



# A-STEP

**Accredited Sleep Technologist  
Education Program**

## **STANDARD SYLLABUS**

*Updated 2021*

**The American Academy of Sleep Medicine developed the Accredited Sleep Technologist Education Program (A-STEP) to help standardize training and education for those interested in the field of sleep medicine. A-STEP equips trainees and technicians with the education needed to excel as a sleep technologist.**

The A-STEP Standard Syllabus is designed as the mandatory tool to teach your program course curriculum. The following content is the most compact version of an A-STEP program taking place over 10 days.

All programs can offer an online portion as a percentage of their 80 hours of training. The online portion can only make up 30% or 15 total hours of your didactic sessions and must meet the five requirements outlined in the [A-STEP Standards for Accreditation](#). Programs that offer an online portion must complete the [Online Learning Supplemental Syllabus](#) with the topics taught, when they are taught (day/s) and total number of hours.

*Adopted by the Board of Directors in July, 2005 | Revised Jan. 2018*

## Program Overview

**All sessions and exams, including online portion, should not exceed 80 total hours of instruction.**


<b>HANDS-ON SESSIONS:</b>	29.50 hours (35%)
<b>CLASSROOM SESSIONS ONLY:</b>	46.50 hours (60%)
<b>OR CLASSROOM AND ONLINE SESSION:</b>	46.50 hours (Online session cannot exceed 15 hours)
<b>EXAM:</b>	4.00 hours (5%)
<b>TOTAL:</b>	80.00 hours

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# DAY 1: Introduction to Sleep and Sleep Disorders Patients

<b>ORIENTATION AND FACILITY TOUR</b>	0.5 hr.	Didactic
Instructor Name:		
<b>THE ROLE OF THE SLEEP TECHNOLOGIST</b> <ul style="list-style-type: none"> <li>a. What is it like to be a sleep tech?</li> <li>b. History of Sleep Medicine</li> <li>c. Establishing patient rapport</li> <li>d. Sleep center dress codes</li> <li>e. Professionalism/ethical behavior in the sleep center</li> <li>f. Criteria for employment</li> <li>g. Trainee, non-registered, and registered technologist responsibilities</li> <li>h. BRPT™, AASM, APT</li> </ul>	1.0 hr.	Didactic
Instructor Name: (Must be taught by Clinical Director)		
<b>PATIENT CONFIDENTIALITY / HIPAA</b> <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>	0.75 hr.	Didactic
Instructor Name:		
<b>QUALITY IMPROVEMENT</b> <ul style="list-style-type: none"> <li>a. What is quality improvement?</li> <li>b. Enhancing patient quality and safety</li> </ul>	0.25 hr.	Didactic
Instructor Name:		
<b>PRACTICE SESSION: CONFIDENTIALITY HIPAA SIMULATIONS</b>	0.5 hr.	Simulation
Instructor Name:		
<b>INFECTION CONTROL / PATIENT SAFETY</b> <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>	1.0 hr.	Didactic
Instructor Name:		

Day 1 programming continues  
on the following page. 

# DAY 1 CONTINUED: Introduction to Sleep and Sleep Disorders Patients

<b>SLEEP DEFINITIONS AND FUNCTION</b>		
<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> <li>f. Effects of common medications on sleep</li> </ul>	1.0 hr.	Didactic
Instructor Name:		
<b>INTRODUCTION TO CIRCADIAN RHYTHMS AND STRATEGIES FOR COPING WITH SHIFT WORK</b>		
<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>	1.0 hr.	Didactic
Instructor Name:		
<b>OVERVIEW OF SLEEP DISORDERS</b>		
<ul style="list-style-type: none"> <li>a. Sleep medicine terminology</li> <li>b. ICSD-3</li> <li>c. Sleep Questionnaires</li> <li>d. Sleep Diaries</li> </ul>	1.0 hr.	Didactic
Instructor Name: (Must be taught by Clinical Director)		
<b>TAKING A SLEEP HISTORY – INTERACTIVE DEMONSTRATION</b>		
	1.0 hr.	Demonstration
Instructor Name:		
Practice Sessions: 1.5 hours Didactic Sessions: 6.5 hours		

