2024-25 LIVE CALCULUS CLASS SYLLABUS

Tuesdays: 10-11 AM Central Time

Can I start working on my course before class starts?

Orientation: 2 weeks before class starts, parents will receive an orientation video that explains all the information in this syllabus, as well as how to use the eLearning course & Webex. To ensure you receive all emails, please add support@diveintomath.Zendesk.com to your contacts in your email account.

Required Supplies:

- **Curriculum:** Purchase the self-paced **eLearning Shormann Calculus**. While it can be purchased anytime, we recommend at least three weeks before classes start. If you want to start working on the course earlier, please read the article at the top of this page.
- 1-inch 3-ring binder with dividers and college rule or typing paper (typing paper is preferred), mechanical pencils and erasers
- Headphones or speaker (optional: microphone or you can message instead)
- Drawing Compass & Ruler **OR** GeoGebra App (recommended)
- Calculator: Learn More: Dr Shormann's Calculator Recommendations
- PDF Binder: You need to be able to convert your handwritten homework into a digital .pdf format with all pages in one PDF. **I recommend an app called TurboScan (~$10). You can use others but we only provide support for TurboScan.** It can be purchased on the Apple App Store as well as for Android devices. Click here for step-by-step instructions on using the TurboScan app.

Assignments & Homework: The eLearning Course:

The eLearning course is where students complete daily assignments (video lessons and homework) and take quizzes and exams. Please read the **Teacher's Guide** for more information on using the Shormann eLearning course.

Sample weekly schedule for Calculus:

Day 1: Do 1 lesson (2 hr).
Day 2: Do 1 lesson (2 hr).
Day 3: Do 1 lesson (2 hr).
Day 4: Do 1 lesson (2 hr)
Day 5: Online Class Meeting. Upload Homework and study for the quiz.

Tips for Success

- **Spread assignments out over at least 4 days.** Doing all the homework in two or three days will decrease fluency.
- **Limit math to an hour and half to two hours per day.** If more time is needed, work on math another 1-2 days.
- **Print and follow the steps on the Practice Set Instructions** (linked on the eLearning home page and Teacher's Guide).
- **Email me right away i**f you feel overwhelmed or can't do your work. The longer you wait the further behind you will get and the longer it will take to catch up.

Format for Homework & Notes:

- Use typing paper.
- Fold your paper in half, forming two columns, and work problems vertically in both columns, front and back.
- For problems in the Practice Set, grade your handwritten work with a red pen, and mark each problem with an X if incorrect or √ if correct.
- Rework all missed problems in red, writing the correct solution next to the missed problem.
- Put your name and lesson number on the top right corner of each page. Show your work. If you don't show work, you will not receive full credit.

Turn in Homework & Lecture Notes Before Class Starts

Your name and assignment number should be on the top right corner of the front page. Remember these things when uploading your homework:

1) **PDF is the only acceptable file format.** All homework for one week must be combined into one file, or "PDF binder". Not a "zip" file but a PDF file.

2) **don't exceed 5 MB per file.** In other words, the single PDF file containing all your work for that week must not exceed 5 MB in size. Resize your files if necessary.

3) See PDF binder in required supplies on page 3.

Live Class Meetings:Webex

We use Webex for live class meetings. Each week, you will receive a meeting invitation in your email, which will have a link to attend that week's class.

Class time will involve reviewing the week's lessons, taking a quiz and discussing the results, and answering questions you have. You can also email me during the week with questions at drshormann@gmail.com.

You can ask questions via chat or voice (headset with microphone required). Students use the text area to "chat" publicly with other students. Conversations will end when class begins. Any inappropriate conversations will not be tolerated and will be reported to your parents. If you have a question about a math problem or concept, you can send it to me as either a public or private chat message.

Grading

At the end of the year, the two lowest homework and quiz grades will be dropped. You will receive an evaluation after every quarterly exam. You can check your grade any time online. You will receive a certificate of completion if your average is 75% or greater.

