SYLLABUS

Topics of discussion:

- Introduction to confocal and florescence light microscopy (LM): principle and design
- Confocal and florescence light microscopy (LM): applications in biology
- Introduction to transmission electron microscopy (TEM) optics, image formation theory and foundation for 3D reconstruction
- Basic sample preparation techniques for TEM
- Scanning electron microscopy (SEM)
- Introduction to scanning probe microscopy (SPM)
- SPM applications in biology and nano-sciences
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<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
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<tbody>
<tr>
<td>8:00 AM</td>
<td>Registration</td>
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<td>Practical - Team Project</td>
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<tr>
<td>9:00 AM</td>
<td>Introduction to nanoscale and measurement</td>
<td>Introduction to Flourescent Microscopy</td>
<td>Introduction to AFM</td>
<td>Introduction to Electron Microscopy</td>
<td>Practical - Team Project</td>
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<td>10:00 AM</td>
<td>Experiment to introduce nanoscience</td>
<td>Introduction to Flourescent Microscopy</td>
<td>Introduction to AFM</td>
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<td>11:00 AM</td>
<td>Experiment to introduce nanoscience</td>
<td>Introduction to Flourescent Microscopy</td>
<td>Introduction to AFM</td>
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<td>12:00 PM</td>
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<td>1:00 PM</td>
<td>Facility Visit 1</td>
<td>Practical - Flourescent Microscope</td>
<td>Practical - AFM</td>
<td>Practical - TEM</td>
<td>Presentation Preparation</td>
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<td>2:00 PM</td>
<td>Facility Visit 2</td>
<td>Problem Set - Flourescent Microscope</td>
<td>Problem Set - AFM</td>
<td>Problem Set - TEM</td>
<td><strong>Final Presentation</strong></td>
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<td>3:00 PM</td>
<td>Sample Fabrication - Optical</td>
<td>Sample Preparation - Surface</td>
<td>Sample Preparation - Cryo</td>
<td>Sample Preparation - Team Project</td>
<td><strong>Final Presentation</strong></td>
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<td><strong>Final Presentation</strong></td>
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