## DAY 2: EEG and Sleep Staging

<b>ELECTRICAL ACTIVITY OF THE BRAIN</b> a. Major brain structures and their NREM/REM involvement (if applicable) in sleep b. Neurons c. Synapses d. Dendrites e. Neurotransmitters; what they are and which ones are involved in sleep and wakefulness f. Sources of EEG activity	1.0 hr.	Didactic
Instructor Name:		
<b>AMPLIFIER INSTRUMENTATION</b> a. Basic electrical principles b. Differential amplification c. Polarity and amplitude calculations d. Filters	1.5 hr.	Didactic
Instructor Name:		
<b>10-20 SYSTEM &amp; ELECTRODE PLACEMENT</b> a. 10-20 electrode placement b. Montages used in sleep (bipolar and referential) c. EEG in routine PSG	1.0 hr.	Didactic
Instructor Name:		
<b>PRACTICE SESSION: HEAD MEASUREMENT</b>	2.0 hr.	Practical
Instructor Name:		
<b>NORMAL SLEEP IN ADULTS/ INTRODUCTION TO THE AASM SCORING GUIDELINES</b> a. Sleep cycles b. Wake c. Stage N1 d. Stage N2 e. Stage N3 f. Stage REM	1.5 hr.	Didactic
Instructor Name:		
<b>PRACTICE SESSION: SLEEP STAGING</b>	1.0 hr.	Practical
Instructor Name:		

Practice Sessions: 3 hours  
Didactic Sessions: 5 hours

## DAY 3: Sleep and Cardiovascular Monitoring

<b>SLEEP ONSET, AROUSALS, AWAKENING, AND SLEEP FRAGMENTATION</b>	1.0 hr.	Didactic
Instructor Name:		
<b>ELECTRODE APPLICATION TECHNIQUES</b> a. Electrode properties and design b. Skin preparation c. Electrode application techniques	1.0 hr.	Didactic
Instructor Name:		
<b>PRACTICE SESSION: EEG, EOG, AND CHIN EMG APPLICATION</b>	2.0 hr.	Practical
Instructor Name:		
<b>THE CARDIOVASCULAR SYSTEM AND SLEEP</b> a. Anatomy b. Control of heart rate – cardiac innervation c. Control of blood flow d. Blood pressure and sleep	1.0 hr.	Didactic
Instructor Name:		
<b>BASIC ELECTROCARDIOGRAPHY</b> a. Generation of the ECG b. Electrode placement c. Cardiac arrhythmias	1.0 hr.	Didactic
Instructor Name:		
<b>PRACTICE SESSION: ECG TRACINGS</b>	1.0 hr.	Practical
Instructor Name:		
<b>PRACTICE SESSION: SLEEP STAGING</b>	1.0 hr.	Practical
Instructor Name:		

Practice Sessions: 4 hours  
Didactic Sessions: 4 hours

## DAY 4: Respiratory Monitoring

<b>ANATOMY AND PHYSIOLOGY OF THE UPPER AIRWAY</b> a. Nose and sinuses b. Tongue and oropharynx c. Palate and uvula d. Control of upper airway	1.0 hr.	Didactic
Instructor Name:		
<b>RESPIRATORY SLEEP PHYSIOLOGY</b> a. Breathing mechanics b. Gas exchange c. Ventilatory control / REM and NREM differences d. Room air FiO <sub>2</sub> and supplemental oxygenation	1.0 hr.	Didactic
Instructor Name:		
<b>MONITORING AIRFLOW</b> a. Thermal sensors b. Pressure transducers c. Capnography d. Snoring	1.0 hr.	Didactic
Instructor Name:		
<b>MONITORING RESPIRATORY EFFORT</b> a. RIP b. Piezoelectric sensors c. Esophageal pressure d. Respiratory EMG	1.0 hr.	Didactic
Instructor Name:		
<b>PRACTICE SESSION: AIRFLOW AND EFFORT HOOK-UP</b>	1.0 hr.	Practical
Instructor Name:		

*Day 4 programming continues  
on the following page.*





# DAY 4 CONTINUED: Respiratory Monitoring

<b>OXYGEN SATURATION AND CARBON DIOXIDE MONITORING</b> <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>	1.0 hr.	Didactic
Instructor Name:		
<b>PERFORMING A ROUTINE PSG: INTERACTIVE DEMONSTRATION</b> <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>	2.0 hr.	Interactive Demonstration
Instructor Name:		
<b>HOME SLEEP APNEA TESTING</b>	1.0 hr.	Didactic
Instructor Name:		
<b>DEMONSTRATION AND PRACTICE SESSION: OUT OF CENTER SLEEP TESTING</b> <ul style="list-style-type: none"> <li>a. Types and what they monitor</li> <li>b. Patient preparation</li> <li>c. Special orders</li> </ul>	2.0 hr.	Demonstration
Instructor Name:		

Practice Sessions: 5 hours  
Didactic Sessions: 6 hours

# DAY 5: Sleep-related Breathing Disorders

<b>OBSTRUCTIVE SLEEP APNEA SYNDROMES</b> <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>	1.0 hr.	Didactic
Instructor Name:		
<b>CENTRAL SLEEP APNEA AND HYPOVENTILATION</b> <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>	1.0 hr.	Didactic
Instructor Name:		
<b>SCORING RESPIRATORY EVENTS</b> <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>	1.0 hr.	Didactic
Instructor Name:		
<b>PRACTICE SESSION: SCORING RESPIRATORY EVENTS</b>	2.0 hr.	Practical
Instructor Name:		
<b>OVERVIEW OF PAP THERAPY</b> <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>	1.0 hr.	Didactic
Instructor Name:		
<b>PERFORMING CPAP TITRATIONS</b> <ul style="list-style-type: none"> <li>a. CPAP titration protocols</li> <li>b. Rationale for split-night studies</li> </ul>	1.0 hr.	Didactic
Instructor Name:		
<b>DEMONSTRATION &amp; PRACTICE SESSION: PAP EQUIPMENT &amp; MASK FITTING</b>	1.0 hr.	Demonstration/ Practical
Instructor Name:		
<p style="text-align: right;">Practice Sessions: 3 hours Didactic Sessions: 5 hours</p>		

# DAY 6: Sleep-related Breathing Disorders — Continued

<b>BILEVEL PAP AND NON-INVASIVE VENTILATION</b> a. Indications for Bilevel PAP therapy b. When to switch from CPAP to Bilevel PAP c. CPAP to Bilevel in a single night; selecting the pressures	1.0 hr.	Didactic
Instructor Name:		
<b>GUIDELINES FOR SUPPLEMENTAL OXYGEN</b>	1.0 hr.	Didactic
Instructor Name:		
<b>OPTIMIZING PAP THERAPY</b> a. Interfaces b. Acclimation c. Humidification d. Monitoring compliance e. The role of auto-PAP	1.0 hr.	Didactic
Instructor Name:		
<b>PRACTICE SESSION: PAP EQUIPMENT</b>	1.0 hr.	Practical
Instructor Name:		
<b>NEW TECHNOLOGIES FOR THE TREATMENT OF SRBD</b>	1.0 hr.	Didactic
Instructor Name:		
<b>ALTERNATIVE TREATMENTS FOR SLEEP APNEA</b> a. Surgical therapies b. Oral appliances c. Pharmacologic therapies d. Positional therapies e. Weight reduction	1.0 hr.	Didactic
Instructor Name:		
<b>PRACTICE SESSION: SCORING RESPIRATORY EVENTS</b>	1.0 hr.	Practical
Instructor Name:		
<b>PRACTICE SESSION: HEAD MEASUREMENT, EEG, EOG, EMG ELECTRODE APPLICATION</b>	2.0 hr.	Practical
Instructor Name:		
		Practice Sessions: 4 hours Didactic Sessions: 5 hours

# DAY 7: EMG and Movement Disorders

<b>RLS AND PLMD</b> a. Clinical features (use videos of RLS and PLMS) b. Epidemiology c. Pathophysiology d. Treatment including their effects on PSG	1.0 hr.	Didactic
Instructor Name:		
<b>RECORDING LIMB MOVEMENTS</b> a. Electrode placement b. Calibrations c. Montages d. Differentiating PLMS from artifacts and other types of limb movements	1.0 hr.	Didactic
Instructor Name:		
<b>PRACTICE SESSION: LEG, ARM, AND RESPIRATORY EMG HOOKUP</b>	1.0 hr.	Practical
Instructor Name:		
<b>SCORING PLMS AND AROUSALS</b> a. Scoring criteria b. Arousals c. Calculating PLM and arousal indices	1.0 hr.	Didactic
Instructor Name:		
<b>OTHER MOVEMENT DISORDERS IN SLEEP</b> a. Bruxism b. Rhythmic movement disorders (parasomnias) c. Latrogenic movement disorders d. Monitoring techniques	1.0 hr.	Didactic
Instructor Name:		
<b>PRACTICE SESSION: SCORING AROUSALS IN ASSOCIATION WITH PLMS &amp; SLEEP DISORDERED BREATHING</b>	2.0 hr.	Practical
Instructor Name:		
<b>SUMMARIZING THE PSG REPORT: INTERACTIVE DEMONSTRATION</b> a. The hypnogram b. Sleep architecture parameters c. Seep disordered breathing parameters d. PLMS parameters e. Oxygen saturation and carbon dioxide reporting	1.0 hr.	Didactic/ Interactive
Instructor Name:		
<p style="text-align: right;">Practice Sessions: 3 hours Didactic Sessions: 5 hours</p>		

# DAY 8: Narcolepsy, Seizures, and Parasomnias

<b>PARASOMNIAS</b> a. Definition b. Disorders of arousal (from NREM Sleep) c. REM parasomnias d. Other parasomnias e. Epidemiology	1.0 hr.	Didactic
Instructor Name:		
<b>SEIZURES AND SLEEP</b> a. Sleep onset b. NREM v. REM c. Clinical features d. Ictal and interictal EEG	1.0 hr.	Didactic
Instructor Name:		
<b>POLYSOMNOGRAPHIC FEATURES OF SEIZURES AND PARASOMNIAS</b> a. PSG features of seizures b. PSG features of NREM parasomnias c. PSG features of REM parasomnias d. Technical intervention(s) and documentation e. Monitoring techniques (including video)	1.0 hr.	Didactic
Instructor Name:		
<b>PRACTICE SESSION: EEG SETUP</b>	1.0 hr.	Practical
Instructor Name:		
<b>NARCOLEPSY</b> a. Clinical features of (cataplexy video demonstration) b. Epidemiology c. Differential diagnosis d. Treatment	1.0 hr.	Didactic
Instructor Name:		
<b>MSLT AND MWT</b> a. Indications b. Protocols and montages c. Preparing the patient d. Documentation e. Interpretation and report formats f. Medication effects	1.0 hr.	Didactic
Instructor Name:		
<b>PRACTICE SESSION: SCORING THE MSLT &amp; MWT</b>	2.0 hr.	Practical
Instructor Name:		

Practice Sessions: 3 hours  
Didactic Sessions: 5 hours

# DAY 9: Insomnia, Circadian Rhythm Disorders, & Psychiatric Disorders

<b>INSOMNIA</b> a. Classification b. Etiology c. Epidemiology d. Co-morbid conditions e. Treatment – behavioral and pharmacological f. Role of PSG in the evaluation of insomnia	1.5 hr.	Didactic
Instructor Name:		
<b>CIRCADIAN RHYTHM SLEEP DISORDERS</b> a. Classification b. Anatomy, including suprachiasmatic nucleus c. Zeitgebers d. Measurement: actigraphy, body temperature	1.5 hr.	Didactic
Instructor Name:		
<b>PSYCHIATRIC AND BEHAVIORAL DISORDERS</b> a. Classification b. Impact on sleep c. Medication effect on sleep	1.0 hr.	Didactic
Instructor Name:		
<b>ARTIFACT RECOGNITION &amp; TROUBLESHOOTING</b> a. EEG artifacts b. EMG artifacts c. Cardiac artifacts d. Respiratory artifacts e. Environmental artifacts	1.0 hr.	Demonstration
Instructor Name:		
<b>MANAGING EMERGENCIES IN THE SLEEP LABORATORY</b> a. Cardiorespiratory emergencies b. Seizures c. Parasomnias d. Psychiatric emergencies e. When to call a physician f. How to handle a violent patient	1.0 hr.	Didactic
Instructor Name:		
<b>PRACTICE SESSIONS: SETTING UP AND HOOKING UP A PSG</b>	2.0 hr.	Practical
Instructor Name:		
Practice Sessions: 2 hours Didactic Sessions: 6 hours		

# DAY 10: Pediatric Polysomnography

<b>PEDIATRIC POLYSOMNOGRAPHY</b> a. Patient and parental preparation b. Montages c. Sleep staging	1.0 hr.	Didactic
Instructor Name:		
<b>PEDIATRIC SLEEP-DISORDERED BREATHING</b> a. Clinical features b. Epidemiology c. Associated conditions d. Treatment e. Scoring respiratory events f. Criteria for diagnosing sleep apnea	1.0 hr.	Didactic
Instructor Name:		
<b>OTHER PEDIATRIC SLEEP DISORDERS</b> a. Movement disorders including RLS, PLMD b. Behavioral problems c. NREM parasomnias d. Seizures e. Narcolepsy f. Adolescent sleep (CRD, delayed sleep phase type)	1.0 hr.	Didactic
Instructor Name:		
<b>PRACTICE SESSION: SCORING PEDIATRIC SLEEP &amp; BREATHING DISORDERS</b>	1.0 hr.	Practical
Instructor Name:		
<b>FINAL EXAMINATION</b>	2.0 hr.	Exam
Instructor Name:		
<b>SKILLS DEMONSTRATION: SETUP PATIENT</b>	2.0 hr.	Exam
Instructor Name:		
Practice Sessions: 1 hour Didactic Sessions: 3 hours		

Developed and operated by:

