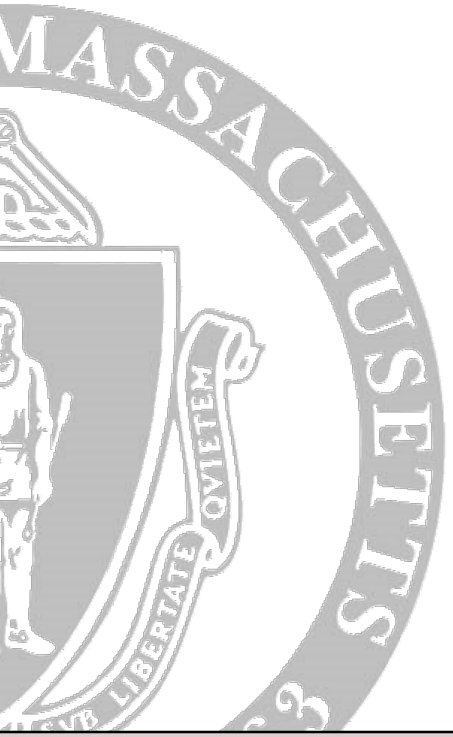


ECE 416

25th January 2018

Outline

- ECE 416 Schedule
- Comments on SDP Report
  - Style
  - Figures and Tables
  - References
  - Equations
  - Table 1 (Specifications)
- Volunteer Teams for Open House Demos

-----Original Message-----
From: Bill Leonard
Sent: Wednesday, January 24, 2018 3:42 PM

Subject: Getting into the right "LAB" section for ECE 416

Hi everyone: We need to get everyone into the correct lab section of ECE 416 as soon as possible, so please check and SWAP your section for the right one right away, according to your SDP team advisor as shown in the list below.

Thank you.

If you have any questions, please let me know.

// wjl

01MR	Aksamija, Zlatan
01LN	Anderson, Neal
01NM	Burleson, Wayne
01MV	Ciesielski, Maciej
01LR	Duarte, Marco
01MN	Eslami, Y.
01LL	Gao, Lixin

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 Benchside meetings	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19 Holiday	20 Benchside Meetings	21	22 Benchside Meetings	23	24
25	26 CDR	27 CDR	28 CDR			

March 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 CDR	2 CDR	3
4	5 CDR	6 CDR	7 CDR	8 CDR	9 CDR	10
11 Spring Recess Begins	12	13	14	15	16	17
18	19 Classes resume	20 Benchside Meetings	21	22 Benchside Meetings	23	24
25	26	27	28	29	30	31

April 2018

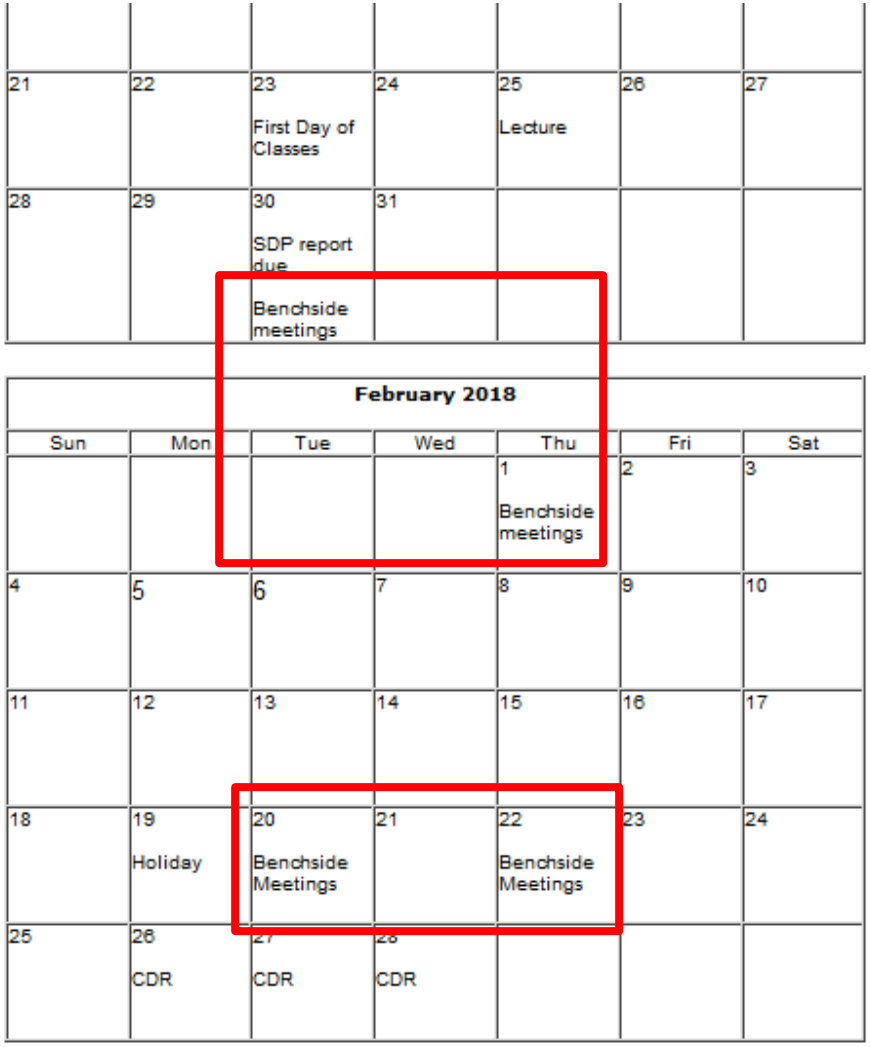
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9 FPR	10 FPR	11 FPR	12 FPR	13 FPR	14 FPR
15	16 Holiday Patriot's Day	17 FPR	18 FPR	19 FPR	20 FPR	21
22	23	24	25	26	27 SDP Demo Day ECE Picnic	28 SDP Demo Day
29	30					

25 days to CDR

Spring Break

74 days to FPR

92 days to Demo Day



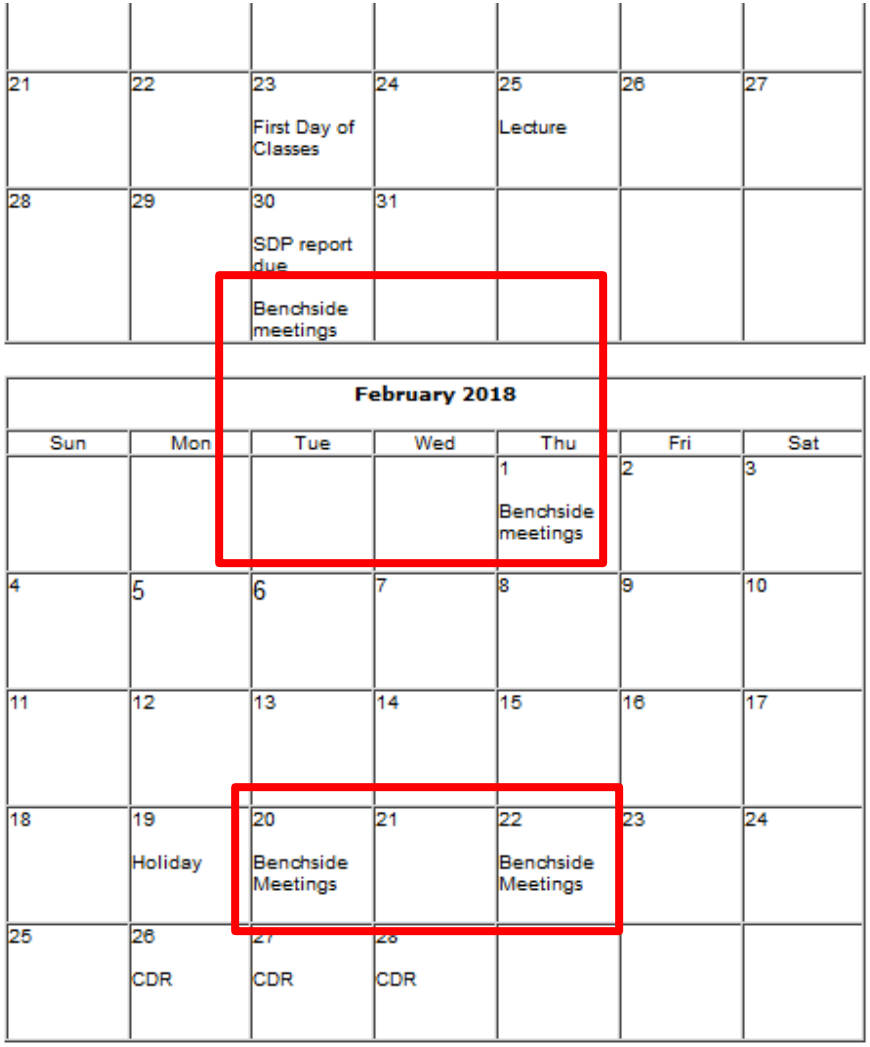
21	22	23 First Day of Classes	24	25 Lecture	26	27
28	29	30 SDP report due Benchside meetings	31			

February 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 Benchside meetings	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19 Holiday	20 Benchside Meetings	21	22 Benchside Meetings	23	24
25	26 CDR	27 CDR	28 CDR			

Benchside Meetings

- Block Diagram
- CDR deliverables
- Benchside Demo



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Benchside Meetings

- Block Diagram
- CDR deliverables
- Benchside Demo

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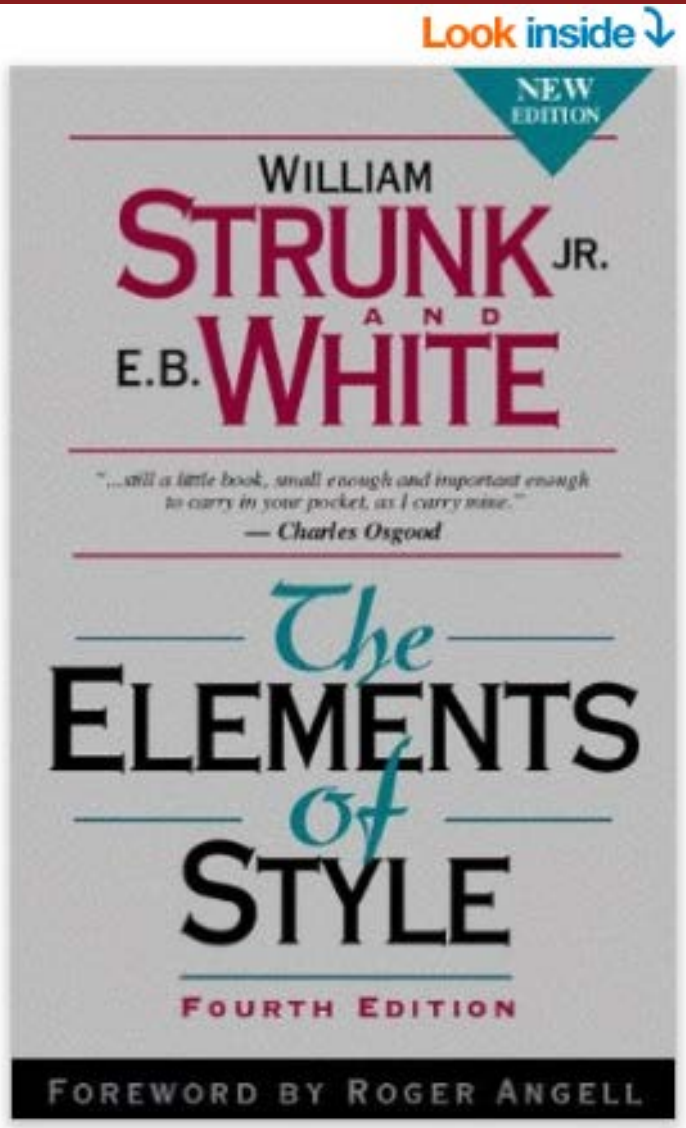
Style

