

ACCREDITED SLEEP  
TECHNOLOGIST TRAINING  
*IN LOCAL SLEEP CENTERS & CLASSROOMS*

SAMPLE

# A • STEP

## SYLLABUS

ACCREDITED SLEEP TECHNOLOGIST EDUCATION PROGRAM A • STEP



<b>DAY•1</b> <i>Introduction to sleep and the sleep disorders patients</i>	TIME (Hours)	TYPE
<b>Orientation and facility tour</b>	0.5	Didactic
<b>The role of the sleep technologist</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. What is it like to be a sleep tech?</li> <li>b. Establishing patient rapport</li> <li>c. Sleep center dress codes</li> <li>d. Professionalism/ethical behavior in the sleep center</li> <li>e. Criteria for employment</li> <li>f. Trainee, non-registered, and registered technologist responsibilities</li> <li>g. BRPT™, AASM, APT, AAST</li> </ul>		
<b>Patient confidentiality / HIPAA</b>	0.75	Didactic
<ul style="list-style-type: none"> <li>a. Reasons for medical confidentiality</li> <li>b. HIPAA protections</li> <li>c. What you can say and where you can say it</li> <li>d. Documentation</li> <li>e. Managing research subjects</li> </ul>		
<b>Practice Session: Confidentiality HIPAA simulations</b>	0.75	Simulation
<b>Infection control/patient safety</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Universal precautions</li> <li>b. Procedures for known infections</li> <li>c. Electrical safety</li> <li>d. Equipment cleaning and sterilization procedures</li> </ul>		
<b>Sleep definitions and function</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. What is sleep?</li> <li>b. What function does sleep serve?</li> <li>c. Effects of sleep on the musculoskeletal system</li> <li>d. Effects of sleep on the respiratory system</li> <li>e. Effects of sleep on metabolism</li> </ul>		
<b>Introduction to circadian rhythms and strategies for coping with shift work</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Sleep hygiene</li> <li>b. Recognition of sleepiness/fatigue</li> <li>c. Safety issues related to sleepiness/fatigue</li> </ul>		
<b>Overview of sleep disorders</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Sleep medicine terminology</li> <li>b. ICSD-2</li> </ul>		
<b>Taking the sleep history – Interactive demonstration</b>	1.0	Demonstration

**Practice Sessions: 1.75 hours**

**Didactic Sessions: 6.25 hours**

<b>DAY•2 EEG and sleep staging</b>	<b>TIME (Hours)</b>	<b>TYPE</b>
<b>Electrical activity of the brain</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Major brain structures and their NREM/REM involvement (if applicable) in sleep</li> <li>b. Neurons</li> <li>c. Synapses</li> <li>d. Dendrites</li> <li>e. Neurotransmitters; what they are and which ones are involved in sleep and wakefulness</li> <li>f. Sources of EEG activity</li> </ul>		
<b>Amplifier instrumentation</b>	1.5	Didactic
<ul style="list-style-type: none"> <li>a. Basic electrical principles</li> <li>b. Differential amplification</li> <li>c. Polarity and amplitude calculations</li> <li>d. Filters</li> </ul>		
<b>10-20 system &amp; electrode placement</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. 10-20 electrode placement</li> <li>b. Montages used in sleep (bipolar and referential)</li> <li>c. EEG in routine PSG</li> </ul>		
<b>Practice Session: Head measurement</b>	2.0	Practical
<b>Normal sleep in adults/ Introduction to the AASM Scoring Guidelines</b>	1.5	Didactic
<ul style="list-style-type: none"> <li>a. Sleep cycles</li> <li>b. Wake</li> <li>c. Stage N1</li> <li>d. Stage N2</li> <li>e. Stage N3</li> <li>f. Stage REM</li> </ul>		
<b>Practice Session: Sleep staging</b>	1.0	Practical

