



**ROCHESTER INSTITUTE OF TECHNOLOGY
COURSE OUTLINE FORM**

COLLEGE OF SCIENCE

Carlson Center for Imaging Science

SPECIAL TOPICS COURSE (IMGS-789):

1.0 Course Designations and Approvals

Required course approvals:	Approval request date:	Approval granted date:
Academic Unit Curriculum Committee	10/1/2014	10/8/2014
College Curriculum Committee		

Optional designations:	Is designation desired?		*Approval request date:	**Approval granted date:
General Education:	Yes	No <input checked="" type="checkbox"/>		
Writing Intensive:	Yes	No <input checked="" type="checkbox"/>		
Honors	Yes	No <input checked="" type="checkbox"/>		

2.0 Course information:

Course title:	Special Topics: Eye-tracking Methods
Credit hours:	3
Prerequisite(s):	Human Visual System (IMGS-620) or permission of instructor
Co-requisite(s):	None
Course proposed by:	Jeff Pelz
Effective date:	9/24/14

	Contact hours	Maximum students/section
Classroom	3	12
Lab		
Studio		
Other (specify)		

2.a Course Conversion Designation* (Please check which applies to this course).**

*For more information on Course Conversion Designations please see page four.

	Semester Equivalent (SE) Please indicate which quarter course it is equivalent to:
	Semester Replacement (SR) Please indicate the quarter course(s) this course is replacing:
X	New

2.b Semester(s) offered (check)

Fall	Spring X	Summer	Other
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All courses must be offered at least once every 2 years. If course will be offered on a bi-annual basis, please indicate here: Yes

2.c Student Requirements

Students required to take this course: (by program and year, as appropriate)

Students who might elect to take the course: CIS graduate students, CIS advanced undergraduate students, GCCIS graduate students, CoLA graduate students

In the sections that follow, please use sub-numbering as appropriate (eg. 3.1, 3.2, etc.)

3.0 Goals of the course (including rationale for the course, when appropriate):

- 3.1 Course will provide students with exposure to a survey of methods and measures used in contemporary eye-tracking applications and research
- 3.2 Students will be exposed to and gain experience with state-of-the-art eye-tracking instrumentation

4.0 Course description (as it will appear in the RIT Catalog, including pre- and co-requisites, and quarters offered). Please use the following format:

COS-IMGS-789 ST: Eye-tracking Methods

Researchers have been tracking observers' gaze for over a hundred years, but the rapid advances in the last decade have dramatically increased the scope of that research. Eye tracking methods & measures will briefly survey the history of methods for tracking gaze in and out of the laboratory, provide an overview of current research methods and measures, and provide students the opportunity to propose and execute an experiment using state-of-the-art-instrumentation. **Class 3, Credit 3 (S)**

5.0 Possible resources (texts, references, computer packages, etc.)

- 5.1 Holmqvist, et al., 2011, Eye Tracking: A comprehensive guide to methods and measures, Oxford University Press.
- 5.2 Selected readings

6.0 Topics (outline):

- 6.1 History of laboratory-based eye-tracking methods
- 6.2 History of wearable eye-tracking methods
- 6.3 Analysis methods for laboratory and wearable eye tracking
- 6.4 Propose, design, execute, and report independent experiments

7.0 Intended course learning outcomes and associated assessment methods of those outcomes (please include as many Course Learning Outcomes as appropriate, one outcome and assessment method per row).

Course Learning Outcome	Written assignment	Experiment report	Computational assignment
History of eye tracking methods	X		
Eye-tracking analysis	X	X	X
Experimental design	X	X	
Event detection		X	X

8.0 Program outcomes and/or goals supported by this course

Applied and basic research in observer performance metrics.

9.0

	General Education Learning Outcome Supported by the Course, if appropriate	Assessment Method
<i>Communication</i>		
	Express themselves effectively in common college-level written forms using standard American English	
	Revise and improve written and visual content	
	Express themselves effectively in presentations, either in spoken standard American English or sign language (American Sign Language or English-based Signing)	
	Comprehend information accessed through reading and discussion	
<i>Intellectual Inquiry</i>		
	Review, assess, and draw conclusions about hypotheses and theories	
	Analyze arguments, in relation to their premises, assumptions, contexts, and conclusions	
	Construct logical and reasonable arguments that include anticipation of counterarguments	
	Use relevant evidence gathered through accepted scholarly methods and properly acknowledge sources of information	
<i>Ethical, Social and Global Awareness</i>		
	Analyze similarities and differences in human experiences and consequent perspectives	
	Examine connections among the world's populations	
	Identify contemporary ethical questions and relevant stakeholder positions	
<i>Scientific, Mathematical and Technological Literacy</i>		
	Explain basic principles and concepts of one of the natural sciences	
	Apply methods of scientific inquiry and problem solving to contemporary issues	
	Comprehend and evaluate mathematical and statistical	

	information	
	Perform college-level mathematical operations on quantitative data	
	Describe the potential and the limitations of technology	
	Use appropriate technology to achieve desired outcomes	
<i>Creativity, Innovation and Artistic Literacy</i>		
	Demonstrate creative/innovative approaches to course-based assignments or projects	
	Interpret and evaluate artistic expression considering the cultural context in which it was created	

10.0 Other relevant information (such as special classroom, studio, or lab needs, special scheduling, media requirements, etc.)

Smart classroom

***Optional course designation; approval request date:** This is the date that the college curriculum committee forwards this course to the appropriate optional course designation curriculum committee for review. The chair of the college curriculum committee is responsible to fill in this date.

****Optional course designation; approval granted date:** This is the date the optional course designation curriculum committee approves a course for the requested optional course designation. The chair of the appropriate optional course designation curriculum committee is responsible to fill in this date.

*****Course Conversion Designations**

Please use the following definitions to complete table 2.a on page one.

- **Semester Equivalent (SE)** – Closely corresponds to an existing quarter course (e.g., a 4 quarter credit hour (qch) course which becomes a 3 semester credit hour (sch) course.) The semester course may develop material in greater depth or length.
- **Semester Replacement (SR)** – A semester course (or courses) taking the place of a previous quarter course(s) by rearranging or combining material from a previous quarter course(s) (e.g. a two semester sequence that replaces a three quarter sequence).
- **New (N)** - No corresponding quarter course(s).