

ASSIGNMENTS FOR OUTCOME 4

An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

Electrical and Computer Engineering
OUTCOMES SPECIFIC ASSIGNMENT COVER SHEET
ELEG 4247 – Sr Design and Professionalism I
FALL 2021

Instructor: Turner / Musa

Title of Assignment

Ethics Exam

Outcome Measured Using this Assignment

Outcome 4

An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

Requires students to	
x	Recognize ethical and professional responsibilities in engineering situations involving global, and societal contexts
x	Make informed judgements on ethical and professional responsibilities in engineering while considering the impact of engineering solutions in
	global context
	economic context
	and societal context.

Brief justification of the suitability of assignment for the outcome

This lecture and associated test will ensure students understand expectations and engineering code of ethics. We have questions about certain ethical situations, and also questions on the engineering cannons. These all reinforce the necessary understanding for Engineering morals and code of operations

SAMPLE WORK OF STUDENTS

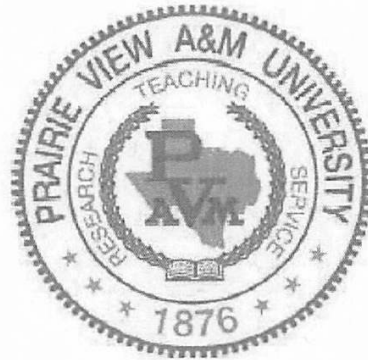
ABOVE AVERAGE

Senior **ELEG 4247 Senior Design**

2021 **Fall 2021**

Project **Outcome 4 - Ethics**

**PRAIRIE VIEW A&M UNIVERSITY
ROY G. PERRY COLLEGE OF ENGINEERING**



**Senior Design & Professionalism I
ELEG 4274
(ABET Outcome 4 – Criteria 1)
Engineering Ethics Assignment**

What Team Are You on ____

Name: _____

Please write legibly. If I can't read it, I can't grade it.

Ask me if you want me to look up the spelling of a word for you.

This is an Ethics assignment - do not look at your phone or laptops.

Time limit = 30 minutes

Describe or Define or tell me what are Ethics? (5 points)

Why are Engineering Ethics Important? (5 points)

**Name a warning sign that you might be on Ethical “thin ice”?
(5 points)**

**What should you do if you have an engineering ethical concern on
a project you are working on? (5 points)**

NAME:

TEAM

Ethical Scenario Case Study (30 points)

A chemical company develops a new process that has a waste by product. Their internal studies show this by-product is carcinogenic (could lead to cancer). However, the by-product is not on a government list of banned chemicals because it is new and so dispose of it together with non-carcinogenic by products.

Describe the ethical responsibilities and considerations for this scenario.

Tell me the implications of this decision on society and economics of the project.

What are the possible ramifications to those who made the decision to dispose of the waste by product with no carcinogenic product?

For questions 1 to 10, indicate if the statements are true or false (circle the ones that apply) 5 points each

1. The term "professional engineer with a license" shall mean any person practicing or offering to practice engineering that has received a license from a Professional Board of Engineers and is otherwise in good standing with a Professional Board of Engineers.

True False

2. Professional engineer with a license may perform services only in the area of their competence.

True False

3. Professional engineer with a license may affix their signatures or seals to plans or documents dealing with subject matters in which they lack competence.

True False

4. The requirement for continuing professional development for professional engineers is intended to protect the public by reinforcing the need for lifelong learning in order to stay more current with changing technology, equipment, procedures, processes, tools, and established standards.

True False

5. It is acceptable for a professional engineer with a license to make slight exaggerations about his/her professional qualifications in advertising materials.

True False

6. Professional engineer with a license cannot accept compensation from more than one party for professional services on the same project, unless the circumstances are fully disclosed to, and agreed to, by all interested parties.

True False

7. Engineers may perform services outside of their areas of competence as long as they inform their employers or clients.

True False

8. If engineers' judgment is overruled under circumstances that endanger life or property, they shall notify their employers or clients and such other authority as may be appropriate.

True False

9. Engineers shall undertake assignments only when qualified by education or experience in the specific technical fields involved.

True False

10. Engineers may not participate in any matter involving a conflict of interest if it could influence or appear to influence their judgement or the quality of their services.

True False

**PRAIRIE VIEW A&M UNIVERSITY
ROY G. PERRY COLLEGE OF ENGINEERING**



100%

**Senior Design & Professionalism I
ELEG 4274
(ABET Outcome 4 – Criteria 1)
Engineering Ethics Assignment**

What Team Are You on 1

Name: Jalyn Beaty

Please write legibly. If I can't read it, I can't grade it.

Ask me if you want me to look up the spelling of a word for you.

This is an Ethics assignment - do not look at your phone or laptops.

Time limit = 30 minutes

Describe or Define or tell me what are Ethics? (5 points)

Ethics is a code or system of rules defining moral behavior.

Why are Engineering Ethics Important? (5 points)

Engineering Ethics are important because not only is it what we stand on and pride ourselves in, ethics keeps everyone safe and aids in making the correct decision.

Name a warning sign that you might be on Ethical "thin ice"? (5 points)

A warning sign would be if you catch yourself saying "well, maybe just this once...".

What should you do if you have an engineering ethical concern on a project you are working on? (5 points)

If you have an ethical concern then you should ask either your superior or the ethics department about it.

NAME: Jalyn Beaty

TEAM 1

Ethical Scenario Case Study (30 points)

A chemical company develops a new process that has a waste by product. Their internal studies show this by-product is carcinogenic (could lead to cancer). However, the by-product is not on a government list of banned chemicals because it is new and so dispose of it together with non-carcinogenic by products.

Describe the ethical responsibilities and considerations for this scenario.

This scenario is potentially legal but not ethical. It is the engineers ethical responsibility to report this problem. The CEO of the company should consider notifying the government of these findings. ✓

Tell me the implications of this decision on society and economics of the project.

Societal Impact: Cancer is being spread through the environment. ✓

Economic Impact: It might cost the company more money on the front end but if not reported it will cost not only a lot more money but your reputation will also be on the line. ✓

What are the possible ramifications to those who made the decision to dispose of the waste by product with no carcinogenic product?