**Practice Sessions: 3 hours**  
**Didactic Sessions: 5 hours**

<b>DAY•3</b> <i>Sleep and cardiovascular monitoring</i>	TIME (Hours)	TYPE
<b>Sleep onset, arousals, awakening, and sleep fragmentation</b>	1.0	Didactic
<b>Electrode application techniques</b>	1.0	Didactic/Demo
<ul style="list-style-type: none"> <li>a. Electrode properties and design</li> <li>b. Skin preparation</li> <li>c. Electrode application techniques</li> </ul>		
<b>Practice Session: EEG, EOG, and chin EMG application</b>	2.0	Practical
<b>The cardiovascular system and sleep</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Anatomy</li> <li>b. Control of heart rate – cardiac innervation</li> <li>c. Control of blood flow</li> <li>d. Blood pressure and sleep</li> </ul>		
<b>Basic electrocardiography</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Generation of the ECG</li> <li>b. Electrode placement</li> <li>c. Cardiac arrhythmias</li> </ul>		
<b>Practice Session: ECG tracings</b>	1.0	Practical
<b>Practice Session: Sleep staging</b>	1.0	Practical

**Practice Sessions: 4 hours**  
**Didactic Sessions: 4 hours**

<b>DAY • 4</b> <i>Respiratory monitoring</i>	TIME (Hours)	TYPE
Anatomy and physiology of the upper airway	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Nose and sinuses</li> <li>b. Tongue and oropharynx</li> <li>c. Palate and uvula</li> <li>d. Control of upper airway</li> </ul>		
Respiratory sleep physiology	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Breathing mechanics</li> <li>b. Gas exchange</li> <li>c. Ventilatory control / REM and NREM differences</li> <li>d. Room air FiO2 and supplemental oxygenation</li> </ul>		
Monitoring airflow	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Thermal sensors</li> <li>b. Pressure transducers</li> <li>c. Capnography</li> <li>d. Snoring</li> </ul>		
Monitoring respiratory effort	1.0	Didactic
<ul style="list-style-type: none"> <li>a. RIP</li> <li>b. Piezoelectric sensors</li> <li>c. Esophageal pressure</li> <li>d. Respiratory EMG</li> </ul>		
<b>Practice Session: Airflow and effort hook-up</b>	1.0	Practical
Oxygen saturation and carbon dioxide monitoring	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Oxyhemoglobin dissociation curve</li> <li>b. Theory of operation for pulse oximeter and carbon dioxide devices</li> <li>c. Calibration</li> <li>d. Time constants / averaging</li> <li>e. Measurement accuracy</li> </ul>		
Performing a routine PSG: Interactive demonstration	2.0	Interactive Demonstration
<ul style="list-style-type: none"> <li>a. Montage</li> <li>b. Patient preparation</li> <li>c. Calibration</li> <li>d. Special orders</li> </ul>		

**Practice Sessions: 3 hours**  
**Didactic Sessions: 5 hours**

<b>DAY • 5</b> <i>Sleep related breathing disorders</i>	TIME (Hours)	TYPE
<b>Obstructive sleep apnea syndromes</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Definition and clinical features</li> <li>b. Epidemiology</li> <li>c. Pathophysiology</li> <li>d. Complications</li> <li>e. PSG features</li> </ul>		
<b>Central sleep apnea and hypoventilation</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Definition and clinical features</li> <li>b. Epidemiology and the relationship with cardiopulmonary disorders</li> <li>c. Pathophysiology</li> <li>d. Cheyne-Stokes breathing pattern</li> <li>e. PSG features</li> </ul>		
<b>Scoring respiratory events</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Apnea (obstructive, mixed, and central)</li> <li>b. Hypopnea</li> <li>c. RERA</li> <li>d. Snoring</li> <li>e. Oxygen desaturation</li> <li>f. Calculating indices</li> <li>g. Criteria for diagnosing sleep apnea (Chicago conference)</li> </ul>		
<b>Practice Session: Scoring respiratory events</b>	2.0	Practical
<b>Overview of PAP therapy</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Mechanics of PAP therapy</li> <li>b. Physiologic impact of PAP on the lungs and heart</li> <li>c. Mask designs</li> <li>d. Efficacy and compliance</li> <li>e. Complications</li> </ul>		
<b>Performing CPAP titrations</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. CPAP titration protocols</li> <li>b. Rationale for split-night studies</li> </ul>		
<b>Demonstration &amp; Practice Session: PAP equipment &amp; mask fitting</b>	1.0	Demonstration/ Practical

