Introduction to Probability Theory: Syllabus

Samy Tindel

Purdue University

Probability – MA 416

Outline

Outline

My Purdue information

History:

- 10th year:
  ↪ as Professor at Purdue
- Before that:
  ↪ in Nancy (France)

Office: 434, Math building

Email: `stindel@purdue.edu`

Office hours: Monday 11am-12:30pm, on Zoom

Webpage: `https://www.math.purdue.edu/ stindel/`

Advertising probability theory

Probability theory:

- Challenging from a mathematical point of view.
- Crucial for modeling in many areas.

Great names related to the field:

- Pascal
- Fermat
- Bernoulli
- Laplace
- Gauss

Brief outline of the course

Chapters covered: from S. Ross' book *A first course in probability*

1. Combinatorial analysis
2. Axioms of probability
3. Conditional probability
4. Random variables
5. Continuous random variables
6. Jointly distributed random variables

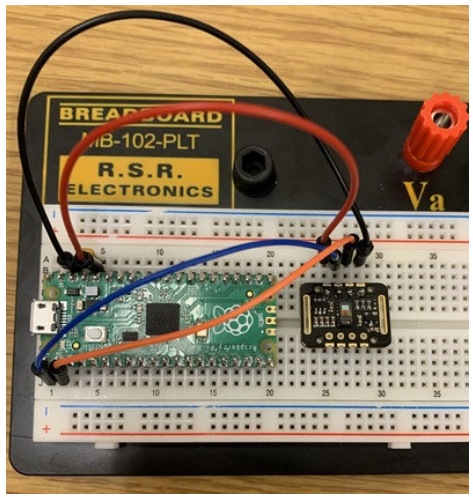
A companion 1-credit easy course

Data Science Labs

These are 1-credit laboratories that meet once a week to explore applications of your math classes to data science through Arduino/Python projects.

MA 41690/ECE 39595: The Data Science Labs on Probability

- Prereq: Python experience or prior DS Lab
- Coreq: ECE 302 or MA 416 or STAT 416
- Possibility to earn honors credit
- No homework, no exams, only lab reports
- Fall 2024 schedule:
  - Mondays 5:30 – 8:00pm in BHEE 215



Build a Random Number Generator using a heart rate sensor.

For more information see https://www.math.purdue.edu/~kthood/DSLabs.html or email Dr. Hood at kthood@purdue.edu

Outline

Webpage

Course webpage:

`https://www.math.purdue.edu/stindel/teaching/ma416/ma416.html`

Contents:

- Announcements
- Calendar and schedule
- Slides
- Written notes from class

Boilercast:

- Unfortunately not available in this classroom

Grades

Total score calculation:

• Homework	200 pts.
• 1 Midterm exam (1 hour)	150 pts.
• Final Exam (1 hour)	150 pts.
• Participation bonus	20 pts.
• In Class Assignment bonus	20 pts.

Participation bonus

Participation bonus rule:

- Questions will be asked in class
- Volunteers will get some points towards the bonus
- You are expected to participate, not to give an exact answer
- Stupid answers don't exist
- Aim: get to know everyone
- Remark: this is an experimental system

In Class Assignment (ICA) bonus

Participation bonus rule:

- In almost every session, there will be 5mn dedicated to ICA
- Please have a piece of paper ready for that.
- ICA will be a slight variation of an example seen in the previous session (or second-to-last session at most).
- You get 5mn to solve the problem. Open book, open notes. You can also discuss the solution with your neighbors if needed.
- ICA's will be graded. The grade will lead to a maximum bonus of 20pts.
- No make up ICA. However, in case you cannot make it to class, I will drop the worst 4 in class assignments.
- Remark: this is an experimental system

TA's

For Sections MA 156 and STAT 008 (3:30-4:20 section):

- Howen Chuah
- hchuah@purdue.edu

For Sections MA 131 and STAT 007 (4:30-5:20 section):

- Shengwei Qiu
- qiu221@purdue.edu

Emails

About emailing me:

- I do my best to answer emails
- However, I am not always extra quick at answering them

More rules

Access to the main rules:

Follow this link