Pre-Calculus 2020-2021 Spring — Fred Kral — The Marin School

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Course Description

Together with Geometry and Algebra 2/Trigonometry, the Pre-Calculus elective prepares students for college-level work in calculus and other mathematics classes as well as classes in quantitative fields such as the social sciences, the natural sciences, and engineering. Central concepts are mathematical analysis, functions and their graphs, trigonometry, and linear algebra. Mathematical ideas are communicated using graphical, numerical, algebraic, and verbal approaches. Through mathematical modeling, concepts are applied to problems in physics, chemistry, biology, economics, and many other disciplines.

Text and supplemental materials

- Larson, Ron and Robert Hostetler, *Precalculus*, 5th Edition, Boston, MA: Houghton Mifflin, 2001. ISBN: 0-618-05285-2. Recommended. Can be borrowed.
- Mathspace: https://mathspace.co. Math learning platform online with textbook, examples, and questions that offer feedback.
- Web searching, wikipedia.org and reputable websites such as Ask Dr. Math (http://mathforum.org/dr.math/) and Paul's Online Math Notes (http://tutorial.math.lamar.edu). Strongly recommended.
- HP Prime CAS Graphing Calculator and charger. Required.
- Laptop computer. Required. Can be borrowed from the Library.
- **Digital Drawing: Stylus and Screen** See emails to students and parents at the beginning of the course. Example: Parblo Coast 10. Alternatives: iPad and equivalent tablets. Strongly recommended.
- 3 ring binder required in the classroom.
- Pockets to organize paper that is not hole punched (in the binder).
- Pencils (mechanical recommended).
- Zoom app, updated every other month at least, with school email login.
- Kami extension installed in Google Chrome.
- Smartphone with camera, Classroom app, Drive app, Adobe Scan app.
- Printer. Students who benefit from using physical paper might find a printer handy.

Expected School-wide Learning Results (ESLRs):

1. Self-reliant learners. 2. Self-directed individuals. 3. Critical and creative thinkers. 4. Effective communicators. 5. Responsible members of society. Each of the components of this course prepare students to obtain results 1-4.

Assessment

	Grades are determined by points, roughly 500 points per quarter. There are 8 weeks/quarter.	Major ESLRs
In-Class Work: ● *Making it:* (–2 points/absence beyond the first five) ● *Joining in:* Safe, Space, Time, True; Lights, Camera, Action; Phone-away, Packet, Pencil/stylus are a short-hand for remembering foundational Handbook rules and our top secret tips for effective students. ● *Working with:* Contributing positive energy and interest level during in-class work including discussing, problem solving, spending time learning online, working on investigations and projects, using notes, reflecting, and practicing during class. Students are expected to talk about math every class and to share their work with other students visually and verbally. Assessed informally. Earned by students who joined in.	25 points/week (not less than 20% of the course)	2, 3, 4
Products: written work (solutions to exercises and problems, notes, and reflection), online results, and projects. Correctness and quantity of work. Assessed formally and informally.	50 points/unit (or about 25 points/week) plus 25-50 points/project depending on scope	1, 2, 3, 4
Quizzes and Tests: written and graphical solutions.	25-50 points/quiz depending on the scope (tiny checks can have as few as 3–5 points). 100 points/test	3, 4
Final Assessments: written and graphical solutions to problems and assignments.	20% of course grade	3, 4
Commitment to learning: Taking on what is challenging to you, getting help, communicating with the teacher, engaging with the material, and taking personally meaningful notes. Assessed informally.	100 points per semester, if it raises the grade	1, 2

Safety policy

Only use equipment when and as instructed.

Late work policy

The teacher enters grades once per week. Students get credit for late or partial work up to that weekly deadline.

Cell phone, computer, and device policy

Devices are not allowed in class, except by explicit permission to do class work. In the remote classroom, phones may be used to photograph your work. Personal and school computers shall be used only for class. The Marin School supports the responsible use of technology. See the Parent and Student Handbook.

Collaboration policy

I encourage study groups. You may work with others—not just students—unless instructed otherwise as long as all of you contribute. It is wise to put the name of each contributing student on an assignment to avoid issues with plagiarism. See the Parent and Student Handbook for a description of academic honesty, cheating, and plagiarism.

Please connect and email! – Fred