BME 386: BIOMEDICAL INSTRUMENTATION LABORATORY
CLASS SCHEDULE – FALL 2019

Date	Week	Lecture First Hour (from 09:15am)	Studio Part (till 12:50pm)
September 4	1	Review of Syllabus and Course Content	Review of Basic Sensors and Working Principles Review of Electronic Components and Digital Circuits
September 11	2	Introduction to Today's Studio	Lab 1: 3D Accelerometer Measurements
September 18	3	Introduction to Today's Studio	Lab 2: Temperature Measurements (LM 335): Body Thermometer using LM 335 and Temperature Estimation by Projection Method
September 25	4	A Lecture on Data Acquisition Devices and A/D Converters	
October 2	5	Introduction to Today's Studio	Lab 3: Digital Voltmeter as an A/D Converter Example: Circuit Building and Controlling through Data Acquisition Card
October 9	6	Introduction to Today's Studio	Lab 4: Extraction of Respiratory Rate from ECG: Using ECG and Respiband and Comparing in Matlab
October 16	7	Introduction to Today's Studio	Lab 5: Part I Oscillometric Method of Blood Pressure Measurement: Using a Commercial Instrumentation Amplifier Chip
October 23	8	Introduction to Today's Studio	Lab 5: Part II Oscillometric Method of Blood Pressure Measurement: Matlab Programming (Data Acquisition and Real-Time Displaying)
October 30	9	**Midterm**	
November 6	10	Review of Midterm Exam and Introduction to Today's Studio	Lab 6: Measurements of Tremor Forces with a Strain-Gauge Force Sensor
November 13	11	Introduction to Today's Studio	Lab 7: Optical Heart Rate Monitor Part I: Circuit Building and Data Collection
November 20	12	Introduction to Today's Studio	Lab 7: Optical Heart Rate Monitor Part II: Matlab Programming for Heart Rate Variability Assessment
November 27		**Friday Classes Meet**	
December 4	13	Introduction to Today's Studio	Lab 8: Piezoelectric Sensors (PZT) for Force Measurements (Building a Charge-Amplifier)
December 11	14	Review of Course Material	

Final Exam will be scheduled by the University.
Lab Reports are due one week after the studio is completed.