- Use correct person
- Use the active voice
- Put statements in positive form
- Use definite, specific concrete language
- Omit needless words


Look inside
NEW EDITION
WILLIAM STRUNK JR.
AND
E.B. WHITE
"...still a little book, small enough and important enough to carry in your pocket, as I carry mine."
— Charles Osgood
The ELEMENTS of STYLE
FOURTH EDITION
FOREWORD BY ROGER ANGELL

Use Correct Person/pronouns

	Singular	Plural	Possessive
1st Person	I ✗	we ✓	✗ mine/ours ✓
2nd Person	you ✗ ✓	you ✗ ✓	yours ✗
3rd Person	he/she/it ✓	they ✓	his/hers/its/theirs ✓

Use Active Voice

The active voice is usually more direct and vigorous than the passive.

I shall always remember my first visit to Boston.

This is much better than

My first visit to Boston will always be remembered by me.

Use Active Voice

The habitual use of the active voice makes for **forcible writing**. This is true not only in the narrative concerned principally with action but **in writing of any kind.**

Use Active Voice

There were a great number of dead leaves lying on the ground	Dead leaves covered the ground
The reason he left college was that his health became impaired	Failing health compelled him to leave college
It was not long before she was very sorry that she had said what she had.	She soon repented her words

When a sentence is made stronger, it usually becomes shorter. Brevity is a by-product of vigor.

Put statements in positive form

Make definitive assertions. Avoid tame, colorless, hesitating, noncommittal language

He was not very often on time.	He usually came late.
They did not think that studying electronics was a sensible way to use one's time.	They thought the study of electronics a waste of time.

Use definite, specific concrete language

Prefer the specific to the general, the definite to the vague, the concrete to the abstract.

A period of unfavorable weather set it.

It was frigid every day for a week.

They showed satisfaction as they took possession of their well-earned reward.

They grinned as they pocketed first place in SDP18's faculty vote.

Omit needless words

Vigorous writing is concise. A sentence should contain no unnecessary works, a paragraph no unnecessary sentences, for the same reason that a drawing should have no unnecessary lines and a computer program no unnecessary code.

Omit needless words

Vigorous writing is concise.

the question as to whether	whether
there is no doubt that	no doubt
used for fuel purposes	used for fuel
she is a woman who	she
this it a course that	this course
the reason why is that	because

Writing Style

- Use correct person
- Use the active voice
- Put statements in positive form
- Use definite, specific concrete language
- Omit needless words

Practice in composing emails!

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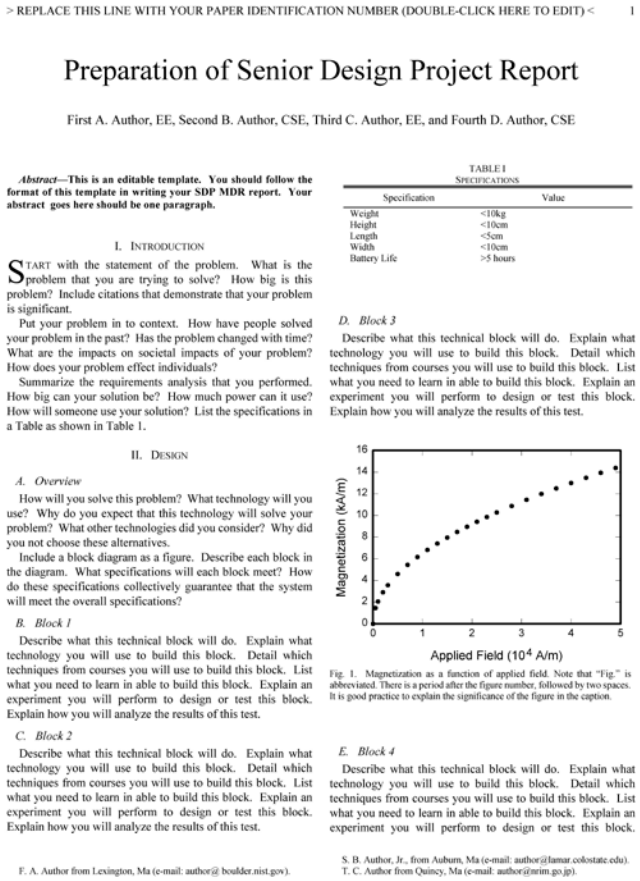
Figures and Tables



> REPLACE THIS LINE WITH YOUR PAPER IDENTIFICATION NUMBER (DOUBLE-CLICK HERE TO EDIT) < 1

Preparation of Senior Design Project Report

First A. Author, EE, Second B. Author, CSE, Third C. Author, EE, and Fourth D. Author, CSE

***Abstract*—This is an editable template. You should follow the format of this template in writing your SDP MDR report. Your abstract goes here should be one paragraph.**

I. Introduction

START with the statement of the problem. What is the problem that you are trying to solve? How big is this problem? Include citations that demonstrate that your problem is significant.

Put your problem in to context. How have people solved your problem in the past? Has the problem changed with time? What are the impacts on societal impacts of your problem? How does your problem effect individuals?

Summarize the requirements analysis that you performed. How big can your solution be? How much power can it use? How will someone use your solution? List the specifications in a Table as shown in Table 1.

II. Design

A. Overview

How will you solve this problem? What technology will you use? Why do you expect that this technology will solve your problem? What other technologies did you consider? Why did you not choose these alternatives.

Include a block diagram as a figure. Describe each block in the diagram. What specifications will each block meet? How do these specifications collectively guarantee that the system will meet the overall specifications?

B. Block 1

Describe what this technical block will do. Explain what technology you will use to build this block. Detail which techniques from courses you will use to build this block. List what you need to learn in able to build this block. Explain an experiment you will perform to design or test this block. Explain how you will analyze the results of this test.

C. Block 2

Describe what this technical block will do. Explain what technology you will use to build this block. Detail which techniques from courses you will use to build this block. List what you need to learn in able to build this block. Explain an experiment you will perform to design or test this block. Explain how you will analyze the results of this test.

F. A. Author from Lexington, Ma (e-mail: author@ boulder.nist.gov).

TABLE I
SPECIFICATIONS

Specification	Value
Weight	<10kg
Height	<10cm
Length	<5cm
Width	<10cm
Battery Life	>5 hours

D. Block 3

Describe what this technical block will do. Explain what technology you will use to build this block. Detail which techniques from courses you will use to build this block. List what you need to learn in able to build this block. Explain an experiment you will perform to design or test this block. Explain how you will analyze the results of this test.

Fig. 1. Magnetization as a function of applied field. Note that "Fig." is abbreviated. There is a period after the figure number, followed by two spaces. It is good practice to explain the significance of the figure in the caption.

E. Block 4

Describe what this technical block will do. Explain what technology you will use to build this block. Detail which techniques from courses you will use to build this block. List what you need to learn in able to build this block. Explain an experiment you will perform to design or test this block.

S. B. Author, Jr., from Auburn, Ma (e-mail: author@lamar.colostate.edu).
T. C. Author from Quincy, Ma (e-mail: author@nrim.go.jp).

- Figures and tables are integral to a report
- Introduce and discuss all figures and tables in the text.

