

### ACADEMIC FREEDOM STATEMENT

Brooks Institute is committed to protecting and encouraging the principles of academic freedom. Academic freedom provides the foundation for scholarship, teaching and learning, and reflects the Institutes fundamental mission to promote collaboration, critical thinking, and creativity. Essential elements for the intellectual vitality of a college include: the ability to exchange ideas and concepts freely, to explore and disseminate new knowledge, and to speak openly as a professional and as a private citizen. All are encouraged to promote a learning environment that provides opportunities for the free exchange of ideas between faculty, staff and students.

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### Programmatic Student Learning Outcomes/Mission

Graduates of the MS in Scientific and Technological Imaging are prepared to meet the challenges of communicating science, technology, and innovation, through visual media. Graduates will leverage skills in project management to ensure the effective production, integration, archiving and distribution of media content in support of scientific research, education, museum collections and research documentation, preservation, and communication.

### Program Description

The Master of Science in Scientific and Technological Imaging (MSSTI) is a four-semester, 36-credit, low residency master's program. The program provides an advanced course of study that requires students to explore and effectively apply scientific and technical media imaging methods to meet the challenges of communicating scientific knowledge, technological innovation, research findings, museum collections, and related content to a diverse global audience. The program stresses project and production management skills to ensure the effective production, integration, archiving and distribution of media content.

### Learning Outcomes:

Upon completion of the program, students should be able to:

- Apply critical thinking skills to analyze and create effective visual media to educate, inform, and communicate to a global audience (Visual Literacy, Problem Solver)
- Create media content using diverse scientific and technical imaging methods and tools to communicate, interpret and document subject matter (Adept, Global)
- Effectively manage media assets to ensure efficient workflow, distribution, sharing and stable archiving (Adept)
- Identify, articulate and apply ethical principals in relation to visual and verbal media representations, and business/professional practices (Ethics)
- Communicate clearly and effectively, both orally and in writing, in a professional environment (Communication)
- Apply an understanding of project and business management to successfully organize and complete projects as an individual and in collaborative teams (Collaboration)

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<b>Course Title</b>	<b>Technical Image Capture</b>
<b>Course Code</b>	<b>MSS512</b>

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Credit Hours	2 Semester
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Prerequisites	None
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# Course Syllabus

Course Type            100% Online Delivery  
Instructor             TBA  
Email  
Telephone  
Term Start/End Date

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## Course Description

Scientific, museum and related areas of media production require the highest level of technical accuracy and proficiency in capturing media. Methods of achieving technical excellence in image capture, image output, and media formatting will be covered. The elements of “engineering the capture” will be discussed related to technically challenging imaging situations.

## Learning Objectives

Upon completion of this course the student should be able to:

1. Integrate fundamental image capture methods, practices, theories and technologies in order to find solutions to accurately and objectively documenting subject matter related to science, technology, and collections
  2. Apply media asset management practices to effectively organize and archive media
  3. Document and analyze production practices and systems testing and use that documentation as a reference for future work
  4. Apply critical thinking skills to analyze imaging systems and communicate analyses to others
  5. Use technical image capture methods to produce images that will contribute to developing the student’s capabilities portfolio
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## Required Textbook(s):

Frankel, Felice. *Envisioning science*. Boston: MIT Press. c.2004 Print. ISBN-13:9780262562058

Evening, Martin. *The Adobe Photoshop Lightroom 5 Book: The Complete Guide for Photographers*. Adobe Press: June 30, 2013. (Access the latest version) Note: The electronic full-text version of this book is available at no charge on the Cybrary that can be accessed on the my.Brooks.edu portal through the “Library > e-Resources > Find articles and e-books” link. (Safari Books Online – ProQuest)

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## Course Outline

**Week 1:** Course introduction; Lesson: PE Exercises 1: Proper Exposure (PE)

**Week 2:** Lesson: PE Exercises 2: Controlling elements of Perfect Exposure

**Week 3:** Lesson: Capture Color and a Survey of Digital Imaging Types

**Week 4:** Lesson: Light Illuminates: Characteristics of light and their modification

**Week 5:** Lesson: The Electromagnetic Spectrum

**Week 6:** Lesson: Light Destroys: Protecting the subject matter

**Week 7:** Lesson: Resolution is like chocolate...

**Week 8:** Lesson: My camera is better than yours: Imaging Systems evaluation

**Week 9:** Lesson: If you are going to be a copycat, be a good one: Flat-art copy photography

**Week 10:** Lesson: The Production Notebook: Documenting Professional Practices

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**Week 11:** Lesson: What are you trying to prove? – Building a capabilities portfolio

**Week 12:** Lesson: Engineering the Image: Overcoming challenges in image capture

**Week 13:** Lesson: Show and Tell: Formatting the Output

**Week 14:** Lesson: The Production Notebook: Outcomes

**Week 15:** Lesson: Final assessment and summative discussion

## GENERAL ASSESSMENT CRITERIA AND METHODS OF EVALUATING STUDENTS

Letter grades (A, A-, B+, B, etc.)

