Standardized Syllabus for the College of Engineering

EEL 3135  Discrete-Time Signals and Systems
Section 6107

1. Catalog Description
   Credits: 3
   Difference equations, discrete convolution, the Z transform, discrete and fast Fourier transforms. State-space theory of discrete-time systems.

2. Pre-requisites and Co-requisites
   Prereq: CGS 2425, CIS 3020 and MAC 2313; Coreq: MAP 2302.

3. Course Objectives
   To provide analytical background and skills necessary for modern applications of computers in communications, control, and signal processing.

4. Contribution of course to meeting the professional component (ABET only)

5. Relationship of course to program outcomes (ABET only)

6. Instructors
   Dr. Jian Li
   NEB 465
   392-2642
   li dsp.ufl.edu
   www.sal.ufl.edu
   T: 3, 6 Periods, R: 6 Period

7. Teaching Assistants
   Chris Gianelli
   gianelli04@gmail.com
   Office hours: MWF, 10:30 – 11:30 am, in NEB 222.

8. Meeting Times
   Section 6107  T  4
   R 4-5

9. Class/laboratory schedule
   There is no laboratory for this course.

10. Meeting Location
    NEB 100

11. Material and Supply Fees
    None

12. Textbooks and Software Required
    Signal Processing First
    by James H. McClellan, Ronald W. Schafer, Mark A. Yoder
    Prentice-Hall 2003
    ISBN 0-13-090999-8
    You will be required to use some numerical/graphical software package; most of you will probably use Mathcad or Matlab. Both of these are available in the ECE student
computer lab, so you need not purchase them, but both are available at a student
discount.

13. Recommended Reading
   Signals and Systems, Oppenheim and Willsky

14. Course Outline
   The following topics will be covered in the order stated; the number of class periods
devoted to each is approximate.

<table>
<thead>
<tr>
<th>Text Chapter</th>
<th>Topics</th>
<th>Classes</th>
<th>Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2</td>
<td>Intro, sinusoids, intro to computer use</td>
<td>4</td>
<td>He</td>
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<tr>
<td>3</td>
<td>Spectra of periodic signals: Fourier series</td>
<td>5</td>
<td>Li</td>
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<td>4, parts of 11, 12</td>
<td>Sampling theory and practice</td>
<td>5</td>
<td>Li</td>
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<td>EXAM 1 (Sept. 30)</td>
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<td>5</td>
<td>Finite impulse response filters; linear time-invariant systems and impulse response</td>
<td>5</td>
<td>Li</td>
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<td>6</td>
<td>Sinusoidal response of LTI systems; frequency response of FIR filters</td>
<td>4</td>
<td>Li</td>
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<td>7</td>
<td>The $z$-transform; application to filters</td>
<td>5</td>
<td>Li</td>
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<td>EXAM 2 (Oct. 28)</td>
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<td>8</td>
<td>Infinite impulse response filters</td>
<td>5</td>
<td>Li</td>
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<tr>
<td>9</td>
<td>Basics of continuous-time signals and systems</td>
<td>2</td>
<td>Li</td>
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<tr>
<td>10</td>
<td>Frequency response of continuous-time systems</td>
<td>4</td>
<td>Li</td>
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<td>FINAL EXAM (Dec. 17, 10 am - 12 noon)</td>
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15. Attendance and Expectations
   - Attendance is optional. Anything discussed in class or any topic for which there has been a homework problem or a handout may appear on quizzes and exams.
   - No food or drink allowed in the classroom. (UF policy)
   - All cell phones, pagers, alarms, or any other device that beeps, buzzes, or rings, must be turned off during class unless you have the instructor’s prior permission.
   - No laptop use during class without prior permission.
   - No grades will be given by phone, e-mail, or surrogate.

16. Grading
   - Your grade will be calculated from homework assignments (approximately weekly), quizzes (five or six quizzes), two in-term exams, and a final exam. The lowest homework score and the lowest quiz score will be discarded.
   - The quizzes will be given at the beginning of the class period.
   - Homework is due at the beginning of the class period on the due date.
   - The components of your grade carry the following weights:
17. Grading Scale
Grades will be calculated from a curve after all homework, quiz, and exam scores are in.

18. Make-up Exam Policy
Make-up quizzes and exams will not be given except in cases of documented medical emergencies. No late homework will be accepted.

19. Honesty Policy – All students admitted to the University of Florida have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as a UF student and to be honest in all work submitted and exams taken in this course and all others.

20. Accommodation for Students with Disabilities – Students Requesting classroom accommodation must first register with the Dean of Students Office. That office will provide the student with documentation that he/she must provide to the course instructor when requesting accommodation.

21. UF Counseling Services – Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:
   - University Counseling Center, 301 Peabody Hall, 392-1575, Personal and Career Counseling.
   - SHCC mental Health, Student Health Care Center, 392-1171, Personal and Counseling.
   - Center for Sexual Assault/Abuse Recovery and Education (CARE), Student Health Care Center, 392-1161, sexual assault counseling.
   - Career Resource Center, Reitz Union, 392-1601, career development assistance and counseling.

22. Software Use – All faculty, staff and student of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.