C-201 Capstone Assignment Specifications

The Capstone assignment for the second and final semester of your first year Coding Program is not just a culmination and display of your abilities as a budding developer. This project will require you to, use the software development life cycle, manage your time, tap into your creative core, present to a large group of people, and yes… even do some code.

Capstone presentations will take place on Jan 18th in the Start Presentation room. The second year coding students will be the breadth of the guests who will attend, however, others from the district, and our business advisory council will be invited. Prepare yourself for this.

The Capstone will be broken into three major components:
1) The small business plan
2) The website to support your business
3) A presentation outlining your plan, your process and your website

Each of the components will be described in the sections below…

Small Business Plan

You will need to ask yourselfs most of the following questions and complete most of these tasks to formulate a solid plan:

> *In a separate Google Doc answer the questions as completely as possible. You can use any available resource. The more information you list under each question, the easier it will be to write your business plan.*
>
> 1. Select Your Business. What is it?
> 2. Which kind of business is it? (e.g. manufacturer, marketer)
> 3. What products or services will you provide?
> 4. How will you get the money to start your business?
> 5. Give at least 2 examples each of goods and services you would buy for your business.
> 6. What type of employees (seasonal? Part- and/or full-time?) would you hire? Why? How would you hire them?
> 7. How will you sell your product? (Marketing)
> 8. How will you make or perform your product/service?
> 9. What types of records do you need to keep? Why?

10. What type of ownership will you have for your business? (e.g. partnership)
11. Why did you choose this type? Give at least two advantages and disadvantages associated with this type of ownership.
12. How will you manage your business?
13. Identify/list at least 2 to 3 goals for your business?
14. What are some of the jobs that need to be done in your business, and who will do them?
15. How will you hire workers? What will you pay them? Will you have a bonus for them? What will it be?
16. How will you inspire and motivate your workers to do the best job they can?
17. What are some ways you will promote workplace diversity?
18. How will you maintain safety on the job and promote employee wellness?
19. What are your business ethics? Give a list of your code of ethics, citing at least three points. What are some goods you would possibly import? If you don't have any, tell why you don't. What products can be exported? If you don't have any, explain why.
20. What are some barriers to trade that could be applied to goods you import or export? If you don't import or export anything, give examples of each kind of barrier.
21. Is your business involved in interstate or intrastate commerce? Is it regulated by the state, or the federal government?
22. For what items in your business would you need to obtain patents or copyrights?
23. Your business is not allowed by law to be a monopoly. Who are some of your possible competitors?
24. What are some taxes you have to pay for your business?
25. Draw your logo!

This may seem daunting, but divide up the work and you will not be overburdened. Also, some of these items may not apply to you, so be selective.

Your small business will begin with a budget of **$50,000** dollars. You will use the following template to outline your small business plan:

C201 Capstone Project
Business Plan Template

Cover Sheet - Including your company name and logo

Table of Contents

Executive Summary

General Company Description

- Mission
- Vision

Products and Services

- Features and Benefits

  - List all of your major products or services.

  - For each product or service:
    • Describe the most important features. What is special about it?
    • Describe the benefits. That is, what will the product do for the customer?

Marketing Plan

- Market Research - How?
- Market Research - Why?
    - **Economics**
        - Facts about your industry:
        - What is the total size of your market?

    - What percent share of the market will you have? (This is important only if you think you will be a major factor in the market.)
    - Current demand in the target market.
    - Trends in target market—growth trends, trends in consumer preferences, and trends in product development.
    - What barriers to entry do you face in entering this market with your new company? Some typical barriers are:
        - High capital costs
        - High production costs
        - High marketing costs
        - Consumer acceptance and brand recognition
        - Training and skills

- - ■ Unique technology and patents
    - ■ Unions
    - ■ Shipping costs
    - ■ Tariff barriers and quotas
  - ○ And of course, how will you overcome the barriers?

Customers

Identify your targeted customers, their characteristics, and their geographic locations, otherwise known as their demographics.

- Age
- Gender
- Location
- Income level
- Social class and occupation
- Education
- Other (specific to your industry)

Promotion

How will you get the word out to customers?
Advertising: What media, why, and how often? Why this mix and not some other?

