**Syllbus – BME 311 (499.098) – Winter 2005**

| Week | Lecture Topics (Mon/Wed) | Lab (Fri) | Reading (O & W) |
|---|---|---|---|
| 1/3 | (no class Mon)<br>Introduction<br>Definition of continuous/discrete signals and systems | | Ch. 1 |
| 1/10 | Discrete systems<br>Linearity, convolution<br>Impulse response<br>Continuous systems<br>Linearity, convolution<br>Impulse and step responses | | 2.1-2 |
| 1/17 | MLK Day (1/17 – no class)<br>Impulse response cont.<br>Properties of LTI systems | | 2.2-3 |
| 1/24 | Difference, differential equations<br>Periodic signals<br>Fourier Series | | 2.4<br>3.2-3 |
| 1/31 | Properties of continuous FS<br>Discrete FS<br>Properties | | 3.5-6 |
| 2/7 | Periodic signals and LTI systems<br>Filtering<br>Fourier Transform (continuous) | Exam on systems, Fourier series | 3.7-8<br>4.1-2 |
| 2/14 | Fourier Transform<br>Properties, examples | | 4.3-6 |
| 2/21 | Discrete FT<br>Properties, examples | | 5.1-8 |
| 2/28 | Spring Break | None | |
| 3/7 | Freq. response of LTI systems<br>Filtering | | Ch. 6 |
| 3/14 | Sampling | | Ch. 7 |
| 3/21 | Relationship between FT and DFT<br>Laplace Transform<br>Convergence, poles, zeros | Exam on FT, DFT, freq. resp., sampling | Handout<br>9.1-2 |
| 3/28 | LT and Inverse LT<br>System response<br>Properties, examples<br>Stability, causality | | 9.3-7 |
| 4/4 | Z-Transform<br>Inverse ZT<br>Convergence, poles, zeros<br>Properties | | 10.1-5 |
| 4/11 | Z-Transform<br>Examples<br>Stability, causality<br>IZT, partial fraction expansion | | 10.6-7<br>Appendix |
| 4/18 | Feedback (Mon – last day of class) | None | Ch. 11 |
| 4/28 | 1:30-3:30 – Final exam | | |