This decision could cause future legal problems, financial problems, and potential jail time. ✓

For questions 1 to 10, indicate if the statements are true or false (circle the ones that apply) 5 points each

1. The term "professional engineer with a license" shall mean any person practicing or offering to practice engineering that has received a license from a Professional Board of Engineers and is otherwise in good standing with a Professional Board of Engineers.

☒ True

☐ False

2. Professional engineer with a license may perform services only in the area of their competence.

☒ True

☐ False

3. Professional engineer with a license may affix their signatures or seals to plans or documents dealing with subject matters in which they lack competence.

☐ True

☒ False

4. The requirement for continuing professional development for professional engineers is intended to protect the public by reinforcing the need for lifelong learning in order to stay more current with changing technology, equipment, procedures, processes, tools, and established standards.

☒ True

☐ False

5. It is acceptable for a professional engineer with a license to make slight exaggerations about his/her professional qualifications in advertising materials.

☐ True

☒ False

6. Professional engineer with a license cannot accept compensation from more than one party for professional services on the same project, unless the circumstances are fully disclosed to, and agreed to, by all interested parties.

☒ True

☐ False

7. Engineers may perform services outside of their areas of competence as long as they inform their employers or clients.

☐ True

☒ False

8. If engineers' judgment is overruled under circumstances that endanger life or property, they shall notify their employers or clients and such other authority as may be appropriate.

☒ True

☐ False

9. Engineers shall undertake assignments only when qualified by education or experience in the specific technical fields involved.

☒ True

☐ False

10. Engineers may not participate in any matter involving a conflict of interest if it could influence or appear to influence their judgement or the quality of their services.

☒ True

☐ False

AVERAGE

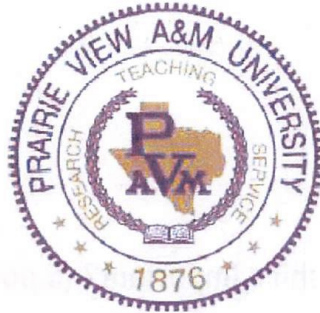
Sr Design ELEG 4247

Ethics

Outcome 4

Average Example

**PRAIRIE VIEW A&M UNIVERSITY
ROY G. PERRY COLLEGE OF ENGINEERING**



20%

**Senior Design & Professionalism I
ELEG 4274
(ABET Outcome 4 – Criteria 1)
Engineering Ethics Assignment**

What Team Are You on 4

Name: ARMANDO FEHBA BAWLED

Please write legibly. If I can't read it, I can't grade it.

Ask me if you want me to look up the spelling of a word for you.

This is an Ethics assignment - do not look at your phone or laptops.

Time limit = 30 minutes

Describe or Define or tell me what are Ethics? (5 points)

Ethics is Moral code, Honesty, Integrity
Trust, loyalty ✓

Why are Engineering Ethics Important? (5 points)

Engineering Ethics are Important because It allows an
Engineering to have a good behaviour in his
company ✓

**Name a warning sign that you might be on Ethical "thin ice"?
(5 points)**

- Well, maybe Just this one ✓

**What should you do if you have an engineering ethical concern on
a project you are working on? (5 points)**

If I have a Engineering ethical concern on
a project that I'm working, I will understand
the rules, never lie, cheat or steal and Always
have a safety in mind. TALK w/ your
Supervisor² ✓

NAME: Armand Faubert B.A. Leu TEAM 4

Ethical Scenario Case Study (30 points)

A chemical company develops a new process that has a waste by product. Their internal studies show this by-product is carcinogenic (could lead to cancer). However, the by-product is not on a government list of banned chemicals because it is new and so dispose of it together with non-carcinogenic by products.

Describe the ethical responsibilities and considerations for this scenario.

the chemical company develop a process to waste a product.

I have no idea what this means? -5

Tell me the implications of this decision on society and economics of the project.

this triplication will affect people to attend a cancer -5

what about economic impact?

What are the possible ramifications to those who made the decision to dispose of the waste by product with no carcinogenic product?

They need to report to government, therefore they can list to the list banned chemical -5

Ramification = Consequences =

- Lawsuit*
- Penalties*
- Jail Time*
- Company Image*

For questions 1 to 10, indicate if the statements are true or false (circle the ones that apply) 5 points each

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3. Professional engineer with a license may affix their signatures or seals to plans or documents dealing with subject matters in which they lack competence.

☐ True

☒ False

4. The requirement for continuing professional development for professional engineers is intended to protect the public by reinforcing the need for lifelong learning in order to stay more current with changing technology, equipment, procedures, processes, tools, and established standards.

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8. If engineers' judgment is overruled under circumstances that endanger life or property, they shall notify their employers or clients and such other authority as may be appropriate.

☐ True

☐ False

9. Engineers shall undertake assignments only when qualified by education or experience in the specific technical fields involved.

☒ True

☐ False

10. Engineers may not participate in any matter involving a conflict of interest if it could influence or appear to influence their judgement or the quality of their services.

☒ True

☐ False

ASSIGNMENTS FOR OUTCOME 5

An ability to (1) function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, (2) establish goals, plan tasks, and meet objectives.

Electrical and Computer Engineering
OUTCOMES SPECIFIC ASSIGNMENT COVER SHEET
ELEG 4247 – Sr Design and Professionalism I
FALL 2021
Instructor: Turner / Musa

Title of Assignment

Team Contract
This is used to establish roles, team meeting, working relationship etc

Outcome Measured Using this Assignment

Outcome 5

An ability to (1) function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, (2) establish goals, plan tasks, and meet objectives.

Check the teaming problem characteristics related to this assignment

Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment.	
Requires students working in groups to:	
x	Organize and assign team roles; plan and keep good record of team meetings including documentation of individual contributions
	Share ideas, complete assigned task on time, help others, and be professional to each other (through peer evaluation of team members on these characteristics). No Peer Evaluations are done in ECE Sr Design
x	Resolve conflicts professionally within the group with the view of creating an inclusive and collaborative environment
Establish goals, plan tasks, and meet objectives.	
Requires students working in groups to:	
x	Set goals and objectives
x	Identify and break down work into tasks and subtasks and identify the personnel and deliverables for each.
	Develop a Gantt chart and critical path analysis for managing the project.
x	Establish major milestones for tracking progress and define performance metrics to measure success.
x	Track progress of team members to ensure project is on schedule and meets objectives (through submission of progress reports).

