Introduction to Representation Theory, Math 353/533
Yale University - Fall 2016
Shamgar Gurevich

- Lectures: Tue.-Thu. 2:30-3:45 - at Room LOM 214
- Projects/HW: Thu. 4-5 - at Room LOM 205

Lecturer's Details:
Office - LOM 222-B.
E-mail - shamgar@math.wisc.edu
Office Hour - Tue. 5:30-6:30.

Texts: I will use my own lecture notes. In addition, the following texts could be useful: "Introduction to Representation Theory" by Etingof et al, "Representation Theory a First Course" by Fulton and Harris, "Linear Representations of Finite Groups" by Serre, and "Group Theory and Physics" by Sternberg.

Content and Activities: This is a first course in representation theory (RT) of finite and compact groups and it suits every student who has elementary linear algebra background. It will also be nice if you know some basic facts on groups. The fundamentals of representation theory were developed mostly in the 20th century. One of the main reasons for the usefulness of this theory is because it helps in the analysis of linear spaces and operators on them (e.g., it helps in finding natural "diagonalizations" of operators). In the course, alongside with explaining the general theoretical ideas of RT, we will consider many examples of representations and the problems they help to solve.

Grading: There will be homework assignments, and each student will be required to work on a project, and present it in class. The final grade will be a combination of the following:

HW	20%
Project	60%
Final Presentation	20%

Good Luck!