Competition

What products and companies will compete with you?

Startup Expenses and Capitalization

A brief description of your basic start-up costs… include as much detail as possible

Financial Plan

- 12-Month Profit and Loss Projection

- Four-Year Profit Projection (Optional)

Refining the Plan

- For Investors
  - Investors have a different perspective. They are looking for dramatic growth, and they expect to share in the rewards:
    - Funds needed short-term
    - Funds needed in two to five years
    - How the company will use the funds, and what this will accomplish for growth.
    - Estimated return on investment
    - Exit strategy for investors (buyback, sale, or IPO)
    - Percent of ownership that you will give up to investors
    - Milestones or conditions that you will accept
    - Financial reporting to be provided
    - Involvement of investors on the board or in management

High Technology Companies

- Economic outlook for the industry
  - Will the company have information systems in place to manage rapidly changing prices, costs, and markets?
  - Will you be on the cutting edge with your products and services?
  - What is the status of research and development? And what is required to:
  - Bring product/service to market?
  - Keep the company competitive?

- How does the company:
  - Protect intellectual property?
  - Avoid technological obsolescence?
  - Supply necessary capital?
  - Retain key personnel?

High-tech companies sometimes have to operate for a long time without profits and sometimes even without sales. If this fits your situation, a banker probably will not want to lend to you. Venture capitalists may invest, but your story must be very good. You must do longer-term financial forecasts to show when profit take-off is expected to occur. And your assumptions must be well documented and well argued.

BUDGET

[Company Name] — [Year] Budget

INCOME	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Operating Income													
Category 1													0
Category 2													0
Category 3													0
Category 4													0
Other													0
Total Operating Income	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Operating Income													
Interest Income													0
Rental Income													0
Gifts Received													0
Donations													0
Other													0
Total Non-Operating Income	0	0	0	0	0	0	0	0	0	0	0	0	0
Total INCOME	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPENSES													
Operating Expenses													
Accounting and Legal													0
Advertising													0
Depreciation													0
Dues and Subscriptions													0
Insurance													0
Interest Expense													0
Maintenance and Repairs													0
Office Supplies													0
Payroll Expenses													0
Postage													0
Rent													0
Research and Development													0
Salaries and Wages													0
Taxes and Licenses													0
Telephone													0
Travel													0
Utilities													0
Web Hosting and Domains													0
Other													0
Total Operating Expenses	0	0	0	0	0	0	0	0	0	0	0	0	0

You may strip away any items you deem unsuitable for your business…

Here is the link to the above document… please make a copy of it before you edit it.

WARNING

Failure to make a copy of the rubric will result in others being able to edit your work. Make a copy of the rubric and save it in YOUR GOOGLE DRIVE prior to editing.

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https://docs.google.com/a/west-mec.org/spreadsheets/d/1wcoW13kZ6zcs65L9NuYQPePVkoIz11esUsMwrkUz5yg/edit?usp=sharing

Your small business plan will be evaluated based on the following rubric:

[Name] Capstone Project

CATEGORY	16-20	11-15	6-10	0-5	Totals
Organization	The plan is in order, there are no missing pages, each page is marked properly with a corresponding reference in the table of contents.	1 missing section with 2 or 3 pages out of order.	2 or more missing sections and 4 or more sections out of order.	There is no table of contents and there is no clear direction of this plan. It is choppy and does not make sense.	
Appeal	Cover page is attractive, draws the eye. Colors are coordinated and match well. Acute attention to detail has been paid to ensure top-level interest.	Colors do not quite match the company idea. The cover page draws the eye, but it is hard to glean a clear focus.	Colors do not match company ideas. Cover page does not draw the eye.	There are no colors and the company idea is not conveyed.	
Structure	Complete paragraphs, no grammatical errors, all references are cited properly, there is a logical flow to the plan.	1-3 errors in sentence structure. 1-3 grammatical errors.	4 or more errors in sentence structure. 4 or more grammatical errors.	More than 4 errors in either sentence structure or grammar.	
Information	Research has clearly been applied to this business plan, it is	Some research shown.	No research shown.	It is clear that no attempt to incorporate research has been made.	