**Practice Sessions: 3 hours**  
**Didactic Sessions: 5 hours**

<b>DAY•6</b> <i>Sleep related breathing disorders - continued</i>	TIME (Hours)	TYPE
<b>Bilevel PAP and non-invasive ventilation</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Indications for Bilevel PAP therapy</li> <li>b. When to switch from CPAP to Bilevel PAP</li> <li>c. CPAP to Bilevel in a single night; selecting the pressures</li> </ul>		
<b>Guidelines for supplemental oxygen</b>	1.0	Didactic
<b>Optimizing PAP therapy</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Interfaces</li> <li>b. Acclimation</li> <li>c. Humidification</li> <li>d. Monitoring compliance</li> <li>e. The role of auto-PAP</li> </ul>		
<b>Practice Session: PAP equipment</b>	1.0	Practical
<b>Alternative treatments for sleep apnea</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Surgical therapies</li> <li>b. Oral appliances</li> <li>c. Pharmacologic therapies</li> <li>d. Positional therapies</li> <li>e. Weight reduction</li> </ul>		
<b>Practice Session: Scoring respiratory events</b>	1.0	Practical
<b>Practice Session: Head measurement, EEG, EOG, EMG electrode application</b>	2.0	Practical

**Practice Sessions: 4 hours**  
**Didactic Sessions: 4 hours**

<b>DAY•7</b> <i>EMG and movement disorders</i>	TIME (Hours)	TYPE
<b>RLS and PLMD</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Clinical features (use videos of RLS and PLMS)</li> <li>b. Epidemiology</li> <li>c. Pathophysiology</li> <li>d. Treatment including their effects on PSG</li> </ul>		
<b>Recording limb movements</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Electrode placement</li> <li>b. Calibrations</li> <li>c. Montages</li> <li>d. Differentiating PLMS from artifacts and other types of limb movements</li> </ul>		
<b>Practice Session: Leg, arm, and respiratory EMG hookup</b>	1.0	Practical
<b>Scoring PLMS and arousals</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Scoring criteria</li> <li>b. Arousals</li> <li>c. Calculating PLM and arousal indices</li> </ul>		
<b>Other movement disorders in sleep</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Bruxism</li> <li>b. Rhythmic movement disorders (parasomnias)</li> <li>c. Latrogenic movement disorders</li> <li>d. Monitoring techniques</li> </ul>		
<b>Practice Session: Scoring arousals in association with PLMS &amp; sleep disordered breathing</b>	2.0	Practical
<b>Summarizing the PSG report: Interactive demonstration</b>	1.0	Didactic/ Interactive
<ul style="list-style-type: none"> <li>a. The hypnogram</li> <li>b. Sleep architecture parameters</li> <li>c. Seep disordered breathing parameters</li> <li>d. PLMS parameters</li> <li>e. Oxygen saturation and carbon dioxide reporting</li> </ul>		

**Practice Sessions: 3 Hours**

**Didactic Sessions: 5 Hours**

<b>DAY•8</b> <i>Narcolepsy, seizures, and parasomnias</i>	TIME (Hours)	TYPE
<b>Parasomnias</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Definition</li> <li>b. Disorders of arousal (from NREM Sleep)</li> <li>c. REM parasomnias</li> <li>d. Other parasomnias</li> <li>e. Epidemiology</li> </ul>		
<b>Seizures and sleep</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Sleep onset</li> <li>b. NREM v. REM</li> <li>c. Clinical features</li> <li>d. Ictal and interictal EEG</li> </ul>		
<b>Polysomnographic features of seizures and parasomnias</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. PSG features of seizures</li> <li>b. PSG features of NREM parasomnias</li> <li>c. PSG features of REM parasomnias</li> <li>d. Technical intervention(s) and documentation</li> <li>e. Monitoring techniques (including video)</li> </ul>		
<b>Practice Session: EEG setup</b>	1.0	Practical
<b>Narcolepsy</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Clinical features of (cataplexy video demonstration)</li> <li>b. Epidemiology</li> <li>c. Differential diagnosis</li> <li>d. Treatment</li> </ul>		
<b>MSLT and MWT</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Indications</li> <li>b. Protocols and montages</li> <li>c. Preparing the patient</li> <li>d. Documentation</li> <li>e. Interpretation and report formats</li> <li>f. Medication effects</li> </ul>		
<b>Practice Session: Scoring the MSLT &amp; MWT</b>	2.0	Practical