Brief justification of the suitability of assignment for the outcome

We use these tools for successful teamwork and collaboration. Teams develop a contract that outlines meeting schedule, and each team will provide a weekly report that is used by faculty and instructor to gauge progress and or issues.

SAMPLE WORK OF STUDENTS

ABOVE AVERAGE

ELEG 4247 Senior Design

Fall 2021

Outcome 5 - Teamwork

Instructions - Team Contract (ABET Outcome 5.1)

Will do a check point in class on September 2

Final DUE: On or Before Sept 8 – Each Team Email to me a signed copy

Each Team must develop and sign a Sr Design contract that will define and determine work processes, relationships, and team operating norms for Senior Design

=====

Objective of this contract – must address these areas:

Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment

- i. **Organize and assign team roles**
- ii. **Plan and keep good record of team meetings including documentation of individual contributions**
- iii. **Share ideas, complete assigned task on time, help others, and be professional to each other (through peer evaluation of team members on these characteristics).**
- iv. **Resolve conflicts professionally within the group with the view of creating an inclusive and collaborative environment**

=====

Required Sections of your team contract:

Must Have the Standard Cover Page – see attachment on eCourse

1. Team Number and Project Objective

- Team number and overview of your project
- You must have one thorough statement that anyone can understand to describe your project objective – do not use any acronyms

2. Team Membership

- List team members and major
- List course instructors
- List Faculty project sponsor

3. Team Roles and Responsibilities

- List Team members and their roles
- Be sure to designate the Team Lead position

4. Team Working Relationship

- List those characteristics your team will employ to be successful in delivering your project

Instructions
Team Contract (ABET Outcome 5.1)

5. Team Meeting Agreement

- Please plan to have 15 to 20 hours outside of class available for team work
- Document the dates, times and location of outside team work agreement
- Team Work Deliverables
- TBD to be decided can be use now for location at this time if you don't know

6. Team Work Deliverables

- **Section A** – Joint Project Items
How will you work on joint project deliverables?
- **Section B** – Individual Project Items
How will you work on individual project items?

7. Team Documentation and Communications

- List how you will use team log books to track progress
- How will you communicate as a team?

8. Conflict Resolution

- How will you resolve issues, conflicts or disagreements?
- Who will you escape issues and to who?

9. Arbitration of Team Complaints

- See Attachment A on next page

10. Signature and Date

- Each person on the team must sign the contract

Reminder: I will be looking for thorough and complete write up. Please write complete sentences – using good grammar and thoughtful consideration for each section. This should be developed as a detailed contract that each team member has agreed to follow.

Attachment A Must be included in all Team contracts

Arbitration of Team Member Complaints for Senior Design ELEG 4247 & ELEG 4248

ECE Senior Design courses require the highest level of teamwork and contribution by all members of a team. This includes regular and on time attendance to team meetings, doing fair share of assigned work and turning in work assignments or deliverables on time so not to hold up the other member of the team.

Should an individual team member start to exhibit poor performance that will negatively affect the others on that team the following steps will be followed:

1. Team members must first attempt to resolve the issue internally before escalation
2. If the problem/issues persist then the Team Lead should quickly send an email to Course Instructors that outlines the concern/complaint and actions done in an attempt to resolve the concern.
- 3 An investigation will be done by Course Instructor and a discussion will be held with all members on the Team.

If the majority of team member agree that the complaint is valid, then the Course Instructor has authority to reduce that individual's team related scores within a range of 5 to 15 points, pending the magnitude of the complaint.

(In the event of a tie then Course Instructor has final decision on how to handle the complaint)

By signing this contract all students will agree to this Team Contract by-law.

Working in Lab during COVID-19 Pandemic

Those in the lab must wear a mask

Those in the lab must socially distance

If you are not feeling well, do not come to team lab

While in lab each team must appoint a safety compliance person to ensure safe practices are followed

)))

Weekly Progress Report
Due before the beginning of class every Wednesday –
email to VJTURNER@PVAMU.EDU And SMMUSA@PVAMU.EDU And Faculty Sponsor
Must have standard cover page

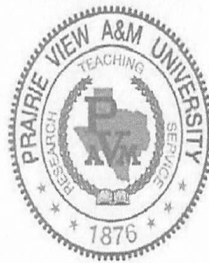
Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment

Objective of this weekly report :

1. Organize and assign team work
2. Plan and keep good record of team meetings including documentation of individual contributions
3. Share ideas, complete assigned task on time, help others, and be professional to each
4. Resolve conflicts professionally within the group with the view of creating an inclusive and collaborative environment
5. Keep your project on track and to identify concerns/issues early
6. Raise Issue and Concerns Early

This report must be detailed with explanation, good grammar/spelling and thorough.

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ROY G. PERRY COLLEGE OF ENGINEERING



Project Name =>

Tethered Drone Blimp Design Challenge
(your project name)

ELEG 4472: Senior Design & Professionalism I

Topic e.g Weekly
Progress Report =>

Topic: Meeting Time & Location Agreement
(topic should be subject of submission)

Team Number 10

Submitted by

Team Member A
Team Member B (Team Lead)
Team Member C
Team Member D
Team Member E

Team Number and All
Team Members plus
Identify Team Lead

Instructor: Turner

Date of Submission: 09/20/2017
(Date of submission)

ELEG 4247/4248

Weekly Sr Design Project Status Report

Team Number :

Project Name:

Date :

Project Status : On Track OR Some Aspect at Risk OR Serious Concern
(Please Provide a weekly status)

Provide an email copy every Wednesday before
start of class

Email to VJTURNER@PVAMU.EDU

And SMMUSA@PVAMU.EDU

And YOUR FACULTY ADVISOR

Accomplishments From Previous Week

This section list all your accomplishments for the previous week

example : Met with Faculty Sponsor for 2 hours to finalize test protocol

Team Meeting Attendance

List outside of classroom time when/were you met and who attended each meeting and who did not attend (I want to know why a person missed team meeting)

example : Team 3 met on Friday November 14 in ECE 137 for 2 hours

example : All team members present except Mike who was on a job interview trip

Team Member Contribution to Project

List individual contributions of team member – show names

example : Completed final parts list (Joe)