The student's overall grade for this class is derived from a combination of online instructional activities, class participation (discussion forum postings), assignments, quizzes and exams, projects, and final project/final exam. Only the instructor can authorize exceptions to class policies, deadlines or grades. Students must confirm (in writing) any exceptions to class policies or deadlines with the instructor. Class work is weighted as follows:

Grade Weighting		Grading Scales		
Course Area	%	Percent	Letter	Numeric
Participation	10	93–100	A	4.00
Production Notebook	15	90–92	A-	3.70
Media Management	5	87–89	B+	3.30
Media Portfolio	70	83–86	B	3.00
		80–82	B-	2.70
		77–79	C+	2.30
		73–76	C	2.00
		70–72	C-	1.70
		67–69	D+	1.30
		60–66	D	1.00
<b>Total</b>	<b>100%</b>	0–59	F	0.00

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### DEFINITIONS OF CRITERIA USED IN GRADING

Outstanding = A	Outstanding work, showing insight and demonstrating excellence in skill and craft. Work goes well beyond what is required
Superior = A-, B+	Superior work, shows clear understanding and thorough

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	demonstration of skill and craft
Good = B, B-	Competent work, clear understanding, often showing creativity and good use of skills
Satisfactory = C+, C, C-	Adequate understanding, inconsistent demonstration of skills, some elements missing or problems with priorities
Unsatisfactory = D, F	Lacks understanding, inadequate amount of time and effort demonstrated, many missing elements, inconsistent participation, skill and craftsmanship not demonstrated

## ACADEMIC INTEGRITY STATEMENT

Brooks Institute expects all students to exemplify integrity in all academic work. Brooks Institute will not permit students to engage in the following dishonest acts:

- **Cheating** – Cheating includes, but is not limited to, the following: using unauthorized notes, study aids, electronic or other devices not authorized by the instructor. Using or borrowing information from another person, or submitting someone else’s work as one’s own work including images and reels. Using work previously submitted for another purpose, without the instructor’s permission, is prohibited. Duplicated use of copyrighted material in violation of federal copyright laws will not be tolerated.
- **Plagiarism** – Submitting as one’s own work, in whole or in part, words, ideas, art, designs, text, drawings, images, reels, etc. that were produced by another person without attributing that person as the rightful source of the work. Plagiarism includes, but is not limited to: using words, word passages, pictures, etc. without acknowledgement; paraphrasing ideas without quotation marks or without citing the source; submitting work that resembles someone else’s beyond what would be considered a tolerable coincidence; ideas, conclusions, information found on a student paper which the student cannot explain, amplify or demonstrate knowledge upon questioning.
- **Accessory to Dishonesty** – Knowingly and willfully supplying material or information to another person for the purpose of using the material or information improperly.
- **Falsification or Alteration of Records and Official Documents** - The following are examples of acts under this category, but the list is not exhaustive: altering academic records, forging a signature or authorization on an academic document, or falsifying information on official documents, grade reports, or any other document designed to attest to compliance with school regulation or to exempt from compliance.
- **Software Code of Ethics** – Unauthorized duplication of copyrighted computer software violates the law and is contrary to our organization’s standards of conduct. Brooks Institute disapproves of such copying and recognizes the following principles as a basis for preventing its occurrence:
  - Brooks Institute will neither engage in nor tolerate the making or using of unauthorized software copies under any circumstances.
  - Brooks Institute will only use legally acquired software on our computers.
  - Brooks Institute will comply with all license or purchase terms regulating the use of any software we acquire or use.
  - Brooks Institute will enforce strong internal controls to prevent the making or using of unauthorized software copies, including effective measures to verify compliance with these standards and appropriate disciplinary measure for violation of these standards.