  "In Figure 1, we show the magnetization curve for the solenoid coil. It shows that saturation occurs for an applied field above 5 A/m."

- All figures and tables are numbered and have captions.

References

- Substantiate claims; e.g., those made in introduction.
- Reference alternative solutions/designs.
- Reference data sheets and technical specifications.

  "We achieve wireless connectivity between the bot and smartphone using the Adafruit Bluefruit LE Shield [4]*."*

- Empathize with future SDP teams, as they use SDP reports.

[4] Adafruit Bluefruit LE Shield, Adafruit Industrieshttps://www.adafruit.com/product/2746

Equations

Consider Newton's laws for rotational motion

$$T = J\alpha \qquad (1)$$

where T is torque, J is moment of inertia and α is angular acceleration. In (1) ...

Table 1

Preparation of Senior Design Project Report

First A. Author, EE, Second B. Author, CSE, Third C. Author, EE, and Fourth D. Author, CSE

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C. Block 2

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D. Block 3

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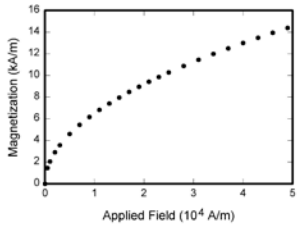

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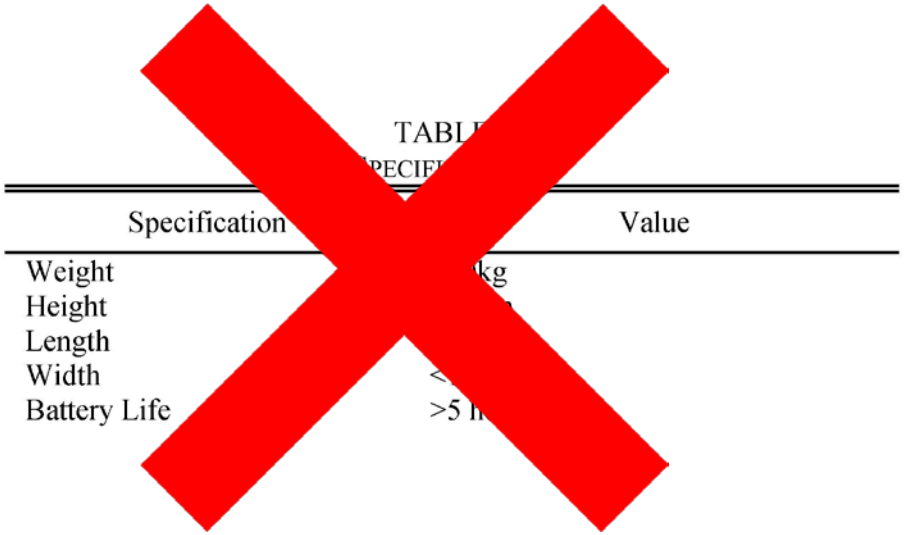

Design Process: Set Intermediate Goals

assess needs

analyze requirements

design system

Problem Statement

System Specifications

Block Diagram

detailed block level design and test

Functioning subsystems

system integration and test

Table 1 (List of requirements and Specifications)

Requirement	Specification
Provide real-time feedback	Feedback given in less than 100ms
Provide accurate metric measurements	Within 10% error of Qualisys Oqus Motion Capture System measurements (in UMass Human Motion Lab)
Lightweight product	Sensor systems (sensors, PCB, and power supply) less than 1 pound Waist Clip (Raspberry Pi and power supply) less than 1 pound
Sufficient battery life	Battery life greater than 2 hours
User friendly mechanical design	User should be able to put on product easily with little to no added effort

Table 1: List of system requirements and specifications.

Courtesy of Team "Stride," J. Higgins, J. Menzie, J. Penney and R. Hartnett

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- Volunteer Teams for Open House Demos, 11am-1pm, Sunday, 11th Feb'18