Upcoming Action Items Assigned per Team Member

List upcoming work items assigned to each team member – show names

example : Need to complete design for project power source (Amy)

Tentative Plans for Upcoming Week

What are some plans/expected deliverable for the team next week

example : complete literature review for software options to develop operating code

Issues or Concerns

List any concerns you have that should be raised to instructor or faculty sponsor

example: Sponsor requirements keep changing

example: Camera parts on back order

Can be on more than one page

Teamwork Evaluation Form
ECE Senior Design & Professionalism
Teamwork-Outcome 5

Title of Presentation: <u>Team Contract + Weekly Progress Reports</u>						
Team Number and Members: <u>Various Team Examples</u>						
Date of Presentation: <u>Fall 2021</u>						
Name of Evaluator and Affiliation (University or Company name) <u>VSTU Inc</u>						
	Excellent 99	Very Good 89	Average 79	Below Avg. 69	Poor 54	Comments
Function Effectively on a Team						
Have a signed contract and agreed method of working together	✓					
Organize and assign team roles	✓					
Plan and keep good record of team meetings including documentation of each team member contributions	✓					
Create an inclusive and collaborative environment		✓				
Complete assigned task on time.		✓				
Help others, share ideas, and be professional to each other	✓					
Detailed Weekly Progress Reports turned in every Wednesday	✓					
Able to show that all team members are making equal contribution to work deliverables	✓					
Planning and Tracking Progress						
Able to establish goals and objectives (deliverable)	✓					
Identify and break down work into tasks and subtasks	N-A					
Develop a Gantt chart and critical path analysis for managing the project	N-A					
Establish major milestones for tracking progress	N-A					
Track progress of team members to ensure project is on schedule and meeting goals/objectives	N-A					

AUG = 96

PRAIRIE VIEW A&M UNIVERSITY
ROY G. PERRY COLLEGE OF ENGINEERING



**Project Name: Converting a Mechanical Operated System to an
Electronic Operated System**

ELEG 4247: Senior Design & Professionalism I

Topic: Team Contract

Team Number: 4

Submitted by: 9/11/2021

**Armand Feuba Baweu
Eulises Benito Garcia
Francisco Hernandez
Franky Williams Lonfo
Jacqueline Torralba (Team Lead)**

Instructor: Professor Turner

Project Name: Converting a Mechanical Operated System to an Electronic Operated System

By signing this contract, all students will agree to these Team Contract by-laws:

1. Team Number and Project Objective

- The team name will be Team 4.
- The objective of this project is to change the mechanical operated system switch of a golf cart, to an electric operated system switch.

2. Team Membership

- The members of this team are Armand Feuba Baweu a computer engineering major, Eulises Garcia Benito an electrical engineering major, Francisco Hernandez an electrical engineering major, Franky Williams Lonfo an electrical engineering major, and Jacqueline Torralba an electrical engineering major.
- The course instructors for the class will be Professor Turner and Professor Musa.
- The faculty project sponsor for the project will be Dr. Fuller.

3. Team Roles and Responsibilities

- Armand Feuba Baweu: Software Developer
Alternate Role: Team Leader

The software developer will develop software to enable the specific task that needs to be achieved for this project. They take on the responsibility to research, design and manage the software language that will be used.

- Eulises Garcia Benito: Scribe
Alternate Role: Test Lead

The scribe is the attendee at a meeting who documents and keeps the records of meetings, decisions, and updates for the project. The scribe will communicate with the team lead to help write the weekly report. Lastly, It will provide all the information to the team for the final report.

- Francisco Hernandez: Data Analyst
Alternate Role: Software Developer

Data Analyst brings together theory and practice to solve solutions such as the project's objective. Based on the project, research must be compiled in order to test the logic of of the team's goal. They're also responsible to draw a conclusion based on the objective. Within data management, the analyst will have the final decision if one can't be made.

- Franky Williams Lonfo: Test Lead
Alternate Role: Data Analyst

The test lead will primarily be handling the equipment to reach the goal of the project. The test lead will be responsible for assembling the project and will have final say on the testing or assembly of the project.

- Jacqueline Torralba: Team Leader
Alternate Role: Scribe

The team leader will organize and make group meetings and guide towards progress with the team. They will oversee each member and provide direction if needed. The team leader will have direct communication with Dr. Fuller and they will need to have an understanding of the project requirements.

4. Team Working Relationship

- The team members have a responsibility to respect each other and other teams.
- Team members must communicate openly with each other about the project and treat each member in the team equally.
- Each member must also be responsible with outside social gatherings due to the COVID-19 pandemic. It is expected that all members wear masks when possible so as not to contribute to the spread or become ill.
- The team must be honest and reliable with regards to their completion schedule.
- The Team Leader must find a way to create the meeting with Dr. Fuller, so he can help us with our project.

5. Team Meeting Agreement

- This team is required to meet 15-20 hours a week outside of class time to achieve the goals set.
- During the meetings everyone is required to participate and give their inputs so the team can submit exceptional deliverables.
- The meetings will be in person every Tuesday, Wednesday, and Thursday at 5:00 pm.
- The length of the meetings will be determined by the team depending on how much needs to be done.
- If needed, the team is also required to meet on Sundays through zoom at 8pm.
- All team members are required to give advance notice to the team leader if he/she will not be present at a meeting.

6. Team Work Deliverables

- We all intend to be involved and distribute the work fairly. The approach is to value each individual's idea and develop a plan to provide consistency. We will meet once

a week (via Zoom, 115 Electrical Engineering Building) to discuss our individual work and how it contributes overall.

- Based on each team member's background, we will determine the tasks of which individual will get. However, if a group member has concerns or issues, we as a group will be looking out for one another to resolve that matter.
- Communication must be met when a member can't submit their tasks in time or join meetings. As a group, we can be flexible exchanging shifts, but work equality still has to be required. A member can face violation if these standards aren't met.
- Before submission and deadlines, each member will look over each individual's work in order to provide quality work.

7. Team Documentation and Communications

- To better track progress of the team by using a team log book, we will firstly start with the project outline which will help us on the set point including the duration and the application of the team members on a specific given point and assignment.

We will focus on the deliverable and on the milestones to help stay on track with the project. Also, we will set realistic, clear and measurable goals that will help each member of the group to be able to understand as we move forward with the project.

