General Course Information

Staff

Lecturer: Vivek Goyal
Office hours: Tuesdays 1:30pm–2:30pm
vgoyal@mit.edu 36-690 x4-0367

TA: Watcharapan (Ae) Suwansantisuk
Office hours: Fridays 10:00am–noon
wsk@mit.edu 32-D674 x4-1548

AA: Eric Strattman
Office hours may be changed to accommodate more students. Appointments outside of the specified times are certainly possible, within reason.
ejstratt@mit.edu 36-680 x4-7677
36-615 x3-4021

Missed handouts are not available from the course secretary. They can be found in the appropriately labeled file cabinet in the 6th floor lobby of Building 36, across from the elevators.

Lectures

Lectures: Mondays and Wednesdays 11:00 am – 12:30 pm Room 4-237
A separate handout gives the tentative schedule of lecture topics. If there are significant changes, the schedule will be updated on the course website.

Texts

There is no required textbook to purchase. Portions of the manuscript

*The World of Fourier and Wavelets*, M. Vetterli, J. Kovačević, and V. K. Goyal,

will be posted on the course Stellar site and will be the primary text.

Suggested References:


Web page

A class web page is located at:

http://web.mit.edu/6.342/www

This page includes a link to the class Stellar web site, which will be used for distributing readings and assignments. You must be registered for the class and have your MIT Personal Certificate to access the Stellar site. If you are listening in on the class, please email the TA to request access.
Prerequisites

The prerequisites are Linear Algebra (18.06) and [Discrete-Time Signal Processing (6.341) or Principles of Digital Communications (6.450)], or the consent of the instructor. That said, the purpose of the [6.341 or 6.450] prerequisite is simply to ensure maturity beyond 6.011 and a strong grasp of the concepts covered in the following chapters of the 6.341 text (Oppenheim and Schafer):

- Chapter 2: Discrete-Time Signals and Systems
- Chapter 3: The z-Transform
- Chapter 4: Sampling of Continuous-Time Signals

We assume that in addition to the formal prerequisites you have an interest in and commitment to understanding concepts in depth. There will only be four problem sets, one midterm and no final. This is to leave time for a significant and novel term project.

Exam

The exam will cover material through Lecture 14 and Problem Set 4. The exam date is:

Midterm Exam: Wednesday, April 8 7:30 pm – 10:00 pm

The exam is in the evening so that we can reduce (nearly eliminate) time pressure. More details will be provided well in advance of the exam.

Homework

There will be 4 problem sets, assigned approximately every other week in the first half of the semester. Do not be misled by the relatively few points assigned to homework grades in the final grade calculation. Working through the problems carefully is a crucial part of the learning process and will invariably have a major impact on your understanding of the material (and, in turn, your exam performance and final grade!). Moderate collaboration in the form of joint problem solving with one or two classmates is permitted and even encouraged provided your write-up is your own.

Problem sets must be handed in at the beginning of the lecture in which they are due, and solutions will be available at the end of the lecture on the same days. Consequently, late problem sets cannot be accepted. Each problem set that you turn in will be given a score of 0, 1, or 2. A score of 2 is given for a good effort on all or most of the problems (even if not with uniform success); 1 for a reasonable attempt, but with significant gaps; and 0 when there is little evidence of any original thought or effort. For additional feedback on the problems, come to any of the staff’s open hours after you have had a chance to look through the solutions we hand out.

Course Grade

The exam, problem sets, and term project are combined with the following rough weighting to give a preliminary grade:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Sets</td>
<td>15%</td>
</tr>
<tr>
<td>Midterm</td>
<td>35%</td>
</tr>
<tr>
<td>Term Project</td>
<td>50%</td>
</tr>
</tbody>
</table>

The final grade for the course is then based on the staff’s assessment of your understanding of the material at the end of the semester. This is influenced by your participation and demonstrated engagement and commitment. We know that the final grade may be important to you, and we take the process seriously.