EEL 6562
Image Processing & Computer Vision
Course Syllabus

September 8, 2003

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Office hours: 9:30–10:30 AM MWF
Meeting time: Tuesday 3:00-4:55, Thursday 4:05-4:55
Meeting place: NEB 102

Course prerequisites

There are no specific prerequisite courses; however, I expect that all students will have a solid background in linear systems theory, probability, random processes, and discrete-time signal processing. Also, students must have good programming skills in C and Matlab.

Course content

The course will include the following topics:

• Digital image fundamentals
• Histogram processing
• Smoothing & sharpening filters
• Two-dimensional Fourier transform
• Frequency domain filtering
• Homomorphic filtering
• Image restoration
• Pseudo inverse filtering
• Wiener filtering
• Color models
• Morphological image processing
• Image segmentation
• Shape description
• Error-free compression
• Lossy compression

In the Woods-Gonzalez text, we will cover chapters 1-6, 9-11, and 8. There will be additional material in lectures and handouts that is not in the text. There will be some class notes available on the web page, but do not assume that the web notes cover absolutely all the material in the course.

Grading

<table>
<thead>
<tr>
<th>Grade</th>
<th>Meaning</th>
<th>Approx. Percent</th>
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<tbody>
<tr>
<td>3</td>
<td>Substantially correct</td>
<td>85-100%</td>
</tr>
<tr>
<td>2</td>
<td>Mostly correct</td>
<td>50-85%</td>
</tr>
<tr>
<td>1</td>
<td>Shows some effort</td>
<td>0-50%</td>
</tr>
<tr>
<td>0</td>
<td>Not handed in</td>
<td>0%</td>
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Homework

Homework is to be done on an individual basis. Discussions about the homework of a very general nature between students are allowed and encouraged. However, your solution to each homework problem should be your own work.

Each homework problem will be graded on a scale from 0 to 3 as follows:
Homework due dates will be announced in lecture and posted on the web. You should check the class web page frequently for updates. Homework solutions will be posted on the web soon after the homework is due. You should study the solutions for all homework problems, even if your solutions earned a “3”. Late homework will not be accepted except in extraordinary circumstances.

Labs

Labs are also to be done on an individual basis. Discussions about the labs of a very general nature between students are allowed and encouraged. However, labs are to be done on an individual basis, not as group projects. All lab reports must include a signed lab honor statement, available on the class web page.

Your lab report should include any necessary code listings, plots, and a brief explanation of what you did. Any questions asked in the lab assignment should be answered in the formal style of professional journals; i.e. answers to questions must be fully explained in complete sentences, and each equation should be accompanied by a written explanation of what the equation means. All material should be labeled and organized to facilitate grading.

It is your responsibility to solve any computer problems, such as transfer of files between different operating systems or incompatibilities between compilers. I will do what I can to help, but the basic responsibility is still yours.

Lab due dates will be posted on the web. You should check the class web page frequently for updates. Late labs will not be accepted except in extraordinary circumstances.

Exams

I write difficult exams as a matter of principle. That being said, my expectations are not unreasonable, and I will do all I can (within reason) to help you do well.

Exams will typically contain several problems of a routine nature, one problem that is routine but somewhat difficult, and one problem that requires some insight into the basic concepts.

I design the course so that the lecture prepares you for the homework, and the homework prepares you for the exam, so if you have worked all the homework problems carefully and conscientiously, you should have no trouble with the exam.

Make-up exams will not be given except in extraordinary circumstances.

Significant dates

The following is a tentative list of significant dates for the semester:
<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
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<tbody>
<tr>
<td>Lab 1</td>
<td>Sep 11</td>
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<tr>
<td>Lab 2</td>
<td>Sep 25</td>
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<tr>
<td>Exam I</td>
<td>Oct 7</td>
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<td>Lab 3</td>
<td>Oct 16</td>
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<tr>
<td>Lab 4</td>
<td>Nov 6</td>
</tr>
<tr>
<td>Exam II</td>
<td>Nov 25</td>
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<tr>
<td>Lab 5</td>
<td>Dec 4</td>
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The authoritative version will be on the web page. Changes will be announced by E-mail; however, it is your responsibility to check the web page as often as necessary to detect any changes.

**Students with disabilities**

Students with disabilities who are requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodations.

**Academic honesty**

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 student at the University of Florida and to be honest in all work submitted and exams taken in this class and all others.