In this section, we will use a project tracker template or a project tracking software to keep track of time , costs and tasks.

- To communicate we will be meeting regularly with the team and having a clear deadline of any given tasks and the support of transparency in order to get all of us on the same page. We will also be using GroupMe and Zoom to facilitate this communication.

8. Conflict Resolution

- This is one team, concern or issues will first be confronted as a group.
- We plan to resolve conflicts by talking it out in a professional manner. Once a week during our meetings, every individual will have the opportunity to express any concerns. As a team, we will find ways to overcome those obstacles.
- As a last resort, we will contact Dr. Musa and Dr. Turner if a conflict can't be resolved.

9. Arbitration of Team Complaints for Senior Design ELEG 4247 & ELEG 4248

ECE Senior Design courses require the highest level of teamwork and contribution by all members of a team. This includes regular and on time attendance to team meetings, doing fair share of assigned work and turning in work assignments or deliverables on time so as not to hold up the other member of the team.

Should an individual team member start to exhibit poor performance that will negatively affect the others on that team the following steps will be followed:

1. Team members must first attempt to resolve the issue internally before escalation.
2. If the problem/issues persist then the Team Lead should **quickly** send an email to Course Instructors that outlines the concern/complaint and actions done in an attempt to resolve the concern.
3. An investigation will be done by the Course Instructor and a discussion will be held with all members on the Team.
4. If the majority of team members agree that the complaint is valid, then the Course Instructor has authority to reduce that individual's team related scores within a range of 5 to 15 points, pending the magnitude of the complaint.

(In the event of a tie then Course Instructor has final decision on how to handle the complaint)

By signing this contract all students will agree to this Team Contract by-law.

Working in Lab during COVID-19 Pandemic

Those in the lab must wear a mask.

Those in the lab must socially distance themselves.

If you are not feeling well, do not come to the team lab.

While in the lab each team must appoint a safety compliance person to ensure safe practices are followed.

10. Signature and Date

Armand Feuba Baweu

—
Armand Feuba Baweu 9/10/2021
Date

Eulises Garcia Benito

—
Eulises Benito Garcia 9/10/2021
Date

Francisco Hernandez

—
Francisco Hernandez 9/10/2021
Date

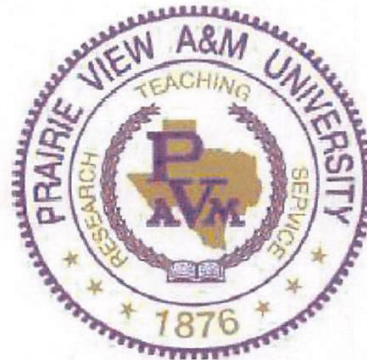
franky williams lonfo

—
Franky Williams Lonfo 9/10/2021
Date

Jacqueline Torralba

—
Jacqueline Torralba 9/10/2021
Date

PRAIRIE VIEW A&M UNIVERSITY
ROY G. PERRY COLLEGE OF ENGINEERING



Converting a Mechanical Operated System to an Electronic Operated System

ELEG 4247: Senior Design & Professionalism I

Topic:

Team Number 4

Submitted by:

**Armand Feuba Baweu
Eulises Garcia Benito
Francisco Hernandez
Franky Williams Lonfo
Jacqueline Torralba (Team Lead)**

Instructor: Professor Turner

Date of Submission: 09/22/2021

ELEG 4472/4482
Weekly Sr. Design Project Status Report

Team Number: 4

Date: September 22, 2021

Project Name: Converting a Mechanical Operated System to an Electronic Operated System

Project Status: On Track

Accomplishments from previous week

The team met with Dr. Fuller in person to talk about the beginning progress of the project. After the meeting the team we discussed the marketing requirements for the PowerPoint matrix. We then began researching for the powerpoint and seeing how we will approach this.

Team Meeting Attendance

- Team met on Sunday August 29th, 2021 at 8:30pm - 9:30 pm Zoom
- Team met on Sunday September 5th, 2021 at 8:30pm - 9:30 pm Zoom
- Team met on Thursday September 9th, 2021 4:00 – 8:00 pm face to face
- Team met on Thursday September 16, 2021 4:00 – 8:00 pm face to face
- Team met on Monday September 20, 2021 at 8:30pm - 9:30 pm Zoom

Team Member Contribution to Project

- Assigned roles for the project (Jacqueline)
- Researched other technologies similar to that of electrical switches (Everyone)
- Worked on prototype (Franky)
- Contributed to the initial slides of the PPT (Everyone)

- Met with Dr. Fuller our sponsor to discuss theory of DC Motors (Everyone)

Upcoming Action Items assigned per Team Member

- Will work on Matrix Slide Completion (Everyone)
- Complete the Constraints and Assumptions Slide (Eulises)
- Look into the Arduino Language (Armand)
- Research for the Impact Slides (Francisco, Francisco)

Tentative Plans for Upcoming Week

- All team members should have a deeper understanding of DC Motors.

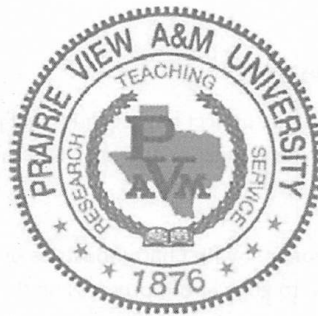
Issues or Concerns

- Not Applicable

AVERAGE

PRAIRIE VIEW A&M UNIVERSITY
ROY G. PERRY COLLEGE OF ENGINEERING

Liquid Nitrogen Doser Smart Actuator
ELEG 4247: Senior Design & Professionalism I



Topic: Weekly Progress Report

Team Number 2

Submitted by:

Hiram Pouncy

Matthew Barnett

George Polk

Breon Holmes

Bryce Lovejoy

Instructor: Professor Turner

Date of Submission: 10/27/2021

ELEG 4247

Weekly Senior Design Project Status Report

Team Number: 2

Date: 10/27/21

Project Name: Liquid Nitrogen Doser Smart Actuator

Project Status: On Track

Accomplishments from previous week

- Added more information to the project impact slides and project comparison slides.
- Received the Open HMI kit and other parts from Chart Industries.

