

REVISION 1: 28 September 2006

1051-215-02-20061 Imaging Science Fundamentals

Meeting Time and Place: MTR 1:00PM to 1:50PM, 08-2365

website: <http://www.cis.rit.edu/class/simg215>

An exploration of the fundamentals of imaging science and the imaging systems of the past, present and future. Imaging systems studied include the human visual system, consumer and entertainment applications (e.g., traditional and digital photography, television, digital television and HDTV, virtual reality); medical applications (e.g., X-ray, ultrasound, MRI); business/document applications (e.g., impact and non-impact printing, scanners, printers, fax machines, copiers) and systems used in remote sensing and astronomy (e.g., night-vision systems, ground- and satellite-based observatories). The laboratory component includes experiments related to the principles and theories discussed in the corresponding lecture. Laboratory experiments give students experience with many imaging systems and exposure to the underlying scientific principles.

(Competency in algebra) Class 3, Lab 2, Credit 4 (F, W)

There is room at the end of the quarter to focus on specialized areas of particular interest to students. Please let me know if there are imaging systems or topics that you would like to learn more about.

Instructor: Roger L. Easton, Jr., Office: 76-2112, Phone: 475-5969, FAX: 475-5988, <mailto:easton@cis.rit.edu> (e-mail is generally the best way to reach me)

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“Short Papers:” (2.5% each) As part of this course, you will be asked to investigate some imaging systems, applications, or individuals who have contributed to imaging science. A short paper (approximately 1 page) is due **at the BEGINNING of class on September 18, October 2, October 16, and November 2**. The paper may be longer, particularly if you include images. All sources of material (including images) must be referenced! I will be checking for unreferenced or copied material.

Term Paper: (10%) First Draft Due AT BEGINNING OF CLASS on **October 30, 2006**, Final paper due AT BEGINNING OF CLASS on **November 9, 2006** (Thursday) The paper may be on any imaging subject that strikes your fancy, e.g., a system, an application, etc., but you will be asked to submit a title beforehand

Quizzes: Four quizzes are planned for Thursdays in Weeks 2,4,7,9 (**September 19, October 5, October 24, November 7**) (5% each).

Midterm Exam: **Thursday October 12** (20%), you may bring a page of “notes” (one side only!) to the midterm exam.

Final Exam: (20%) as scheduled during final exam week

Laboratory Reports: (20%) due one week after the laboratory meeting at which the lab was completed.