In order to be a “world-class” engineer knowing when to work together and when the team needs you to be a leader is very important. I have had a lot of practice working in a group including ones where everything went smoothly and other times where things were not working out.

In high school classes we often worked in groups and most of the time the teacher would assign the groups “evenly.” Evenly meaning there was at least one person in each group that would lead the group, someone who would do most of the work and someone who would probably do as least work if not nothing at all. I being the one who normally lead the group and did the majority of the work this made me resent group work. How was it fair that someone else could sit around and do nothing, yet get exactly the same grade as I did? Now in college group work is very different. Currently in my engineering 130 lab I am in a group of four girls who are all working hard and doing their fair share to help complete our project by the deadline. Unlike in high school, everyone has to participate fully and contribute in unique ways. I have finally come to enjoy working in groups and look forward to group work in my future engineering career.

Co-curricular Activities

*Internships and Clubs*

During the next few summers I plan on working and applying for internships in order to climb my way to a “world-class engineer.” I am currently looking for an internship during summer 2015, but a lot of the places that I have look are only accepting graduate students. If I cannot find an internship I will either find a job or work for my dad during the summer. Summer 2016 I want to be doing an internship at a company that I would like a permanent job from in the
future. I also signed up for Space Broncos and the women engineer club. I have also received emails from engineering without boarders, but I am not sure if I will join this club or not. Co-curricular activities are important. These activities help improve learning outside of class.

Understanding and Accepting Differences

*Personality Types, Ethnicity, and Gender*

On my adventure to becoming a “world-class” engineer I am going to encounter and work with many different types of people. It is important to understand and accept everyone’s unique differences. During our class we recently discussed different learning types. Hearing everyone opinions about their personality types and opposite personality type was intriguing. I believe this has helped our class better understand each other. As an engineer I will be working with many different ethnicity groups and the opposite gender. Underneath labels and stereotypes we are all just human beings working together to meet a common goal.

Stress Management

*Effective ways of Coping*

A “world-class” engineer needs to know how to manage stress. Effective ways of coping with stress can vary depending on the individual person. When I am stressed out I find it helpful to organize my room and desk. An organized space helps be less stressed. Having an organized room reduces my stress because I know where everything is so I not panicking to locate things I need. Another effective way I tend to cope with stress is taking time to relax even if it just for ten minutes. Taking a relaxing break helps my body slow down and process what I still have to do for the day. Even doing another activity that I enjoy such as crafting or baking can help get my mind of things that are stressing me out. When I feel like I have a lot to do in one day and it stressing me out I often write a list of all the things I have to do. Being able to see my task written down makes them easier to remember and as I finish things I can cross them off my list. Sometimes when I am stressed out I often get so busy that I forget to eat any food. To avoid not
eating I set times that I will make a point to grab something to eat or have a snack. Another effective way I deal with stress is sleeping a full eight hours a night. Making sure I go to bed at a decent time is important to get the recommended amount of sleep every night. It’s also important to that when I am stressed I do not lock myself in my room all day long. Social interactions with friends and classmates can help reduce stress. Studying with friends can help as well. Sometimes it helps to talk to a friend or family member about what is stressing you out. Getting an outside opinion can help you realize why you are stressed out or even help you with your stressors. Working out can also help reduce stress as well as keep your body healthy. To reduce stress do not procrastinate! Getting assignments done before the due date with reduce stress and open out free time. Dealing with stress in effective ways is very important during college. Often people do not cope with stress properly making achieving goals, such as becoming an engineer, more challenging.

**Integrity and Ethical Behavior**

*Personal and Professional*

A “world-class” engineer would have personal and professional integrity and ethical behavior. Having integrity is defined as “the quality of being honest and having strong moral principles; moral uprightness.” Having ethical behavior is defined as “being in accordance with the rules or standards for right conduct or practice, especially the standards of a profession.” As I am striving to be a world class engineer I will need to practice personal and professional integrity and ethical behavior.

Examples of integrity:

- Never cheating or letting someone else cheat off my test or papers
- Never doing someone else work or letting someone else do my work
- Always being honest
- Follow student code of conduct posted by the University
- Report academic dishonesty
Examples of ethical behavior:

- Honesty
- Integrity
- Keeping promises
- Loyalty
- Fairness
- Respect
- Obeying the law
- Morale
- Accountable

I cannot become a “world-class” engineer without integrity and ethical behavior.