Team Meeting Attendance

- Everybody except for Breon met with Chart Industries on Friday October 22nd, 2021, from 10:00AM – 11:00AM to go over our progress on the project.
- Everybody on the team met on Tuesday October 26th, 2021, from 6:00PM – 8:00PM to make revisions on the power points presentation.

Team Member Contribution to Project

- Breon
 - Started to research different designs for circuits now that we have the development board.
- Matthew
 - Received the EXOR development board and begun downloading and configuring the necessary software.
 - Currently waiting for an EU-US wall adapter.
- Hiram
 - Found extra parts for some of the circuit designs
 - Created the symbols for the footprints that were downloaded online
- Bryce
 - Get in contact with Chart industries sponsor Paul Rybak to discuss more project impacts
 - Found extra parts for some of the circuit designs
 - Research breadboard parts with KiCad videos
- George
 - Made revisions on the project comparison slide.
 - Watched KiCad videos to get familiar with the program.

Upcoming Action Items assigned per Team Member

- Breon
 - Will continue to design the circuits for the SD card interface and Ethernet ports 1 and 2.
- Matthew
 - Configure the development board once the EU-US wall adapter is received.
 - Explore the ins and outs of the development board and do further research into pin manipulation.
- Hiram
 - Will continue designing a circuit for the development board and DC/DC power converters.
 - Will find the extra parts needed for some of the different circuits
- Bryce
 - Will find the extra parts needed for some of the different circuits
 - Will help Breon design the circuits for the SD card interface and Ethernet ports 1 and 2.
- George
 - Will work with Matthew to become more familiar with the Open HMI kit.
 - Will assist Brock with designing the circuit if needed.

Tentative Plans for the Upcoming Week

- Will continue designing a circuit for the development board and DC/DC power converters.
- Will continue designing the circuits for the SD card interface and Ethernet ports 1 and 2.
- Refine presentation power point slides
- We will start some testing with the open HMI kit.
- Will find extra part for the circuits we have to design.

Issues or Concerns

- N/A

PRAIRIE VIEW A&M UNIVERSITY
ROY G. PERRY COLLEGE OF ENGINEERING

Liquid Nitrogen Doser Smart Actuator
ELEG 4247: Senior Design & Professionalism I



Topic: Weekly Progress Report

Team Number 2

Submitted by:

Hiram Pouncy

Matthew Barnett

George Polk

Breon Holmes

Bryce Lovejoy

Instructor: Professor Turner

Date of Submission: 11/03/2021

ELEG 4247

Weekly Senior Design Project Status Report

Team Number: 2

Date: 11/03/21

Project Name: Liquid Nitrogen Doser Smart Actuator

Project Status: On Track

Accomplishments from previous week

- Added more information to the project impact slides and project comparison slides.

Team Meeting Attendance

- We all met on October 27th on Wednesday from 6:00pm – 8:00pm. During this meeting we went over our power point slides that we had to present that week.

Team Member Contribution to Project

- Breon
 - Continues to research different designs for circuits now that we have on the development board.
- Matthew
 - Received the EXOR development board and begun downloading and configuring the necessary software.
 - Currently waiting for an EU-US wall adapter.
- Hiram
 - Found extra parts for some of the circuit designs
 - Created the symbols for the footprints that were downloaded online
 - Generated the netlist for the project
 - Started the process of Printed circuit board (PCB) layout design
- Bryce
 - Found extra parts for some of the circuit designs
 - Research breadboard parts with KiCad videos
- George
 - Made revisions on the project comparison slide.

Upcoming Action Items assigned per Team Member

- Breon
 - o Will continue to design the circuits for the SD card interface and Ethernet ports 1 and 2.
 - o Will help Hiram
- Matthew
 - o Configure the development board once the EU-US wall adapter is received.
 - o Explore the ins and outs of the development board and do further research into pin manipulation.
- Hiram
 - o Will continue designing a circuit for the development board and DC/DC power converters.
 - o Will Continue working on the PCB layout and placing parts
- Bryce
 - o Will help Breon design the circuits for the SD card interface and Ethernet ports 1 and 2.
- George
 - o Will work with Matthew to become more familiar with the Open HMI kit.
 - o Will assist Hiram with designing the circuit if needed.

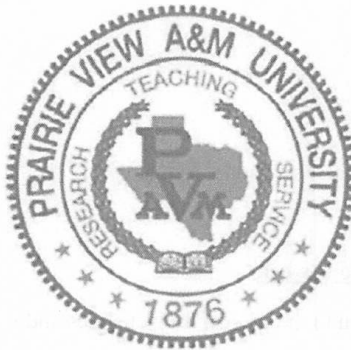
Tentative Plans for the Upcoming Week

- Will continue designing a circuit for the development board and DC/DC power converters.
- Will continue designing the circuits for the SD card interface and Ethernet ports 1 and 2.
- Refine presentation power point slides.
- We will start some testing with the open HMI kit.
- Will find extra part for the circuits we have to design.
- Will Continue working on the PCB layout and placing parts.

Issues or Concerns

- Not able to test the board because we do not have an EU to US wall adapter.

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ROY G. PERRY COLLEGE OF ENGINEERING



Liquid Nitrogen Doser Smart Actuator
ELEG 4247: Senior Design & Professionalism I

Topic: Weekly Progress Report

Team Number 2

Submitted by:

Hiram Pouncy

Matthew Barnett

George Polk

Breon Holmes

Bryce Lovejoy

Instructor: Professor Turner

Date of Submission: 11/10/2021

ELEG 4247

Weekly Senior Design Project Status Report

Team Number: 2

Date: 11/10/21

Project Name: Liquid Nitrogen Doser Smart Actuator

Project Status: On Track

Accomplishments from previous week

- Added more information to the project impact slides and project comparison slides.
- Found some parts with pins.

Team Meeting Attendance

- We all met on November 5th from 10:00am to 11:00am with Paul from Chart Industries to give them an update on our progress.

Team Member Contribution to Project

- Breon
 - Continues to research different designs for circuits now that we have on the development board.
- Matthew
 - Received the EU-US wall adapter and began running tests on OpenHMI development kit.
 - Experimenting with the VMWare Linux machine and testing OpenHMI compatibility.
- Hiram
 - Found extra parts for some of the circuit designs
 - Created the symbols for the footprints that were downloaded online
 - Continuing the process of Printed circuit board (PCB) layout design
- Bryce
 - Found extra parts for some of the circuit designs
 - Continuing research for breadboard parts with KiCad videos
 - Got in contact with sponsor Paul Rybak regarding data analysis of our actuator simulation
- George

- o Made revisions on the project comparison slide.