	exceptionally well thought out, statistics and data are applied throughout, charts and infographics are thorough and meaningful.	Shows thought, but not in-depth.	Plan is not well thought out.		
Date Created: May 9th, 2017				Points Earned	0
				Points Possible	80

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<u>AGENDAS</u>

Here is a copy of the daily/weekly agenda format. You will use this to map out all stories and development tasks with all of the project components:

Capstone Agenda

C-201 Coding Capstone Projects
DATE: mm.dd.yy
START@West-Mec

BUSINESS NAME

	AGENDA ITEMS	DATE FOR COMPLETION	NOTES
1			
2			
3			
4			
5			

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https://docs.google.com/document/d/1XAmdZ_yUGhB7jmh0WhSLe_T-03Q5mX75Pi1bi6w1Ods/edit?usp=sharing

Your task lists may be completed using Google Keep, Reminders, a simple Document, or any other record keeping utility. You MUST share these in some way so that they may be assessed by the instructor.

GOOGLE DRIVE
You will need a place to keep all of your materials…

For this, you will use Google Drive > BUSINESS NAME

All materials will be placed in this drive… At the end of the project, you MUST turn in the following items:

1. A copy of your slides presentation in Google Slides format
2. A compressed copy of your coded site
3. An outline of your business plan, following the template provided
4. Any graphics, pictures, charts, graphs, or infographics
5. A spreadsheet of your budget
6. Notes for all stand-up meetings
7. All wireframes and mockups in digital format

WEBSITE
Your website will consist of HTML, CSS and JavaScript. You may use Bootstrap and JQuery, but do not feel that you must.

The following HTML pages must be included:
1. Index (Home)
2. About
3. Contact
4. Products

You must include, at a minimum, one CSS stylesheet. This stylesheet must consist of NO LESS than 25 unique style rules.

You must use the following JavaScript concepts in your website:
● Functions
● Event handlers
● Objects and methods

- Time-delayed and time-interval commands
- Arrays - at least one
- At least one form
- Any other JS commands or structures (Be Creative!)

You may wish to begin, and I encourage you to do so, with a Bootstrap template. Please visit: http://getbootstrap.com/getting-started/ to peruse the many templates Bootstrap offers. If you find one at another site, you MUST get instructor approval.

WIREFRAMES & MOCKUPS
Each page of your site must have a wireframe or mockup prior to beginning coding. You do NOT need to complete a line for line, pseudo-code write up… but you must include the major blocks of code and what function they perform. This can be drawn on paper, then scanned and placed in your Google Drive as a PDF, or it can be completed in digital form using Google Drawings or Lucidchart.

This will be your rubric for the code of your website:

[Name], Capstone Project					
CATEGORY	20	15	10	5	Totals

Functionality	All items function according to specifications. All required components work and fulfill the function. There are no errors and represents a professionally designed and built application.	Most pages function. Most buttons and links work and take the user to a relevant place within or outside the site. There are few errors and the product mirrors the quality of a budding designer with a bright future.	Some pages function. Some buttons and links work and take the user to a relevant place within or outside the site. There are some errors and the product designer needs to review best-practices.	Few pages function. Few buttons and links work and take the user to a relevant place within or outside the site. There are several errors and the product does follow outlined directions.	
Documentation	The coding files are well documented with comments. This applies to all code files. Each file has substantial commenting, describing the who, what, when and why of the page. Each page has multiple, descriptive comments for each significant block of code demonstrating the developers's personal understanding of the	The coding files are documented with comments. This applies to most code files. Each file has some commenting, describing the who, what, when and why of the page. Each page has some descriptive comments for each significant block of code.	There is some code at the beginning of the coding files. Sparse comments are inconsistently placed throughout the code and explain little in the way of what the code does, or how it functions. There is some attempt at documentation.	Few comments are incorporated. There is little attempt or effort made to document.	

	documented segment.				
Formatting	The format of the code is exceptionally clean and structured in a logical way. The code is organized and has an elegant flow. The appearance is professional and is easily read by an evaluator.	The format of the code is clean and structured in a mostly logical way. The code is organized and has a clear flow. A clear effort has been made by the coder to appear professional. The code can be interpreted easily by an evaluator.	There is some attempt made by the coder to organize the content of the file. The code is choppy and does not follow a clear, logical pattern. The code is understood, with some difficulty, by an evaluator.	There is no logical formatting and no attempt has been made by the coder to do so. The evaluator has extreme difficulty understanding the organization and structure.	

