TEXAS SCHOOL OF SLEEP MEDICINE & TECHNOLOGY

POLYSOMNOGRAPHIC TECHNICIAN I

COURSE SYLLABUS DESCRIPTION

PSG 101: INTRODUCTION TO SLEEP AND DISORDERS OF SLEEP

The student will learn an introduction to the field of clinical polysomnography with emphasis in sleep definitions and functions, the role of the sleep technologist in patient confidentiality and HIPAA regulations, infection control, and patient safety. The course also gives an overview of sleep disorders, circadian rhythms and summarizing the PSG report together with strategies for coping with shift work.

PSG 102: EEG AND SLEEP STAGING

The student will learn normal sleep architecture and the characteristics of sleep stages. Non-REM stages Wake, 1, 2, 3, 4 and stage REM will be discussed and polysomnographic examples will show how these variables, viewed collectively, provide diagnostic information regarding normal and / or abnormal sleep. Hands-on scoring will compromise a large portion of the course with numerous practice opportunities. The course includes scoring of EEG (brainwave) arousals, Digital Concepts of Analog-To-Digital Conversion (ADC), horizontal and vertical resolution and instrument settings together with sampling rate, dwell time, aliasing, and bit capacity as it relates to polysomnography

PSG 103: CARDIOVASCULAR MONITORING

The student will learn basic cardiac anatomy and physiology as it relates to the field of sleep as well as an introduction to basic EKG signal generation and demonstration of normal and abnormal EKG signals. This knowledge will serve as an initial exposure to identify emergent and non-emergent situations regarding cardiac rhythm disturbances

PSG 104: RESPIRATORY MONITORING

The student will learn the anatomical structures related to breathing and the way that they work together will provide the student with a basis for understanding the more common respiratory abnormalities seen in the sleep lab, and the distinguishing characteristics of respiratory scoring. Instruction in how the brain, chemical composition of the blood, and feedback mechanisms from the chest wall must properly communicate to produce a normal respiratory pattern.

PSG 105: SLEEP RELATED BREATHING DISORDERS

The student will learn about the most common disease states that may present to the sleep lab. Discussion will include the background, clinical presentation, pathology, and diagnosis of Obstructive Sleep Apnea Syndromes, Central Sleep Apnea and Hypoventilation together with scoring respiratory events.

PSG 106: TREATMENT FOR SLEEP RELATED BREATHING DISORDERS

The student will learn the basics of the various therapeutic interventions of Positive Airway Pressure (CPAP, Bi-Level), and O_2 used during the course of a sleep study. Proper mask fitting technique, vital to a patient's tolerance of the interventions, will be reviewed.

PSG 107: SLEEP RELATED MOVEMENT DISORDERS AND EMG MONITORING

The student will learn an overview of muscular structure and function as it relates to sleep, specifics regarding the lower extremities, chin, and upper airway. This information will be a precursor for the discussion of Periodic Limb Movement Disorder (PLMD) and Restless Leg Syndrome (RLS). A presentation of the criteria for scoring periodic limb movements and how to chart the findings will be discussed in this course.

PSG 108: NARCOLEPSY, SLEEP RELATED SEIZURES AND PARASOMNIAS

The student will learn about specific sleep disorders, emphasis is put on disorders such as Parasomnias, Seizures, and Narcolepsy or Idiopathic Central Nervous System Hypersomnia as evaluated by the polysomnography.

PSG 109: MSLT AND MWT

The student will learn specific sleep testing protocols used in the assessment of disorders of excessive daytime somnolence. Disorders such as Narcolepsy or Idiopathic Central Nervous System Hypersomnia can be evaluated by the combination of night time polysomnography followed by a Multiple Sleep Latency Test (MSLT) starting the following morning. The test measures the time it takes to fall asleep when the opportunity is presented. An alternative to the MSLT is the Maintenance of Wakefulness Test (MWT) which investigates how long wakefulness can be maintained. Electrode placement, complex procedural information and scoring criteria will be discussed

PSG 110: INSOMNIA, CIRCADIAN RHYTHM AND PSYCHIATRIC DISORDERS

The student will learn about circadian rhythm concepts and how it relates to normal sleep. This course emphasizes on the comprehension of deviations of normal sleep in relation to insomnia, psychiatric and behavioral disorders.

PSG 111: PEDIATRIC POLYSOMNOGRAPHY

The student will learn an adequate differential diagnosis and three types of sleep-related problems in children: insomnias, hypersomnias, and abnormal activity or behaviors during sleep. The course demonstrates the importance of hook-up, acquisition for an overnight study, and scoring basics and differences as it relates to adults.