# UCLA MFE Math Bootcamp

Summer 2024

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| **Instructor:** | Charles Rambo | **Time:** | TThu 5:30 – 7:00 PDT |
| **Email:** | charles.tutoring@gmail.com | **Zoom Link:** | https://ucla.zoom.us/j/96221704810 |

**Google Drive:** Slides, homework assignments, and code snippets can be found on my personal Google Drive:

https://drive.google.com/drive/folders/1Onoh2STe5P_XbtRepC8NAPe4xqGP82TX?usp=drive_link

**References:** This is an incomplete list of references used to create the notes for the course. You do not need to purchase these books.

- James Stewart, *Calculus*, Brooke/Cole, 3rd ed.,1995.

- Walter Rudin, *Principles of Mathematical Analysis*, McGraw-Hill,1976.

- Charles Pugh, *Real Mathematical Analysis*, Springer, 2002

- Serge Lang, *Linear Algebra*, Springer, 3rd ed., 1987.

- Steven Roman, *Advanced Linear Algebra*, Springers, 2nd ed., 2005.

- Morris DeGroot and Mark Schervish, *Probability and Statistics*, Pearson, 4th ed., 2013

**Objectives:** This course is designed to prepare incoming MFE students for the UCLA MFE program. It will be taught at an upper-division undergraduate level.

**Tentative Course Outline:**

> July 9: Calculus
> July 11: Calculus
> July 16: Calculus
> July 18: Calculus
> July 23: Linear Algebra
> July 25: Linear Algebra July 25: Linear Algebra
> July 30: Multivariable Calculus
> August 1: Multivariable Calculus
> August 6: ombinatorics and Probability
> August 8: Probability
> August 13: Probability
> August 15: Statistics
> August 20: Statistics
> August 22: Stochastic Calculus

**Grading Policy:** Three homework assignments each worth 33%. Submit via email. If you choose to work in teams, only submit one assignment per team. Remember to place everyone's name on the assignment. Groups may not contain more than four people. The course is P/NP. No letter grades will be given.