Courses available to make the necessary 18 imaging credits

### Imaging Methods (Required: at least 1 course, up to 8 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Principles of Magnetic Resonance Imaging</td>
<td>BME 7710</td>
<td>4</td>
</tr>
<tr>
<td>Optics Lecture</td>
<td>PHY 5340</td>
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<tr>
<td>Optics Lab</td>
<td>PHY 5341</td>
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<tr>
<td>Introduction to Radiological Physics</td>
<td>RAD 5010</td>
<td>4</td>
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<tr>
<td>Physics in Medicine</td>
<td>RAD 6710</td>
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<tr>
<td>Imaging Physics</td>
<td>RAD 7000</td>
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<tr>
<td>Imaging Physics II: Nuclear Medicine</td>
<td>RAD 7010</td>
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<tr>
<td>Diagnostic Imaging Lab</td>
<td>RAD 7050</td>
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<tr>
<td>Advanced Imaging</td>
<td>RAD 7160</td>
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<tr>
<td>Introduction to Biomedical Imaging</td>
<td>BME 5995</td>
<td>3</td>
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### Neuroscience and Imaging (Recommended: 1 course)

<table>
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<tbody>
<tr>
<td>MR Imaging of Neurovascular Disease</td>
<td>BME 7720/ PYC 7320</td>
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<tr>
<td>Fundamentals of Neuroimaging</td>
<td>PYC 7140</td>
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<tr>
<td>Imaging and Neurodevelopment</td>
<td>PYC 7515</td>
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### Image/Signal Processing (Required: at least 1 course, up to 12 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Introduction to Pattern Recognition</td>
<td>CSC 5860</td>
<td>3</td>
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<tr>
<td>Digital Image Processing and Analysis</td>
<td>CSC 6860</td>
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<tr>
<td>Computer Graphics</td>
<td>CSC 5870</td>
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<tr>
<td>Computer Graphics II</td>
<td>CSC 6870</td>
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</tr>
<tr>
<td>Artificial Intelligence</td>
<td>CSC 6800</td>
<td>3</td>
</tr>
<tr>
<td>Computer Vision</td>
<td>CSC 7860</td>
<td>3</td>
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<tr>
<td>Seminar Topics in Computer Vision and Pattern Recognition</td>
<td>CSC 8860</td>
<td>3</td>
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<tr>
<td>Digital Image Processing</td>
<td>ECE 5690</td>
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<tr>
<td>Digital Signal Processing</td>
<td>ECE 5770</td>
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<tr>
<td>Pattern Recognition</td>
<td>ECE 7670</td>
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<tr>
<td>Advanced Digital Image Processing</td>
<td>ECE 7680</td>
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<tr>
<td>Advanced Biomedical Signal Processing and Signal Modeling</td>
<td>BME 5595</td>
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<tr>
<td>Medical Imaging Systems</td>
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### Math/Physics Background (Required: at least 1 course, up to 12 credits)

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Matrix Computation I</td>
<td>ECE 5020/ CSC 6620</td>
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<tr>
<td>Mathematical Methods in Engineering</td>
<td>ECE 7030</td>
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<tr>
<td>Mathematical Modeling in Impact Biomechanics</td>
<td>ECE/ IE/ ME 7100</td>
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<tr>
<td>Statistical Computing and Data Analysis</td>
<td>MAT 5030</td>
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<tr>
<td>Numerical Methods</td>
<td>MAT 5100</td>
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<tr>
<td>Partial Differential Equations and Boundary Value Problems</td>
<td>MAT 5220</td>
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<tr>
<td>Introduction to Probability Theory</td>
<td>MAT 5700</td>
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<tr>
<td>Introduction to Mathematical Statistics</td>
<td>MAT 5800</td>
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<tr>
<td>Methods of Theoretical Physics I</td>
<td>PHY 5100</td>
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<tr>
<td>Methods of Theoretical Physics II</td>
<td>PHY 7110</td>
<td>3</td>
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<tr>
<td>Electromagnetic Fields I</td>
<td>PHY 6600</td>
<td>3</td>
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<tr>
<td>Electromagnetic Fields II</td>
<td>PHY 6610</td>
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<tr>
<td>Electromagnetic Theory I</td>
<td>PHY 7600</td>
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### Imaging Seminars (0 or 1 credit accepted)

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Seminars in Biomedical Imaging</td>
<td>BME 8710</td>
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### Lab Rotations (Required: at least 2 credits, up to 3 credits)

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Lab Rotations/Directed Study</td>
<td>BME 7990</td>
<td>2-3</td>
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