| Technique | The developer demonstrates expert-level technique. They have gone above and beyond the instructions, and have employed coding techniques which haven't necessarily been taught. They are able to make logical, and correct decisions which make their code more efficient. | The developer demonstrates high level technique. They have adhered closely to the instructions, and have employed all taught techniques. They make decisions based on the instructions for the coding project and meet all requirements. | The developer demonstrates basic level technique. They are able to follow the instructions to the coding project, with a few mistakes. There is little creativity involved and use several taught techniques, but are clearly missing some. | The developer is not able to follow the instructions for the project and there are few or no indications of acceptable technique. | |

Professionalism	The developer has maintained the highest level of professionalism while working on this project. They have stayed on task and have demonstrated a clear and focused work ethic. Their conversations have been limited to programming topics and they have interacted with others in a professional way at all times.	The developer has made a clear and conscious effort to remain professional for the majority of the project duration. They have rarely had to be reminded to stay on task and are often focused for the majority of the class period. They have interacted well with others and in a professional way most of the time.	The developer has made an attempt at remaining professional, but has had to be reminded more than once to get back on task. They have had a majority of professional conversations and their interaction with others has been somewhat professional.	The developer has made no attempt to remain professional. They have needed multiple prompts by the instructor or others to get back on task. They have not contributed to the project in a professional way and needed at least one reminder on class professionalism.	

Date Created: January 18th, 2020

Points Earned	0
Points Possible	100

Here is the link to the above document… please make a copy of it before you edit it.

https://docs.google.com/spreadsheets/d/15ZiCRQMwUNNJpeDmmPxuAw6z6ZaYKC7dvkPTJ0GzGyc/edit?usp=sharing

DAILY EXPECTATIONS

You will need to use Version Control, so ONE person will need to handle the master branch of your code on GitHub and Sourcetree. Make a push of all coding changes DAILY. Name your repository after your company… you will submit the URL once the assignment post has been created in Google Classroom.

PRESENTATIONS

We will follow this schedule for presentations:

Capstone Projects
January 18, 2021
1st Year Students
Session I (1:25 - 3:30)

Time	Jan 18 2021
1:30	
1:50	

2:10	
2:30 Break	
2:45	
3:05	

Capstone Projects
January 18, 2021
1st Year Students
Session I (1:25 - 3:30)

Time	Jan 18 2021
4:00	
4:20	

4:40	
5:00 Break	
5:15	
5:35	

The rubric below will be used to assess your presentations:

[Group Name], Capstone Project						
Did you meet all of the requirements for the assignment? Did you finish them on time?						TOTALS
	80	60	40	20	0	

	Excels	Approaches	Marginal	Lacking	None	
Completion	All items in the project stack which are required are completed and turned in appropriate, on time, with all necessary attachments, links, and deliverables. (61-80 Points)	Most of the items in the project stack which are required are completed and turned in appropriate, on time, with all necessary attachments, links, and deliverables. (41-60 Points)	Some of the items in the project stack which are required are completed and turned in appropriate, on time, with all necessary attachments, links, and deliverables. (21-40 Points)	Several required items are missing, either links or deliverables have not properly been submitted, there is no evidence of any work completed. (Up to 20 Points)	Little to nothing was done	

Does your site work as intended? Are there any errors?						
	40	30	20	10	0	

	Excels	Approaches	Marginal	Lacking	None	
Functionality	All items function according to specifications. All required components work and fulfill the function. There are no errors and represents a professionally designed and built application. (31-40 Points)	Most pages function. Most buttons and links work and take the user to a relevant place within or outside the site. There are few errors and the product mirrors the quality of a budding designer with a bright future. (21-30 Points)	Some pages function. Some buttons and links work and take the user to a relevant place within or outside the site. There are some errors and the product designer needs to review best-practices. (11-20 Points)	Few pages function. Few buttons and links work and take the user to a relevant place within or outside the site. There are several errors and the product does follow outlined directions. (Up to 10 Points)	Little to nothing was done	

