Syllabus COSC A493 – Image Processing  
Fall 2006

Instructor: Guillermo Tonsmann, Ph.D.  
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Office Hours: Tuesdays and Thursdays 10:00am - 11:00am, or by appointment.  
Final Exam: Tuesday, December 12, 2006, 2:00 pm - 4:00 pm  
Prerequisites: COSC A216 – Fundamentals of Software Development and The course requires the previous understanding of concepts from object oriented programming and array manipulation. The course will use JAVA as the teaching language.

Course Goals:  
1. Provide the students with knowledge of basic concepts on Digital Image Processing and Analysis.  
2. Familiarize the students with the programmatic manipulation of images.  
3. Emphasize correct programming techniques using the Java Language.  
4. Emphasize the tight relation between Imaging Applications, Computer Science and Mathematics.

Topic Outline:  
The course will cover the following: Basic Concepts on Imaging and Digital Images, Image Manipulation using Java, Point Operations, Histograms, Segmentation and Border Recognition and Neighborhood Operations. At the end of the course, alternative Imaging Packages will be explored.

Grading:  
The following items will be considered for grading:  

<table>
<thead>
<tr>
<th>ACTIVITIES</th>
<th>% OF TOTAL GRADE</th>
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<tbody>
<tr>
<td>Programming Assignments &amp; Graded Labs</td>
<td>50</td>
</tr>
<tr>
<td>Test 1</td>
<td>15</td>
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<tr>
<td>Test 2</td>
<td>15</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20</td>
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<tr>
<td>Total</td>
<td>100</td>
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The grading scale is as follows:

- A 90.00 –100.00  
- B+ 85.00 – 89.99  
- B 80.00 – 84.99  
- C+ 75.00 – 79.99  
- C 70.00 – 74.99  
- D+ 65.00 – 69.99  
- D 60.00 – 64.99  
- F < 60.00

Attendance Policy:  
Students are expected to attend class sessions and are responsible for all the material covered in classes and all other material assigned by the instructor. Attendance will be monitored at the instructor’s discretion. Attendance to classes is fulfilled when the student arrives on time and leaves when the class has ended. A student missing four (4) classes (recorded by the
instructor) will lose a point of the final grade. Any additional absence will deduct an extra point of the final grade up to a maximum of ten (10) points. This attendance policy IS NOT a license to miss 3 classes. Those absences should be used judiciously in cases of illnesses, accidents or emergencies. Students are not required to provide reasons or excuses for their absences. However, they will be given point reductions regardless of the reasons for their absences.

There will be NO MAKE-UP TESTS, LABS OR FINAL EXAM. If a student MISSES A TEST ON ANY ACCOUNT, the final exam may be used to replace also the missing test. However, this has to be previously agreed with the instructor and it can only replace one of the tests.

No student will be exempted from the Final Exam.

Policy on Programming Assignments and Graded Labs:
There will be at least 5 Programming Assignments and Graded Labs. Relative weights on assignments may be indicated in each instance. Assignments are due at the beginning of class on the stated due date. Late assignments may be accepted with penalty, if (1) such arrangement is previously established with the instructor and if (2) evidence of progress is demonstrated on the due date. Under no circumstances an assignment will be accepted more than a week after the assignment’s due date.

Other Rules:
1. Students are expected to work alone in assignments, labs, quizzes, tests and exams, unless otherwise indicated. All cases of plagiarism or collaboration on assignments or tests will be treated as academic dishonesty and will be reported appropriately and dealt by the instructor. All students must read and abide by the Computer Science Policy on Integrity of Scholarship detailed below.
2. Keep a floppy disk, zip disk, memory stick and/or CDRW handy at all classes for storage of course material.
3. Loyola University seeks to provide reasonable accommodations for all qualified students with disabilities. If you require special arrangements in order to meet course requirements, it is your responsibility to request an accommodation interview with a counselor in the Academic Resource Center (ext 2990; MO 405) as soon as possible. The ARC will advise the instructor regarding these accommodations.
4. No cellular phones or other beeping devices are allowed during class sessions. Students should disconnect them before class.
5. Talking to each other during lectures must be avoided.
6. Usage of computer equipment during lectures is ABSOLUTELY FORBIDDEN unless indicated by the instructor. Specifically: NO e-mailing, chatting, listening music (with or without ear-phones) or any other disruptive behavior during lectures.
7. Students must check Blackboard and their email regularly! The e-mail address the instructor will use to communicate with the class is the one registered with Loyola’s IT department. Additionally, students should also check regularly the e-mail on the Unix account to be provided for this course.
8. No additional homework will be given to improve grades. Students should refrain on requesting such homework, especially after the Final Exam.
9. Any enquiries regarding grades on assignments, labs, quizzes or tests have to be directed to the instructor by the student in person no longer than a week after the graded material has been returned to students in class.
10. In the event of any sort of evacuation and/or class interruption, students must keep their textbooks and all other course materials with them to allow continuation of the course via remote means. Students are responsible for checking course development through Blackboard and e-mail.
Computer Science Policy on Integrity of Scholarship (August 2001)

1. "The principles of truth and honesty are recognized as fundamental to a community of teachers and scholars. The university expects that both faculty and students will follow these principles and, in so doing, protect the validity of the university grades." See pages 45 and 46 of the 2001 - 2003 Undergraduate Bulletin.

2. You are allowed and encouraged to engage in discussions on homework, assignments and projects. "Discussion" is exchanging ideas; it is asking/answering basic questions of each other and of other students and teachers. Discussion is also allowed and encouraged regarding design issues, as well.

3. "Discussion" is not using or copying another's assignment or project; it is not sitting together while working on assignments or projects; it is not allowing others to use or copy your assignments or projects. You must do your own work and turn in only what you yourself have done. Copying another's work or turning in someone else's work as your own is a violation of this Policy. It is likewise a violation to allow someone to copy your work. You are allowed to engage in discussion as defined above, but the final product that you turn in must be yours.

4. If the instructor discovers a violation of the Computer Science Policy, he may assess a penalty. The instructor, who may consult with the department chairperson or the Dean, as appropriate, will determine the nature of the penalty. If the violation continues or is flagrant, in accordance with the Undergraduate Bulletin, a penalty could be assessed ranging from a lower grade or an "F" in the course to dismissal from the University. Any action taken will be reported to the Dean's office.

5. It is everyone's responsibility to ensure that a fair and honest environment is maintained. Anyone who discovers a violation of the Computer Science Policy is expected to take immediate action to help eliminate the violation. Among the possible actions expected are:
   a) Communicate with the student about the nature of the violation
   b) Notify the president of the ACM
   c) Notify the instructor
   d) Notify the department chairperson
   e) Notify the dean of A & S

Please sign and return to instructor

I have read and understand the syllabus for COSC A493 (Image Processing), and the Computer Science Policy on Integrity of Scholarship.

Name (PRINT): ______________________________

Signature: __________________________________ Date: ______________________