

**HST 164 – Principles of Biomedical Imaging  
Syllabus, Jan 2019, MIT E25-17**

| <b>DATE</b>             | <b>DETAILS</b>                                 | <b>TIME</b>      |
|-------------------------|--|------------------|
| <b>WED JAN 9, 2019</b>  | Biomedical Imaging in Clinical Care - Sosnovik | 1:30pm to 2pm    |
|                         | Basics of Fourier Transform - Sosnovik         | 2pm to 3pm       |
|                         | Introduction to Magnetic Resonance - Huang     | 3pm to 4:30pm    |
|                         | Session 1 Problem Set                          | 4:30pm to 5:30pm |
| <b>THU JAN 10, 2019</b> | Tabletop MRI Lab Part 1 - Huang & Sosnovik     | 1:30pm to 5:30pm |
| <b>WED JAN 16, 2019</b> | Sampling of Biomedical Signals - Sosnovik      | 1:30pm to 2:30pm |
|                         | X-Ray in Medical Imaging - Huang               | 2:30pm to 3:30pm |
|                         | Computed Tomography - Huang                    | 3:30pm to 4:30pm |
|                         | Session 3 Problem Set                          | 4:30pm to 5:30pm |
| <b>THU JAN 17, 2019</b> | Image Formation in MRI Part 1 - Sosnovik       | 1:30pm to 2:30pm |
|                         | Image Formation in MRI Part 2 - Sosnovik       | 2:30pm to 3:30pm |
|                         | Session 4 Problem Set & k-space Jeopardy       | 3:30pm to 5:30pm |
| <b>WED JAN 23, 2019</b> | Tabletop MRI Lab Part 2 - Huang & Sosnovik     | 1:30pm to 5:30pm |
| <b>THU JAN 24, 2019</b> | Ultrasound - Sosnovik                          | 1:30pm to 2:30pm |
|                         | Motion and Flow 1: Doppler - Sosnovik          | 2:30pm to 3:30pm |
|                         | Motion and Flow 2: Phase Contrast - Sosnovik   | 3:30pm to 4:30pm |
|                         | Session 6 Problem Set                          | 4:30pm to 5:30pm |
| <b>WED JAN 30, 2019</b> | SPECT and PET - Huang                          | 1:30pm to 3pm    |
|                         | Energetics and Metabolism - Huang              | 3pm to 4pm       |
|                         | Session 7 Problem Set                          | 4pm to 5:30pm    |
| <b>THU JAN 31, 2019</b> | Degeneration and Inflammation - Huang          | 1:30pm to 2:30pm |
|                         | Session 8 Problem Set                          | 2:30pm to 3:30pm |
|                         | Case Review in Ultrasound and MSK              | 3:30pm to 5:30pm |