ECE 4213/5213
Digital Signal Processing
Fall 2017

TIME: MW 4:30 – 5:45 PM

PLACE: Felgar Hall 304

INSTRUCTOR:
Dr. J.P. Havlicek
DEH 333
Tel: 325-8131
Office Hours: MW 3:30 – 4:30 and by appointment
E-mail: joebob@ou.edu

ASSISTANT:
Hong Jiang
DEH 346
Office Hours: M 3:00 – 4:00 and by appointment
E-mail: Hong.Jiang-1@ou.edu

MATLAB ASSISTANT:
Wanghao Fei
DEH 446
Office Hours: T 4:30 – 6:30 PM, F 10:00 AM – 12:00 PM, and by appointment
E-mail: whfei@ou.edu

TEXT & REFERENCES:
3. Matlab use is required for this course. The following toolboxes are also required: Symbolic Math, Signal Processing, DSP, Control Systems. You can download a license key and instructions for installing Matlab from the OU IT Store at [https://itstore.ou.edu/](https://itstore.ou.edu/) Alternatively, you can purchase the Matlab and Simulink Student Suite for $99: [http://www.mathworks.com/academia/student_version/](http://www.mathworks.com/academia/student_version/) Matlab is also available on the College of Engineering Virtual Lab (see handout on the course web site).


PREREQUISITES:
Graduate standing in ECE or ECE 3793, Signals and Systems
REASONABLE ACCOMMODATION POLICY:
The University of Oklahoma is committed to providing reasonable accommodation for all students with disabilities. Students with disabilities who require accommodations in this course are requested to speak with the instructor as early in the semester as possible. Students with disabilities must be registered with the Disability Resource Center prior to receiving accommodations in this course. The Disability Resource Center is located in Goddard Health Center, Suite 166, (405) 325-3852 (Tel) or (405) 325-4173 (TDD only). The Disability Resource Center web site is located at [http://www.ou.edu/drc/home.html](http://www.ou.edu/drc/home.html)

RELIGIOUS HOLIDAYS:
It is the policy of the University to excuse absences of students that result from religious observances and to provide without penalty for the rescheduling of examinations and additional required classwork that may fall on religious holidays. It is the responsibility of the student to make alternate arrangements with the instructor at least one week prior to the actual date of the religious holiday.

UNIVERSITY POLICY ON ACADEMIC HONESTY:
[http://integrity.ou.edu](http://integrity.ou.edu)
This page outlines the University’s expectations of academic honesty, defines misconduct, provides examples of prohibited conduct, and explains the sanctions available for those found guilty of misconduct. Additional information about the meaning of academic misconduct in this course is provided later in this syllabus.

The UOSA Statement of Academic Integrity will be used in this course.

COURSE DESCRIPTION:
This course will provide an introduction to the fundamental techniques of digital signal processing, including discrete-time linear systems, finite impulse response digital filters, infinite impulse response digital filters, fast Fourier transforms, response of LTI systems to statistical signals, digital filter design, and applications.

HOMEWORK:
Homework will be assigned during class. You are encouraged to work together on homework, but **DO NOT COPY!** Each problem solution that you turn in must be your own;

- if you copy another person’s solution and turn it in as your own, then you are guilty of academic misconduct.
- If you copy an old homework solution without working the problem yourself and turn it in, then you are guilty of academic misconduct.

Homework assignments and solutions will be posted on the course web page.

Some homework assignments will require the use of Matlab. The standards of academic honesty articulated above apply to Matlab assignments as well. In addition:
• If you obtain code from another person in an electronic format and incorporate it into the solution that you turn in, then you are guilty of academic misconduct.

• If you obtain code from another person in electronic or hardcopy formats and then type it into the solution that you turn in, then you are guilty of academic misconduct.

Working the homework problems on time will help YOU to do well on the tests and exam.

LATE HOMEWORK POLICY:
“Paper and pencil” homework assignments will be due at the start of class on the published due date. Matlab homework assignments will be submitted electronically on Canvas and will generally be due at midnight on the published due date. Late homework will not be accepted.

There are two reasons for this policy. First, accepting a late homework assignment from one student is unfair to other students who may have stayed up all night to get the assignment done and may also have sacrificed grades in other classes to get it done. Second, it would be detrimental to the overall learning outcomes of the class to delay the posting of homework solutions in order to accommodate late assignments.

If you cannot attend class on the day that a “paper and pencil” homework assignment is due, then you can either:

• ask a friend to turn in your paper for you (preferred), or

• email a PDF or JPG copy of your assignment to the TA(s) and 'cc the instructor. Please note that this emailed copy of your assignment will not be graded! It is simply to document the fact that your assignment was done on time. It is then your responsibility to deliver a paper copy of your assignment to the TA(s) within 24 hours.

TESTS & EXAM:
There will be two tests and a cumulative final exam. Each test will be announced in class at least one week in advance. You may use calculators on tests and on the exam, but you may NOT use calculator programs. Also, you are NOT allowed to store alphanumeric data in your calculator prior to a test or exam, and then retrieve that data during the test or exam.

The tests and the exam are OPEN BOOK. You may also bring a clean copy of the lecture notes as published on the course web site and a clean copy of the formula sheet that is published on the course web site. Other materials are NOT ALLOWED. On each test and on the final exam, students enrolled for undergraduate credit (ECE 4213) will be permitted to omit one problem.

Makeup tests will not be given. If you miss a test and your absence is NOT officially excused, then you will receive a zero grade for that test. If you miss a test and your absence IS officially excused, then your final exam grade will be used in place of the missed test grade.
GRADING:

Your final average will be calculated as shown in the table below.

<table>
<thead>
<tr>
<th>What</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>20%</td>
</tr>
<tr>
<td>Test One</td>
<td>25%</td>
</tr>
<tr>
<td>Test Two</td>
<td>25%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
</tr>
</tbody>
</table>

These numerical grades will be converted into letter grades using a curve determined by the instructor. For each section (ECE 4213 and ECE 5213), the same curve will be applied to all students in the class. The curve will never hurt your grade relative to the standard ten-point grading scale.