**Practice Sessions: 3 hours**  
**Didactic Sessions: 5 hours**

<b>DAY•9</b> <i>Insomnia, circadian rhythm disorders, &amp; psychiatric disorders</i>	TIME (Hours)	TYPE
<b>Insomnia</b>	1.5	Didactic
<ul style="list-style-type: none"> <li>a. Classification</li> <li>b. Etiology</li> <li>b. Epidemiology</li> <li>c. Co-morbid conditions</li> <li>d. Treatment – behavioral and pharmacological</li> <li>e. Role of PSG in the evaluation of insomnia</li> </ul>		
<b>Circadian rhythm sleep disorders</b>	1.5	Didactic
<ul style="list-style-type: none"> <li>a. Classification</li> <li>b. Anatomy, including suprachiasmatic nucleus</li> <li>c. Zeitgebers</li> <li>d. Measurement: actigraphy, body temperature</li> </ul>		
<b>Psychiatric and behavioral disorders</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Classification</li> <li>b. Impact on sleep</li> <li>c. Medication effect on sleep</li> </ul>		
<b>Artifact recognition &amp; troubleshooting</b>	1.0	Demonstration
<ul style="list-style-type: none"> <li>a. EEG artifacts</li> <li>b. EMG artifacts</li> <li>c. Cardiac artifacts</li> <li>d. Respiratory artifacts</li> <li>e. Environmental artifacts</li> </ul>		
<b>Managing emergencies in the sleep laboratory</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Cardiorespiratory emergencies</li> <li>b. Seizures</li> <li>c. Parasomnias</li> <li>d. Psychiatric emergencies</li> <li>e. When to call a physician</li> </ul>		
<b>Practice Sessions: Setting up and hooking up a PSG</b>	2.0	Practical

**Practice Sessions: 2 hours**  
**Didactic Sessions: 6 hours**

<b>DAY•10</b> <i>Pediatric polysomnography</i>	TIME (Hours)	TYPE
<b>Pediatric polysomnography</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Patient and parental preparation</li> <li>b. Montages</li> <li>c. Sleep staging</li> </ul>		
<b>Pediatric sleep-disordered breathing</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Clinical features</li> <li>b. Epidemiology</li> <li>c. Associated conditions</li> <li>d. Treatment</li> <li>d. Scoring respiratory events</li> <li>e. Criteria for diagnosing sleep apnea</li> </ul>		
<b>Other pediatric sleep disorders</b>	1.0	Didactic
<ul style="list-style-type: none"> <li>a. Movement disorders including RLS, PLMD</li> <li>b. Behavioral problems</li> <li>c. NREM parasomnias</li> <li>d. Seizures</li> <li>e. Narcolepsy</li> <li>f. Adolescent sleep (CRD, delayed sleep phase type)</li> </ul>		
<b>Practice Session: Scoring pediatric sleep &amp; breathing disorders</b>	1.0	Practical
<b>Final Examination</b>	2.0	Exam
<b>Skills Demonstration: Setup patient</b>	2.0	Exam

**Practice Session: 1 hour**  
**Didactic Sessions: 3 hours**

**Practice Sessions: 27.75 hours (35%)**  
**Didactic Sessions: 48.25 hours (60%)**  
**Exam: 04.00 hours (5%)**  
**Total: 80.00 hours**