**Utilizing Campus Resources**

*How to Get What You Want From the Educational System*

One of the most important resource to use in my journey to becoming a “world-class” engineer is the library. The library resources can be used to research and find more information on a particular subject or person. The library’s databases, such as Academic Search Premier, ProQuest, and Google Scholar can be accessed through the Boise States website under the Albertson Library tab. Databases can be used to do research on a particular topic. There are many databases to choose from depending on your topic. Databases are more reliable then searching the subject or person through Google or finding the subject or person on Wikipedia. Using the databases you can search for a particular type of article such as, Scholarly (Peer reviewed) Journals that will have an unbiased opinion on the subject or person. The database can also be set to search only newspaper articles, periodical, educational report, primary source document or websites. Once an interesting journal or paper is found on the person or subject of interest the sources of the paper or journal can also be used to find more information on the topic. Another option for researching a particular subject or person is searching for books in the
library. Using the library catalog books can be found on a particular topic. There are also staff working in the library that can help find a particular topic of interest through book or the databases online. The index of a book can be used to easily locate the pages that the topic is referenced. Wikipedia can also be used for information by locating the sources used at the bottom of the website. The source websites may have helpful information on the topic. Information found through library resource must be sited properly depending on the type of publication the text came from. Library resource can be very helpful when researching a topic.

Summary

My journey to becoming a “world-class” engineer will not be easy. I will need to follow my goals and stay committed to them throughout my journey. I will encounter hardships where giving up will seem like the only option, but in order to get where I want to go I will need to continue pushing on. In order to achieve my goals in a timely matter I will need to prioritize my daily life. Keeping everything in order well improve my journey and keep me in the right direction. As an engineering student I will need to shed the bad habits that are holding me down. Most importantly I will need to be able to identify these negative habits and stay on the correct path to getting rid of them. Throughout life I will learn many new things, with this in mind it is important to know which ways I learn best. Professors will not cater to each individual students learning style. I will have to use what I know in order to improve my own learning. I will also need excellent study habits. I will face many challenging class that will require lots of studying. College is harder than high school, I will need to stay focused in order to make the transition as smooth as possible. In order to have appropriate time for classes, studying and social interactions I will need to manage my time wisely. This will also help me complete assignments in a timely matter and keep me from procrastinating. As an engineer I will have to work in groups for projects and completing task. Being able to cooperatively work in a group will improve work place environment. Participating in learning environments outside of class, such as internships and clubs, will also improve the journey to becoming a “world-class” engineer. As an engineer I will have to work with many different types of people. To make working with others run more smoothly accepting and understanding people’s difference is important. Coping with stress is also going to be something a “world-class” engineer will need practice with.
Workloads and family obligations can sometimes become too much and cause life to become stressful. Dealing with stress in positive ways will increase one’s outlook on life and influence others around them to be positive as well. In order to be a successful engineer one must have integrity and ethical behavior. Without these important ideals finding someone to hire you will be somewhat impossible. As a student engineer using campus resources is helpful to making the most of your education. While attending a university the campus has many overlooked areas that could aid in the journey to becoming a “world-class” engineer. In the end, becoming a world class engineer will require hard work and dedication.
Appendix

Three year plan:

### Spring 2015
- PHYS 211 Physics I 4
- PHYS 211L Physics I Lab 1
- CS 121 Computer Science I 3
- CS 121L Computer Science Lab 1
- ECE 210 Introduction to Electric Circuits 3
- MATH 333 Differential Equations with Matrix Theory 4
  
### Fall 2015
- ECE 230 Digital Systems 3
- ECE 230L Digital Systems Lab 1
- PHYS 212 Physics II 4
- PHYS 212L Physics II Lab 1
- CS 221 Computer Science II 3
- ECE 212 Circuit Analysis and Design 3
- ECE 212L Circuit Analysis and Design Lab 1
  
### Spring 2016
- ECE 330 Microprocessors 3
- ECE 330L Microprocessors Lab 1
- ECE 310 Microelectronic Circuits 3
- ECE 310L Microelectronic Circuits Lab 1
- ECE 350 Signals and Systems 3
- ECE 350L Signals and Systems Lab 1
- ECE 380 Electrical Engineering Practice 2
- ECE 380L Electrical Engineering Practice Lab 1
  
### Summer 2016
- UF 300 Transitional Foundation 3
  
### Fall 2016
- ECE 300 Electromagnetic Theory 3
- ECE 360 System Modeling and Control 3
- ENGR 245 Introduction to Materials Science and Engineering 3
- Technical Elective 3
- ECE 480 Senior Design Project I 3
  
15
### Spring 2017

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References