- Homework is worth 20%.
- Class participation is worth 5%, and is based primarily off attendance, plus an obvious effort to respond when questions are asked.
- The four quarterly exams are worth 40%, and the in-class quizzes worth 35%.

Exams

If you have been completing your work at home **with integrity**, making 80% or better on most quizzes, and you follow the How to Study for Exams, you should do well on the quarterly exams.

Absences:

- Class Meetings are recorded.
- To allow for absences, at the end of the year I drop the two lowest weekly quiz grades and two lowest homework upload grades. If you are absent two times or fewer, then the work you didn't turn in will not affect your grade. Of course, you still need to do the work or you will struggle in the remainder of the course.
- I WILL NOT ACCEPT LATE WORK (but I will accept it early if you know you will be missing class on a certain date).

- PLEASE DO NOT ASK TO TURN WORK IN LATE. If you have to miss class more than two times and you are concerned about it affecting your grade, then please talk to me and we will work something out.

Conduct:

A good student will be attentive while I am talking, will come to class prepared and on time, and will treat everyone with respect and kindness. They will also meet the participation requirements described below. Also, do your homework with integrity! If your homework is consistently perfect, but you consistently fail the weekly quizzes, that is almost always a sign of cheating on homework, and you will be asked to drop the class. Strive to be a good student!

Participation:

Getting all your schoolwork done each week can be challenging, but I won't be doing you any favors by letting you get by with little or no homework completed for multiple weeks. At a minimum, each week you must turn in 2 homework assignments and complete the in-class quiz. If, for any 3-week period, you fail to meet the minimum requirement, and/or show little effort to complete more than the minimum requirement, you will be asked to drop the class.

SAT/ACT tests: Together, Shormann Math Algebra 1 and 2 cover all the content on **both** the ACT and SAT exams. Just like you take practice exams to help you prepare for the Shormann Math quarterly exams, we recommend that, prior to your SAT or ACT exam, you use some type of prep course containing at least 2 practice exams. Learn more about how to prepare for PSAT, SAT, and ACT here.

Should you take the CLEP or AP Calculus exam? Shormann Calculus covers all the content on the CLEP Calculus Exam and the AP Calculus AB exam. Both exams give credit for college-level Calculus I. The main difference between them is that the AP exam is longer and contains a handwritten component. It is also more widely accepted than the CLEP exam, especially by science and engineering departments. Students who can make 90s or better on the Shormann Calculus quarterly exams and most quizzes are encouraged to take the CLEP or AP. These exams can earn up to three or four college credits, validates your transcript, and can boost applications in the scholarship and admissions application process.Thousands of colleges accept CLEP and AP credits, but even if the college you attend does not accept them, passing either exam will show the college you plan to attend that you are capable of college-level work. We will provide our CLEP Professor Calculus course (practice exams, review lessons and practice problems) to you for free if you want to take this exam.

How to read the Assignment Chart: The chart is set up as a weekly schedule that shows you what work is due each week. Make sure you complete everything in the "Lessons Due" column **BEFORE** you come to class on the Tuesday date listed. Make special note of the 4 quarterly exam dates. On these weeks, students study for their quarterly exam and take the exam during class. Start your new lessons the day after class.

2024-25 Weekly Assignment Chart: Live Calculus

HAVE YOUR MATH BINDER, CALCULATOR, AND A PENCIL FOR EVERY CLASS!

