

In-Class Agenda and Resource Document

Foothill College Math 2B.02: Applied Linear Algebra

Spring 2022, Class 6: Monday 4/20/2022

In-Class Meeting Time: 9:35 AM - 11:50 AM in room 4604

Reminders, Updates, and News

1. One of our learning family members, Mo, created a discord server for our class. The URL for that Discord can be found here. During class today, Mo gives an introduction to that resource and we start to build community in that space. Here is the URL for that discord: <https://discord.gg/tunvCvMWsq>

2. I got the first draft of one calendar ready before class started today:

- [M2B.02: Survival-Mode Calendar \(.pdf\)](#) or ([.docx](#))

Survival-mode progress: expect to spend about 8 - 10 hours of work per week outside of class on videos/notes plus another 2 - 4 hours per week on conquering college materials.

----- TRADITIONAL PASS LINE -----

- [M2B.02: Beginner Calendar \(.pdf\)](#) or ([.docx](#))

Beginner-level progress: expect to spend about 12 - 15 hours of work per week outside of class on videos/notes plus another 2 - 4 hours per week on conquering college materials.

- [M2B.02: Intermediate Calendar, LANA Project \(.pdf\)](#) or ([.docx](#))
- [M2B.02: Intermediate Calendar, Eigenvalue Project \(.pdf\)](#) or ([.docx](#))

Intermediate-level progress: expect to spend about 15 - 25 hours of work per week outside of class on videos/notes plus another 2 - 4 hours per week on conquering college materials.

Over the years, I've had many, many students say the following:

- I want to learn how to apply math to the real world
- I want to be paid for my technical expertise
- I want to do creative knowledge work and put math into action
- I want to become an engineer/Scientists and use math to do cool things
- I want to model the world around me to improve my local communities
- I want to find more purpose in math class beyond getting good grades and studying abstract theory

The applied projects that I offer in the intermediate-level track help you begin to create your own compelling answers for these questions (at least within the context of a 12-week quarter). For the intermediate-level engagement levels, you can choose one of two applied projects that are Jeff prepared for you. This includes either:

- Linear Algebraic Nodal Analysis (LANA) Project: This project is great for electrical engineers, physicists who are interested in electricity, or applied math majors who want to see how linear algebra can help solve real-world problems.
- Make Eigenvalues Resonate Project: This project is great for mechanical engineers, civil engineers, aerospace engineers, physicists who are interested in Newtonian dynamics or

vibrations analysis, or applied math majors who want to see how linear algebra can help solve real-world problems.

- [M2B.02: Advanced Calendart \(.pdf\)](#) or [\(.docx\)](#)

Advanced-level progress: expect to spend about 25+ hours of work per week outside of class on videos/notes plus another 2 - 4 hours per week on conquering college materials.

The advanced-level calendar offers you a track where you push beyond the intermediate-level. In the advanced-level work, you might do BOTH application projects created by Jeff or you choose-your-own adventure and design your own application project. You might also begin to read and of the Chapters 2, 3, 4, 5, 7, 8

3. For those of you that get excited about the applications but don't have the bandwidth to engage fully this quarter, there are opportunities for us to engage next year (assuming you'll be around Foothill). Alternatively, you can design your own studies at whatever institution you transfer to via the independent study process.

Past Due Dates

CLASS 4 DUE DATES (Due on Monday 4/11/2022 by 9:35am)

1.

CLASS 3 DUE DATES (Due on Monday 4/11/2022 by 9:35am)

2. [Conquering College Lab 1](#) is due today
3. [Class 3 Journal Entry](#) on [Jeff's Flipped Learning FAQs](#)
4. Watch YouTube video [Math 2B Interview with Maria Mihaela](#) (24 min, 37 sec)

CLASS 2 DUE DATES (Due on Wednesday 4/6/2022 by 11:59pm)

1. Fill out the [Spring 2022, Math 2B : Welcome Survey](#)
2. Complete our growth Mindset activity
 - Read Jeff's blog post [We Believe In You](#)
 - Read the [Growth Mindset Article](#)
 - Complete the [Growth Mindset Survey](#)
3. Class 2 Journal Entry

Today's to-do list

Generate as many questions as you can. Find answers to your questions. Help answer questions from our others in our learning family. For any questions you can't get answered today, capture those in your second brain. In other words, write your questions down in a special place so you can track your progress on those questions as the quarter goes on.

1. Updates and news
2. Submit your work from the content-specific individual space explorations you've done so far.
3. Journal Entry for Class 4
4. Build relationships with other scholars in this class: speed-dating discussions about today's journal entry

5. Launch Conquering College Lab 2

Upcoming Due Dates

- Conquering College Lab 2 (Due Monday 4/18/2022 by 9:35am)

Decisions that need to be made

1. What is your portfolio going to look like?
2. Who is your learning partner going to be?
3. How should we, as a class, deal with class questions? I'd like to co-create a system for tracking your questions and our answers to those questions. How should we do this?

Note 1: this is not as easy as it may seem. I'm down to get suggestions and try new things. But I expect us to iterate and improve our approach throughout the quarter as we get a better sense of the complexities of this process.

Note 2: Last week, two people utilized the "Question for group thinking" space in our Class 2 Google Doc. One person did so anonymously and the other shared their name. I do think this can be a really powerful way to share ideas and to engage in asynchronous discussion.

ΩQuestions for group thinking

As our day proceeds, please feel free to list any questions you have in this space.

- If you feel comfortable, please add your name to the question to identify its source.
- Anonymous questions are also welcome.

I can't promise I'll be able to answer your question(s) during the presentation. But I will try to help our class find answers to every question before the start of our next in-class meeting.

If you're interested, you can check back on this Google Document anytime you'd like for my responses to your questions.

Below is an example of a question and format (please highlight in orange)

Example Question: What does an example question look like? -Jeff Anderson (2/10/2022 @ 7:31pm)

Question 1: What math problems should we practice? You recommend taking them from the back of the textbook, but I'm having trouble connecting the class lessons to the chapters in the recommended textbook. I've been doing the "Warm Up Quizzes" I'm unsure if that is sufficient practice. (4/13/2022 @ 9:45am)

Matthew Legates's Response to Question 1: He provided some good suggestions when answering Question 2 on the Class 3 doc <https://docs.google.com/document/d/1Hj81OxjBy5Z8l42scnPNIS1cu8gs7vc3yqe8qT6OSoE/edit>

Journal Entry for Class 6

Kindling: quotes to help light some flames (hopefully)

Let's get started on drafting the [Portfolio conference list](#) for next weeks meetings. It can be helpful to have a [physical sheet](#) to monitor your lesson progress with.

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Template Responses

Question 1: Progress Check

Fill out your current progress level in the list above

Example Response

Question 2: Challenges

Form your first draft versions of your learning partnerships and your learning groups on the week 4 meeting schedule

[Example response](#)

Question 3: Practice

Help Jeff get accurate copies of the week 4 sheet for week 5, week 6, week 7, all the way to week 11.

Example Response]

Student Responses:
