Introduction

SA475B – Improving USNA through OR – Spring 2018

- What is this course about?

- How is this course organized?

- Challenges and concerns

- Brainstorming project ideas

What is this course about?

- This capstone course "caps" the OR major

- You will work in teams on a semester-long project

- Your project should focus on improving operations at USNA*

- You will apply the OR/statistics techniques you have learned

- You will experience the challenges of applying OR/statistics to real-world problems

How is this course organized?

- Let's look at the course policy statement

    - Course organization

    - Grading rubric – what will you need to do for your project?

- Next, let's look at the syllabus

    - Project milestones – pace of the course

- 16 weeks is not a lot of time!

  - You will need to work in parallel with your teammates

- Working with stakeholders adds complexity

  - e.g. Barber Shop

- You may need to learn some new skills

- I don't know all the answers

Challenges and concerns

- In the end, the products of your project may not be used

  - Good products may not end up being used for a variety of
    reasons (e.g. bureaucracy, politics, personalities, etc.)

  - Success in this course:

    - Sound OR/statistical analysis of a problem of interest
    - Well-written report describing your work

  - If the products of your project end up being used, all the better!

  - Long game: future students can build on your work and
    eventually effect change

- I have some project topics "ready to go"

- What are you interested in?

- Break up into groups of 3 or 4

- Come up with 1 or 2 potential project ideas

Some projects you might work on

- Predicting food demand in King Hall
  (Mr. Fairbanks, MIDN Coleman)

- Scheduling for Powered Flight (CDR Hauth)

- Predicting Flight School Attrition (CDR Andrew)

- Scheduling for the Math Department (CAPT Foraker, me)

- Routing laundry delivery (Mr. Borrebach)

- *Routing and scheduling for the Oyster Recovery Project
  (CDR Spencer)

Plan for the next few days

- Homework

  - I will send you a questionnaire this evening asking about your project preferences, etc.

  - Responses due by noon on Monday

- Next week

  - I will announce project teams on Tuesday

  - Start work on rigorously defining your project problem

  - Schedule meetings with stakeholders