Neuromodulation Support: Syllabus

Day 1	8:00-8:15	Welcome and Introductions
	8:15-9:45	Clinical Neurology Introduction
	10:00-11:15	Neuroanatomy
		I. Systems Neuroanatomy Overview
		II. Somatosensory System
		III. Motor Planning & Anatomy of the Basal Ganglia
		11:30-12:00 Clinical Neurology
		I. Diseases
		II. Cellular Neuropharmacology; Clinical Neuropharmacology
		III. Treatment
	12:00-1:00	Lunch
	1:00-2:00	Diagnostic Procedures
	(1:00-1:30)	I. Identifying Neuroanatomic Structures
	(1:30-2:00)	II. Stereotactic Planning
	2:15-5:00	Targeting & Planning Lab
		I. Commercial Software Options
		II. The Stereotactic Approach
		III. Extrinsic & Intrinsic Mapping
	6:00	Neurosurgical Presentation & Dinner
Day 2	8:00-12:00	Advanced Electronics
		I. Basics of Electric Charge & Flow
		II. Basic Circuit Elements
		III. Impedance
		IV. Electrodes
		V. Instrumentation
		VI. Signal Processing
		*working lunch from 11:00-12:00
	12:00-5:00	Advanced Electronics Lab
		I. Noise in Recordings
		II. Filter Effects
	6:30	Evening Dinner Excursion to Three Rivers (Ethics Discussion)
Day 3	8:00-10:30	Surgical Neurophysiology and Post-Surgical Stimulator Management
		I. Single-Cell Recordings
		II. Stimulation
		III. Pallidum
		IV. Thalamus
		V. STN
	10:45-12:00	Programming (IPG)
		I. Goals
		II. Parameters
		III. Initial Programming
		IV. Short-Term Course
		V. Long-Term Course
		VI. Safety Considerations
	12:00-1:00	Lunch
	1:00-3:00	Surgical Movement Disorders Problem Based Learning Lab
		I. Electronics Playback Lab
		II. Structure Identification & Mapping Using Neuronal Recordings
	3:00-3:15	Closing Statements