Week #	Class Date	Lessons Due Before Class
1	Aug. 20	Lessons 1-3
2	Aug. 27	Lessons 4-6
No Class - Labor Day	Sep. 3	-
3	Sep. 10	Lessons 7-9
4	Sep. 17	Lessons 10-12
5	Sep. 24	Lessons 13-15
6	Oct. 1	Lessons 16-18
7	Oct. 8	Lessons 19-20
8	Oct. 15	Study for 1st Quarter Exam, take exam during class.
9	Oct. 22	Lessons 21-23
10	Oct. 29	Lessons 24-26
11	Nov. 5	Lessons 27-30
12	Nov. 12	Lessons 31-34
13	Nov. 19	Lesson 35-37
No Class - Thanksgiving	Nov. 26	-
14	Dec. 3	Lesson 38-40
15	Dec. 10	Study for 2nd Quarter Exam, take exam during class.
No Class - Christmas	Dec. 17, 24, 31, Jan 7	-
16	Jan. 14	Lessons 41-43
17	Jan. 21	Lessons 44-46
18	Jan. 28	Lessons 47-49
19	Feb. 4	Lessons 50-52
NO Class - Winter Break	Feb. 11	-
20	Feb. 18	Lessons 53-55
21	Feb. 25	Lessons 56-58
22	Mar. 4	Lessons 59-60
23	Mar. 11	Study for 3rd Quarter Exam, take exam during class.
No Class - Spring Break	Mar. 18	-
24	Mar. 25	Lessons 61-63
25	Apr. 1	Lessons 64-67
26	Apr. 8	Lessons 68-71
27	Apr. 15	Lessons 72-74
28	April 22	Lessons 75-77
29	April 29	Lessons 78-80
30	May 6	Study for 4th Quarter Exam, take exam during class.

COURSE SEQUENCE

NOTE: Lessons 1-25 introduce fundamental rules and definitions covered in the 10 major topics of Shormann Calculus, plus review of Shormann Precalculus. Because this is a beta-version, the following is subject to change.

Lesson 1 Number I

Lesson 2 Ratio I

Lesson 3 Algebra I

Lesson 4 Algebra II

Lesson 5 Algebra III

Lesson 6 Geometry I

Lesson 7 Geometry II

Lesson 8 Analytical Geometry I

Lesson 9 Analytical Geometry II

Lesson 10 Analytical Geometry III

Lesson 11 Analytical Geometry IV

Lesson 12 Measurement I

Lesson 13 Measurement II

Lesson 14 Trigonometry I

Lesson 15 Trigonometry II

Lesson 16 Trigonometry III

Lesson 17 Calculus I

Lesson 18 Calculus II

Lesson 19 Calculus III

Lesson 20 Calculus IV

Lesson 21 Calculus V

Lesson 22 Statistics I

Lesson 47 Critical Number Applications I

Lesson 48 Particle Velocity and Acceleration II

Lesson 49 Derivatives of Inverse Functions II

Lesson 50 Integration by u Substitution

Lesson 51 Derivatives of Composite Functions II

Lesson 52 Average and Instantaneous Rates

Lesson 53 Antiderivatives and position functions I

Lesson 54 Graphs of f, f', and f'' II

Lesson 55 Integration by Change of Variable

Lesson 56 Critical Number Applications II

Lesson 57 Antiderivatives and position functions II

Lesson 58 Related Rates II

Lesson 59 Fundamental Theorem of Calculus, Integral of a Derivative

Lesson 60 Solids of Revolution: Disk method

Lesson 61 Definite Integrals and Discontinuities, such as jump discontinuities

Lesson 62 Applications of the Definite Integral: Average Value

Lesson 63 Integration by Parts

Lesson 64 Applications of the Definite Integral: Area and solving integrals

Lesson 65 Integration: Use of Identities for substitution

Lesson 66 Solids of Revolution: Washer method

Lesson 67 Differential Equations: Separable Differential Equations

Lesson 68 Linear Approximations

Lesson 69 Fundamental Theorem of Calculus, Derivative of an Integral

Lesson 70 Extreme Value Problems II

Lesson 71 Applications of the Definite Integral: Area and solving integrals

Lesson 72 Antiderivatives and Growth and Decay

Lesson 73 Solids of Revolution: Shell method

Lesson 74 Differential Equations: Slope Fields

Lesson 75 Volume: Area=Base

Lesson 76 Partial Fractions; Recurrence Problems

Lesson 77 A series may be absolutely convergent, conditionally convergent, or divergent

Lesson 78 If a series converges absolutely, then it converges

Lesson 79 Tests for convergence such as nth term test, comparison test, limit comparison test, and others

Lesson 80 Intro to Taylor Polynomials