Upcoming Action Items assigned per Team Member

- Breon
 - o Will continue to design the circuits for the SD card interface and Ethernet ports 1 and 2.
 - o Will help Hiram
- Matthew
 - o Will configure the development board.
 - o Will continue to explore the ins and outs of the development board and do further research into pin manipulation.
 - o Will do further experimentation on the VMWare Linux machine.
- Hiram
 - o Will continue designing a circuit for the development board and DC/DC power converters.
 - o Will Continue working on the PCB layout and placing parts
 - o Will look over the parts that was sent to Paul and find part with pins.
- Bryce
 - o Will look over the parts that was sent to Paul and find part with pins
 - o Follow up with Paul regarding ongoing simulation analysis and creation of graphs/diagrams
- George
 - o Will work with Matthew to become more familiar with the Open HMI kit.
 - o Will assist Hiram with designing the circuit if needed.

Tentative Plans for the Upcoming Week

- Will continue designing a circuit for the development board and DC/DC power converters.
- Will continue designing the circuits for the SD card interface and Ethernet ports 1 and 2.
- Refine presentation power point slides.
- We continue start some testing with the open HMI kit.

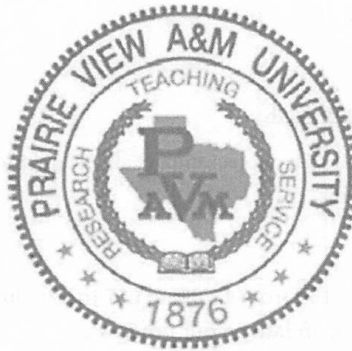
- Will find extra part for the circuits we have to design.
- Will Continue working on the PCB layout and placing parts.

Issues or Concerns

- N/A

PRAIRIE VIEW A&M UNIVERSITY
ROY G. PERRY COLLEGE OF ENGINEERING

Liquid Nitrogen Doser Smart Actuator
ELEG 4247: Senior Design & Professionalism I



Topic: Weekly Progress Report

Team Number 2

Submitted by:

Hiram Pouncy

Matthew Barnett

George Polk

Breon Holmes

Bryce Lovejoy

Instructor: Professor Turner

Date of Submission: 11/17/2021

ELEG 4247

Weekly Senior Design Project Status Report

Team Number: 2

Date: 11/17/21

Project Name: Liquid Nitrogen Doser Smart Actuator

Project Status: On Track

Accomplishments from previous week

- Added more information to the project impact slides and project comparison slides.
- Found some parts with pins.

Team Meeting Attendance

- We all met on November 15th from 11:00am CST to 12:00pm with Paul from Chart Industries to give them an update on our progress.

Team Member Contribution to Project

- Breon
 - Continues to research different designs for circuits now that we have on the development board.
 - Making a list of pros and cons for def
- Matthew
 - Experimenting with the VMWare Linux machine and testing OpenHMI compatibility.
- Hiram
 - Created the symbols for the footprints that were downloaded online
 - Continuing the process of Printed circuit board (PCB) layout design
- Bryce
 - Found extra parts for some of the circuit designs
 - Continuing research for breadboard parts with KiCad videos
 - Contacted sponsor Paul Rybak regarding data analysis of our actuator simulation
- George
 - Made revisions on the project comparison slide.
 - Started the process of making interface boards for some of the parts

Upcoming Action Items assigned per Team Member

- Breon
 - Will help Hiram with placing parts in the PCB layout.
- Matthew
 - Will configure the development board.
 - Will continue to explore the ins and outs of the development board and do further research into pin manipulation.
 - Will do further experimentation on the VMWare Linux machine.
- Hiram
 - Will Continue working on the PCB layout and placing parts
 - Will look over the parts that was sent to Paul and find part with pins.
- Bryce
 - Will look over the parts that was sent to Paul and find part with pins
- George
 - Will work with Matthew to become more familiar with the Open HMI kit.
 - Will continue designing interface boards

Tentative Plans for the Upcoming Week

- Will continue designing a circuit for the development board and DC/DC power converters.
- Will continue designing the circuits for the SD card interface and Ethernet ports 1 and 2.
- Refine presentation power point slides.
- We continue start some testing with the open HMI kit.
- Will find extra part for the circuits we have to design.
- Will start making interfacing boards
- Will Continue working on the PCB layout and placing parts.

Issues or Concerns

- N/A

BELOW AVERAGE

Senior Design ELEG 4247

Outcome 5 – Teamwork

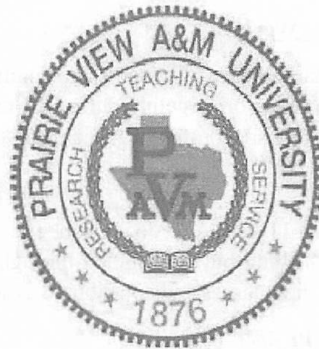
Below Average Example

Teamwork Evaluation Form
ECE Senior Design & Professionalism
Teamwork-Outcome 5

Example of some
Below Avg work

Title of Presentation: <u>Team Weekly Progress Report</u>						
Team Number and Members: <u>Various</u>						
Date of Presentation: <u>FALL 2021</u>						
Name of Evaluator and Affiliation (University or Company name)						
	Excellent 99	Very Good 89	Average 79	Below Avg. 69	Poor 54	Comments
Function Effectively on a Team						
Have a signed contract and agreed method of working together				✓		Early in the semester these teams submitted below Avg reports
Organize and assign team roles						
Plan and keep good record of team meetings including documentation of each team member contributions				✓		
Create an inclusive and collaborative environment						
Complete assigned task on time.						
Help others, share ideas, and be professional to each other						Got better in
Detailed Weekly Progress Reports turned in every Wednesday				✓		
Able to show that all team members are making equal contribution to work deliverables						
Planning and Tracking Progress						
Able to establish goals and objectives (deliverable)						the semester after instructor feedback
Identify and break down work into tasks and subtasks						
Develop a Gantt chart and critical path analysis for managing the project						
Establish major milestones for tracking progress						
Track progress of team members to ensure project is on schedule and meeting goals/objectives						

PRAIRIE VIEW A&M UNIVERSITY
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LoRaWan sensor monitoring parking environment

ELEG 4472: Senior Design & Professionalism I

Topic: Meeting Time & Location Agreement

Team Number 8

Submitted by

Abel Mendoza

Alfredo Hurtado

Ryan Johnson

Oluwadamilola Oboye

Juwan Byers

Hillel Lands

Instructor: Professor Turner

Date of Submission: 09/29/2021

Team Number: 8 Project Name: LoRaWan sensor monitoring parking environment
9/29/21

Date:

Project Status: On Track

Accomplishments from Previous Week

We successfully completed our marketing requirements and engineering justifications. We met to discuss the project impacts that we plan on targeting during the creation of our product and what time we plan on meeting with our advisor, Professor Annamalai.

Team Meeting Attendance

We met last Tuesday from 9 PM – 11 PM. Alfredo, Juwan, and Abel were in attendance for the meeting. Hillel and Ryan were working but contributed through the group chat and Dami was studying for a quiz in one of his other classes and contributed as well through the group chat.

Team Member Contribution to Project

Everyone contributed by giving different marketing requirements and justifications that we needed for the assignment to be complete. Abel finished the justifications, Ryan finished the safety slide, Dami finished the economic impact slide, Hillel finished the economical slide, Alfredo completed the environmental slide, and Juwan finished the cultural slide and some last minute edits on the presentation.

Upcoming Action Items Assigned per Team Member

Every team member is finding articles that we can use for developing our product.

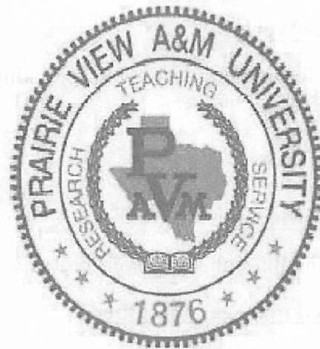
Tentative Plans for Upcoming Week

1. Establishing a calendar with our advisor, Professor Annamalai.
2. Finding articles and discussing during our team meeting.

Issues or Concerns

1. Making sure to have the precise information to build the network and product we plan to make.

PRAIRIE VIEW A&M UNIVERSITY
ROY G. PERRY COLLEGE OF ENGINEERING



LoRaWan sensor monitoring parking environment

ELEG 4472: Senior Design & Professionalism I

Topic: Meeting Time & Location Agreement

Team Number 8

Submitted by

Abel Mendoza

Alfredo Hurtado

Ryan Johnson

Oluwadamilola Oboye

Juwan Byers

Hillel Lands

Instructor: Professor Turner

Date of Submission: 10/20/2021

Team Number: 8 Project Name: LoRaWan sensor monitoring parking environment
10/5/2021

Date:

Project Status: On Track

Accomplishments from Previous Week

We took an intermission to study for midterm test in our individual classes.

Team Meeting Attendance

No meeting for midterm.

Team Member Contribution to Project

Everyone is contributing by reading through the PowerPoint and making edits where they see fit.

Upcoming Action Items Assigned per Team Member

Every team member is finding articles that we can use for developing our product.

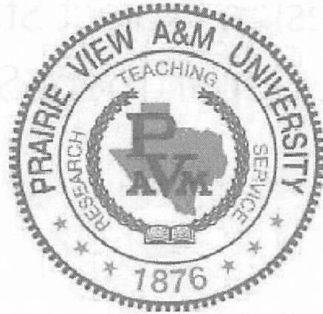
Tentative Plans for Upcoming Week

1. Establishing a calendar for team weekly meetings
2. Finding articles and discussing during our team meeting.
3. Drawing a schematic of our draft product.
4. Pricing the pieces that are needed for the product

Issues or Concerns

1. Making sure to have the precise information to build the network and product we plan to make.

PRAIRIE VIEW A&M UNIVERSITY
ROY G. PERRY COLLEGE OF ENGINEERING



Project Name: Geo Location for Special Need

ELEG 4472: Senior Design & Professionalism I

Topic: Meeting Time & Location Agreement
Team Number 3

Submitted by:

Johnn Owens (Team Lead)
Trevor Johnson
Michael Shepard
Osesiye Ayeni
Adeola Okeowo

Instructor: Professor Turner, Dr. Musa

Date of Submission: 9/22/2021

ELEG 4247

Weekly Sr Design Project Status Report 2021-2022 ECE Department Senior Project

Team Number: 3

Project name: Geo Location for Special Needs

Date: 9/7/2021

Project Status: On Track

Accomplishments From Previous Week

- Met with Faculty Sponsor twice for 2 hours to discuss project
- Completed Team Contacts

Team Meeting Attendance

Team 3 met on Tuesday September 7 in the Study Room at View 2 for 2 hours

- All team members present

Team 3 met on Wednesday September 8 in the Study Room at View 2 for 3 hours

- All team members were present except Trevor who was at an engagement event

Team 3 met on Monday September 13 in Study Room at View 2 for 2 hours

- All team members present

Team 3 met on Monday September 15 in Study Room at View 2 for 2 hours

- All team members present

Team 3 met on Friday September 17 in Study Room at View 2 for 2 hours

- All team members present
- Met with advisor

Team 3 met on Monday September 20 in Study Room at View 2 for 2 hours

- All team members present
- Met with advisor

Team Member Contribution to Project

- Johnn Owens- Team Leader
- Michael Shepard- Scribe
- Trevor Johnson- Software Delveloper
- Adeola Okeowo- Data Analyst
- Osesiye Ayeni- Test Lead

Week 1-3

There were no specific tasks for any members of the team this week. Members collectively collaborated on and completed the team contract and the intro and matrix senior design.

Upcoming Action Items Assigned per Team Member

This week's assignment involves revising the market requirements and engineering requirements for the matrix, researching topics discussed with advisor and constraints and assumptions for the project

Tentative Plans for Upcoming Week

- Complete the Matrix
- Project Comparison
- Advantages & Disadvantages
- Project Impact
- Assumptions
- Timeline

Issues or Concerns

No issues or concerns