

# Master of Science (MS) in Imaging Science

## Requirements

The Master of Science (MS) in Imaging Science requires the completion of 30 credit units, including 13 credit units from the core list (two mathematics and physics courses, one seminar course, and one computation and one application course each selected from the list below) and the remaining credits from the electives list.

## Courses

### Required Core Imaging Science Courses (13 units)

### Mathematics and Physics of Imaging Modalities Courses (6 units)

Code	Title	Units
BME 570	Mathematics of Imaging Science (or CSE/ ESE 5931)	3
BME 5820 or ESE 582	Fundamentals and Applications of Modern Optical Imaging Fundamentals and Applications of Modern Optical Imaging	3
BME 589 or ESE 589	Biological Imaging Technology Biological Imaging Technology	3
BME 591	Biomedical Optics I: Principles	3
BME 594	Ultrasound Imaging	3

### Computational Imaging Courses (3 units)

Code	Title	Units
CSE 417T	Introduction to Machine Learning	3
CSE 515T	Bayesian Methods in Machine Learning	3
CSE 517A	Machine Learning	3
ESE 415	Optimization	3
ESE 417	Introduction to Machine Learning and Pattern Classification	3
ESE 5932	Computational Methods for Imaging Science	3

### Imaging Applications Courses (3 units)

Code	Title	Units
BME 544	Biomedical Instrumentation	3
BME 592	Biomedical Optics II: Imaging	3
CSE 559A	Computer Vision	3

### Seminar Course (1 unit)

Code	Title	Units
ESE 596	Seminar in Imaging Science and Engineering (or BME 596)	1

### Additional Electives (30 units)

Students may choose from the list below and the lists above to meet the 30 units required:

Code	Title	Units
Biol 5146	Principles and Applications of Biological Imaging	3
Biol 5147	Contrast Agents for Biological Imaging	3
BME 500	Independent Study	3
BME 599	Master Research	6
CLNV 510	Ethical and Legal Issues in Clinical Research	2
ESE 438	Applied Optics (or ESE 538A)	3
ESE 520	Probability and Stochastic Processes	3
ESE 5933	Theoretical Imaging Science (or BME 5933)	3
ESE 5934	Practicum in Imaging Science	3