PHYSICS 2850 – Imaging Science and Technologies in Today's World
Department of Physics and Astronomy, University of Lethbridge
Course Outline - Spring Semester 2011

Main Instructor:	Dr. Phil Teillet	**Office:**	WE1046
Email:	p.teillet@uleth.ca	**Office Hours:**	By appointment
Textbook:	None required	**Prerequisites:**	High school science
Lectures:	MWF 1:00 pm-1:50 pm, Room C640 (Attendance is highly recommended)		

This constitutes a multi-disciplinary first course in imaging science and technology covering imaging techniques, technologies and applications to physics, astronomy, geography, neuroscience, computer science, kinesiology, and new media, among other topics. The course will encompass subjects seldom taught together in traditional discipline courses. Several topics will be presented by guest lecturers.

Course Outline: Topics covered will be drawn from the following list:

1. Introduction
2. Electromagnetic Radiation
3. Colour Vision and Perception
4. Photography
5. Television
6. Digital Images
7. Image Processing and Analysis
8. Image Quality and Compression
9. Sensor Technologies
10. Microscopes
11. Biomedical Imaging
12. Telescopes
13. Astronomical Imaging
14. Planetary Exploration
15. Military Applications
16. Security Applications
17. Industrial Applications
18. History of Remote Sensing
19. Optical Remote Sensing
20. Microwave Remote Sensing
21. Earth Observation Applications
22. Imaging and Geomatics
23. Weather Applications
24. Climate Monitoring
25. Imaging and Kinesiology
26. Entertainment Media
27. New Media

Special Dates (Subject to Change*):

January 10	First Class	March 16*	Test #3
February 2*	Test #1	March 30*	Test #4
February 16*	Test #2	April 13*	Test #5, Last Class
February 21-25	Reading Week		

Marks: Marks for the course will be based on the following distribution (no final exam):

Tests (5) 100 %

Grades Ladder:

A+ (90 % to 100 %),	A (85 % to 89 %),	A- (80 % to 84 %),
B+ (76 % to 79 %),	B (73 % to 75 %),	B- (70 % to 72 %),
C+ (66 % to 69 %),	C (63 % to 65 %),	C- (60 % to 62 %),
D+ (55 % to 59 %),	D (50 % to 54 %),	F (< 50 %)