Data Science @ Waterloo

Course Selection Guide – Fall 2023

Professor M. Zhu, PhD
Program Director
Foundation + Core Courses

- **https://uwaterloo.ca/graduate-studies-academic-calendar/mathematics**

- **Foundation (CS 600, STAT 845)**
  - fall only

- **STAT 847 Core**
  - winter only***

- **CS 631/651 Core**
  - fall + winter
STAT Core

- *nothing special to say*

- STAT 841 + STAT 842
  - typically, fall + winter
  - STAT 842 less mathematical, but many DS students have complained about *tough grading*

- STAT 844
  - typically, winter + spring
CS Core

- CS 680 vs CS 685
  - CS 685 very theoretical; only consider if your math is super strong

- CS 648 vs CS 638
  - CS 638 only for students with inadequate CS background but not offered this year for DS***
Optimization Core

- CS 794/CO 673 vs CS 795/CO 602 + others (CO 663, ...)
  - CS 794/CO 673
    - basically, “everyone” should take this one unless he/she is very strong in math
    - but available fall only***
  - CS 795/CO 602, CO 663, ... all very hard and highly mathematical
Electives

- nothing special to say
- at the mercy of individual departments, difficult for us to guarantee spots
- STAT 940, Deep Learning popular in recent years
  - fall “regular” + winter online
Key Messages

- STAT 847 is a “must take”; and it’s in the winter only.
- STAT 842 may seem “easy”; but grading is tough.
- CS 685 is very theoretical; most students should consider CS 680 instead.
- CS 638 is not available this year, unfortunately; being revamped.
- Optimization courses are hard!
  - Most students should only ever consider taking CS 794/CO 673; and it’s in the fall only.
Q&A

Course selection questions only today.

Other questions (ethics workshop, co-op, ...) will be addressed at real program orientation in September.