Did you comment well? Did you add proper commit messages? Did you name your files and variables in a meaningful manner?						
	20	15	10	5	0	
	Excels	Approaches	Marginal	Lacking	None	

Documentation (10%)	The coding files are well documented with comments. This applies to all code files. Each file has substantial commenting, describing the who, what, when and why of the page. Each page has multiple, descriptive comments for each significant block of code demonstrating the developers's personal understanding of the documented segment. (16-20 Points)	The coding files are documented with comments. This applies to most code files. Each file has some commenting, describing the who, what, when and why of the page. Each page has some descriptive comments for each significant block of code. (11-15 Points)	There are some comments at the beginning of the coding files. Sparse comments are inconsistently placed throughout the code and explain little in the way of what the code does, or how it functions. There is some attempt at documentation. (6-10 Points)	Few comments are incorporated. There is little attempt or effort made to document. (Up to 5 Points)	Little to nothing was done	
Did you create branches for different features? Did you commit daily with your work? Does the final commit say that your project is ready for review?						
	20	15	10	5	0	
	Excels	Approaches	Marginal	Lacking	None	
Version Control	There is clear and purposeful evidence of the use of distributed version control. There	There is clear and purposeful evidence of the use of distributed version control. There are code commits for	There is some attempt made by the coder to utilize version control. The commits are choppy and do not follow a	There is little or no attempt to utilize version control. The evaluator has extreme difficulty understanding the organization and structure of the	Little to nothing was done	

	are code commits for each day of the project, each with substantial commit messages which clearly identify the work which was completed in the allotted time. The final commit clearly states that the project is "ready for review." (16-20 Points)	each day of the project, each with substantial commit messages which clearly identify the work which was completed in the allotted time. The final commit clearly states that the project is "ready for review." (11-15 Points)	clear, logical pattern. The commits are understood, with some difficulty, by an evaluator. (6-10 Points)	commits, if there are any to be evaluated. (Up to 5 Points)	

Did you stay on task and use your class time appropriately? Did your conversations stay on topic?					
	40	30	20	10	0
	Excels	Approaches	Marginal	Lacking	None
Professionalism	The developer has maintained the highest level of professionalism while working on this project. you have stayed on task and have demonstrated a clear and focused work ethic. Their	The developer has made a clear and conscience effort to remain professional for the majority of the project duration. you have rarely had to be reminded to stay on task and are often focused for the majority of the class period. you have	The developer has made an attempt at remaining professional, but has had to be reminded more than once to get back on task. you have had a majority of professional conversations and their interaction with others has been	The developer has made no attempt to remain professional. You have needed multiple prompts by the instructor to get back on task. You have not contributed to the project in a professional way and needed at least one reminder on class professionalism. (Up to 10 Points)	Little to nothing was done

	conversations have been limited to programming topics and you have interacted with others in a professional way at all times. (31-40 Points)	interacted well with others and in a professional way most of the time. (21-30 Points)	somewhat professional. (11-20 Points)		

Visual Aids were used to enhance the presentation of information and business					
	30	20	10	5	0
	Excels	Approaches	Marginal	Lacking	None
Visual Aid(s)	Visual aids were used effectively throughout the presentation. You used visual aids as a supplement, not as a crutch.	Visual aids used were somewhat effective, but weren't used consistently throughout the presentation.	Visual aids used did not support verbal presentation. you lacked information, or groups members read from them.	Visual aids were not used at all.	Little to nothing was done
					Points Earned	0
					Points Possible	/230

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<p style="text-align:center; color:red;">**WARNING**</p>

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https://docs.google.com/spreadsheets/d/1ZiqkIxZvYw4cvxGNrBt6N7oecHS4VpCAElPvCKD02mc/edit?usp=sharing

PEER EVALUATIONS

You will now have an opportunity to review and assess the work of your classmates. Please click on the link below to access the Capstone Project Peer Evaluation Google Form.

https://docs.google.com/a/west-mec.org/forms/d/e/1FAIpQLSfrEJIqdDLSzNvVl6XyXKXlO-SuA76X5I_5qfX_iwIXEJ5OEA/viewform?usp=sf_link

You MUST complete one for EACH of your classmates.