

## Course Policy Statement

Last updated: 8 January 2016

### 1 Basic information

**Time and place.** MWF4 (MI003)

**Instructors.** Asst. Prof. Nelson Uhan, CH348, uhan@usna.edu.

Capstone projects will be also supervised by researchers at the Johns Hopkins University Applied Physics Laboratory (APL).

**Extra instruction.** I am generally available in my office during the day. Feel free to stop by without notice if you have quick questions. Of course, you can always schedule an appointment with me or your assigned APL supervisors.

**Course website.** <http://www.usna.edu/Users/math/uhan/sa475a/>

Most course materials (e.g. this course policy statement, syllabus, project guidelines) and important course announcements will be posted on the course website.

We will also be using a secure SharePoint site hosted by APL (linked from the course website) to distribute sensitive materials. Make sure you can access the SharePoint site as soon as possible.

### 2 Course objectives

In this capstone course, you will apply operations research techniques to Navy-relevant problems. By the end of this course, you will be able to: (1) apply a variety of mathematical, statistical, and operations research techniques in tandem to a complex, real-world problem of importance to the Navy, (2) collect and manipulate large amounts of data using computer programming and spreadsheet software, (3) write a technical report describing your problem and solution, and (4) give a technical presentation to a lay audience summarizing your problem and solution.

### 3 Course organization

**Capstone project.** The main focus of this course is your capstone project. For the entire semester, you will apply operations research techniques in a team of 2-3 midshipmen to a problem related to military-relevant research at APL.

**Class.** Class time will be devoted to: (i) working on your project, (ii) meeting with instructors to discuss the progress you have made on your project, and (iii) presenting your work to other midshipmen and faculty.

**Meetings.** You will meet with me and your assigned APL supervisors every 1-2 weeks to discuss your progress on your project. You are responsible for making these meetings as productive as possible: come prepared with a short synopsis of the progress you have made since your last meeting as well as any questions or concerns you have.

**Written reports.** You will be required to submit a written report of your work at the end of the semester, including a formal statement of your project problem, a literature review, a detailed description of your methodology and results, and your conclusions. You will work on and submit this report in pieces throughout the semester; we will provide feedback on these pieces so that you can incorporate them into your final report.

**Presentations.** You will be required to give two presentations. In your first presentation, near the beginning of the semester, you will describe your project problem and the relevant literature to your classmates. In your final presentation, at the end of the semester, you will describe your project problem, as well as your methodology, results, and conclusions. All mathematics department majors and faculty will be invited to attend your final presentation.

#### 4 Grading and academic honesty

**Course grading.** Your course grade will be computed as follows:

Meetings	20%
Written reports	40%
Presentations	40%
<hr/> Total	<hr/> 100%

**Late submissions.** No late submissions will be allowed.

**Academic honesty.** All work you submit must represent your own scholarly and creative efforts. In your written reports and presentations, make sure to cite all your sources. See *Policies Concerning Graded Academic Work* (USNAINST 1531.53B) and *Brigade Honor Program* (USNAINST 1610.3J) for more information regarding academic honesty.

**Classroom conduct.** You are expected to behave professionally in class. Unprofessional conduct includes, but is not limited to: sleeping (stand in the back or the side of the classroom if necessary), side conversations, eating food (beverages are OK), and non-class-related use of electronic devices in class (e.g. browsing Facebook, texting your friends). Persistent poor classroom conduct will be reported to your company officer.