

SOUTHEAST COMMUNITY COLLEGE
HEALTH SCIENCES DIVISION
POLYSOMNOGRAPHIC TECHNOLOGY
Revision Date: 5/2018

I. CATALOG DESCRIPTION

Course Number: PSGT 1000
Course Title Polysomnography 1
Prerequisite(s):

Catalog Description: This course includes all aspects of performing polysomnograms. Emphasis on the technologist's role and responsibilities in acquiring accurate and reliable data in accordance with AASM guidelines.

Credit Hours: 6
Class Hours: 60
Lab Hours: 0
Total Contact Hours: 60

II. COURSE OBJECTIVES: *Course will:*

1. Detail the technologist's role and responsibilities in acquiring accurate and reliable data.
2. Detail the process of diagnosing sleep disorders.
3. Define the purpose/function of equipment used in polysomnography.
4. Determine recording parameters for diagnostic and therapeutic montages.
5. Distinguish waveforms characteristic of each stage of sleep.
6. Identify the process for resolving artifacts.
7. Introduce consequences of sleep deprivation on sleep architecture, health and society.
8. Detail the scoring rules in accordance with the AASM guidelines.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

A. STUDENT LEARNING OUTCOMES: *Student will be able to:*

1. Demonstrate stage scoring for a given epoch.
2. Demonstrate respiratory event scoring for a given epoch.
3. Demonstrate artifact recognition and resolution.
4. Demonstrate competence in concepts through written evaluations.

B. GENERAL EDUCATION LEARNING OUTCOMES

1. GELO 3: Critical Thinking and Problem Solving

Outcome: Synthesize information to arrive at reasoned solutions to problems.

2. GELO 5: Analytical, Quantitative, and Scientific Reasoning

Outcome: Apply mathematical and scientific methods to solve problems from an array of contexts and everyday situations.

3. GELO 6: Career and Life Skills

Outcome: Use digital technology effectively to access, manage, integrate, evaluate, and present information.

IV. CONTENT/TOPICAL OUTLINE (*course outline may provide more detailed information*)

A. Normal Sleep

1. The Need for Sleep
2. Human Circadian Rhythm
3. Human Sleep
4. Sleep Architecture
5. Sleep and Aging
6. Changes to Normal Sleep Architecture
7. Drug Effects on Sleep
8. Pregnancy and Sleep

B. Sleep Disorders

1. History of Sleep Disorders
2. Classification of Sleep Disorders
3. Insomnia
4. Sleep Related Breathing Disorders
5. Hypersomnias of Central origin
6. Circadian Rhythm Sleep Disorders
7. Parasomnias
8. Sleep Related Movement Disorders
9. Isolated Symptoms
10. Other Sleep Disorders

C. Patient Flow Process

1. Living with a Sleep Disorder
2. Physician Screening
3. Referral Process
4. Patient Scheduling and Billing
5. Sleep Study Process
6. Patient Education
7. Scoring and Interpretation
8. Second Night Studies
9. Patient Follow-up

D. Life as a Sleep Technician

1. Responsibility as a Healthcare Worker
2. Infection Control
3. Patient Safety
4. Professionalism
5. Patient Confidentiality
6. Quality Control
7. Technician Training and Continuing Education

E. Diagnostic Equipment

1. Basic Electronics

2. Signal Pathways
3. Monitoring Devices
4. Differential Amplifiers
5. Digital Polysomnography

F. Patient Hookup Procedures

1. International 10-20 System
2. Electrode Sites
3. Electrode Application
4. Impedance Checks
5. Technician Tricks and Tips

G. Viewing a Polysomnogram

1. EEG Channels
2. EOG Channels
3. EMG Channels
4. EKG Channels
5. Respiratory Channels
6. SpO2
7. Body Position

H. Artifacts and Troubleshooting

1. Artifacts
2. AKG Artifact
3. Movement Artifact
4. Sweat, Slow Wave, and Sway Artifact
5. Snore Artifact
6. 60Hz Interference and High Impedances
7. Electrode Popping
8. Pen Blocking
9. Improper Gain/Sensitivity Settings
10. Improper Filter Settings
11. Correcting Artifacts

I. Performing an Overnight Sleep Study

1. Order of Operations
2. Reviewing the Patient Chart
3. Preparing the Patient Tray
4. Preparing the Patient Room
5. Connecting the Diagnostic Equipment
6. Selecting a Montage
7. Amplifier Calibrations
8. Patient Questionnaires
9. Patient Hookup and Education
10. Physiologic Calibrations
11. Technician Notes and Documentations
12. Ending the Study
13. Patient Discharge

J. Performing a CPAP Titration

1. How CPAP Works
2. Mask Fitting
3. CPAP Equipment
4. Purpose of CPAP Titrations
5. Increasing CPAP
6. Decreasing CPAP
7. Bi-Level PAP
8. Split-Night Polysomnography
9. Supplemental O2

K. Performing Other Types of Sleep Studies

1. MSLT
2. MWT
3. REM Behavior Disorder Study
4. Nocturnal Seizure Study
5. Ambulatory Sleep Study
6. Other Diagnostic Procedures

L. Scoring

1. Staging
2. Respiratory Events
3. Limb Movements
4. Arousals
5. Cardiac Events
6. Calculations
7. Report Generation
8. Archiving

V. INSTRUCTIONAL MATERIALS

A. Required Text(s):

Spriggs, W. *Essentials of Polysomnography*-(current edition). Jones & Bartlett.

B. Other Resources:

AASM Practice Guidelines

VI. METHODS OF PRESENTATION/INSTRUCTION

A. Methods of presentation typically include a combination of the following:

1. PowerPoints, projects, group discussion and multimedia

VII. METHODS OF EVALUATION

A. Methods of evaluation typically include a combination of the following:

Online Course

Exams	40% of Total Grade
Quizzes	20% of Total Grade
Discussions/Assignments	30% of Total Grade
Final Exam	<u>10%</u> of Total Grade
Total 100	

SCC STANDARD GRADING SCALE POLICY:

A+	95-100	C+	75-79
A	90-94	C	70-74
B+	85-89	D+	65-69
B	80-84	D	60-64
		F	Below 60

VIII. SPECIFIC COURSE REQUIREMENTS

- A. The student must achieve a minimum grade requirement of C+ or better on PSGT1000, 1010, and 1020 in order to demonstrate competency in this class.