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## CREDIT ASCRIPTION ADDENDUM

**MSS512 Technical Image Capture - 2 semester credit hours**

**Type: 100% Online Delivery**

**Credit Ascription – The amount of hours spent to participate in the course and complete projects, and the assignment alignment with Course Learning Objectives**

Course Learning Objectives:

1. Integrate fundamental image capture methods, practices, theories and technologies in order to find solutions to accurately and objectively documenting subject matter related to science, technology, and collections
2. Apply media asset management practices to effectively organize and archive media
3. Document and analyze production practices and systems testing and use that documentation as a reference for future work
4. Apply critical thinking skills to analyze imaging systems and communicate analyses to others
5. Use technical image capture methods to produce images that will contribute to developing the student's capabilities portfolio

The following indicates the **minimum** number of hours per assignment:

<b>Week</b>	<b>Assignment Title</b>	<b>Hours</b>	<b>Assignment Objectives</b>
<b>1</b>	• Synchronous online meeting	1.5	4
	• Discussion Forum participation	1.5	1,3,4
	• Assignment Production	2	1,2,3,4,5
<b>2</b>	• Online multimedia presentation and/or research	1.5	1,3,4
	• Discussion Forum participation	1.5	1,3,4
	• Assignment Production	2	1,2,3,4,5
<b>3</b>	• Online multimedia presentation and/or research	1.5	1,3,4
	• Discussion Forum participation	1.5	1,3,4
	• Assignment Production	2	1,2,3,4,5
<b>4</b>	• Online multimedia presentation and/or research	1.5	1,3,4
	• Discussion Forum participation	1.5	1,3,4
	• Assignment Production	2	1,2,3,4,5
<b>5</b>	• Online multimedia presentation and/or research	1.5	1,3,4
	• Discussion Forum participation	1.5	1,3,4
	• Assignment Production	2	1,2,3,4,5
<b>6</b>	• Online multimedia presentation and/or research	1.5	1,3,4
	• Discussion Forum participation	1.5	1,3,4

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	<ul style="list-style-type: none"> <li>• Assignment Production</li> </ul>	2	1,2,3,4,5
<b>7</b>	<ul style="list-style-type: none"> <li>• Online multimedia presentation and/or research</li> <li>• Discussion Forum participation</li> <li>• Assignment Production</li> </ul>	1.5 1.5 2	1,3,4 1,3,4 1,2,3,4,5
<b>8</b>	<ul style="list-style-type: none"> <li>• Online multimedia presentation and/or research</li> <li>• Discussion Forum participation</li> <li>• Assignment Production</li> </ul>	1.5 1.5 2	1,3,4 1,3,4 1,2,3,4,5
<b>9</b>	<ul style="list-style-type: none"> <li>• Online multimedia presentation and/or research</li> <li>• Discussion Forum participation</li> <li>• Assignment Production</li> </ul>	1.5 1.5 2	1,3,4 1,3,4 1,2,3,4,5
<b>10</b>	<ul style="list-style-type: none"> <li>• Online multimedia presentation and/or research</li> <li>• Discussion Forum participation</li> <li>• Assignment Production</li> </ul>	1.5 1.5 2	1,3,4 1,3,4 1,2,3,4,5
<b>11</b>	<ul style="list-style-type: none"> <li>• Online multimedia presentation and/or research</li> <li>• Discussion Forum participation</li> <li>• Assignment Production</li> </ul>	1.5 1.5 2	1,3,4 1,3,4 1,2,3,4,5
<b>12</b>	<ul style="list-style-type: none"> <li>• Online multimedia presentation and/or research</li> <li>• Discussion Forum participation</li> <li>• Assignment Production</li> </ul>	1.5 1.5 2	1,3,4 1,3,4 1,2,3,4,5
<b>13</b>	<ul style="list-style-type: none"> <li>• Online multimedia presentation and/or research</li> <li>• Discussion Forum participation</li> <li>• Assignment Production</li> </ul>	1.5 1.5 2	1,3,4 1,3,4 1,2,3,4,5
<b>14</b>	<ul style="list-style-type: none"> <li>• Online multimedia presentation and/or research</li> <li>• Discussion Forum participation</li> <li>• Assignment Production</li> </ul>	1.5 1.5 2	1,3,4 1,3,4 1,2,3,4,5
<b>15</b>	<ul style="list-style-type: none"> <li>• Summative discussion and final review / Looking forward</li> </ul>	3	4
<b>Total</b>		<b>73</b>	