

**CMSC/AMSC 498D Spring 2012**  
**Deblurring Digital Images**  
**Friday 11:00-11:50 CSI 1122**

<http://www.cs.umd.edu/users/oleary/c498/>

**Prof. Dianne P. O’Leary:** Room 3271 A.V. Williams Building  
oleary@cs.umd.edu

**Office Hours:** Tuesday 1:00-2:00, Friday 10:00-10:45, and by appointment, in AVW 3271. E-mail is welcome anytime!

**Teaching Assistant:** None.

**Prerequisite:**

- We will use Matlab as our programming language, because we can quickly implement our ideas there, so you need to have some familiarity with Matlab.
- We will use matrices as our mathematical language, because the pixels in an image have a natural representation as a matrix, so you need to have some familiarity with matrix operations such as addition, multiplication, and solution of linear systems of equations. MATH240 or MATH401 or CMSC/AMSC 460 or CMSC/AMSC 466 is more than enough. Talk to me if you haven’t taken any of those courses and are unsure of your preparation.

**Text:** Students will have free access to an electronic version of the textbook Per Christian Hansen, James G. Nagy, and Dianne P. O’Leary, Deblurring Images: Matrices, Spectra, and Filtering, SIAM Press, Philadelphia, 2006.

**Programming language:** Matlab.

**Grading:**

- Class participation: 100 points maximum. You will have the opportunity to earn approximately 120 points, so there will be no opportunity for make-ups except in exceptional circumstances (e.g., you have a documented illness for a substantial part of the semester).

- Project of your choice, implementing an algorithm for image processing and demonstrating it: 100 points.

Grading will be on a *curve*, except that you will be guaranteed an A- if your average is 90% or better, a B- if your average is 80% or better, etc.

**Extra Credit:** There may be occasional opportunities during class to earn extra credit. Also, 1 point will be given to the first student to discover a substantive error in my notes or the website.

**News:** Reading assignments, course notes, and announcements will be posted on the course's homepage. You are responsible for checking this site before each class.

**Accommodations:** If you require academic accommodations due to a religious obligation or a disability, you must provide documentation by the end of the 2nd week of the semester.

**CourseEvalUM:** Please complete your evaluation for this course near the end of the semester at <http://www.courseevalum.umd.edu>.

**Academic Integrity:** The campus code of computer conduct must be followed. All work that you submit in this course must be your own; group efforts will be considered academic dishonesty. See <http://shc.umd.edu/SHC/> for definitions and sanctions. You may discuss your project in a general way, but you may not consult any one else's written work, program drafts, computer files, etc. You are free to use reference material and other people's programs to help you with your project, but you must cite any reference you use and clearly mark any quotation or close paraphrase that you include. Such citation will not lower your grade, although extensive quotation might.

**Course Outline and Schedule:** See website.