Kingsborough Community College

of

The City University of New York

Proposal to establish a program in Polysomnographic Technology

leading to the AAS degree

Effective Fall 2014

Sponsored by the Department of Nursing

Letter of Intent Approved by

KCC College Council on May 23, 2013

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Provost Signature: _________________________

Provost Name: David Gomez, Ph.D.
Interim Provost and Vice President of Academic Administration
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1. Abstract

Kingsborough Community College (KCC) proposes to offer an Associate of Applied Science (A.A.S.) degree in Polysomnographic Technology. This will be the first college program in New York City to offer a degree in Polysomnographic Technology. The goal of the KCC program is to satisfy the new, New York State (NYS) law requiring sleep technicians to receive a minimum of an associate’s degree in sleep medicine in order to obtain a license to practice as a technician in a clinical sleep laboratory in New York State.

The field of sleep technology is rapidly growing, in part due to the high prevalence of sleep-disordered breathing, which requires a nighttime sleep test to be properly diagnosed and treated. Until recently, technicians have been trained primarily in academic medical centers. However, given the new law in NYS requiring a formal degree, this is no longer an option for individuals new to the field of sleep medicine. Therefore, this program fills a new and growing need, particularly in New York City, where there are a large number of sleep laboratories.

Working as a sleep technologist is ideal for many college students looking for a career that will allow them to pursue further education, as most sleep laboratories require a full-time technician to work three-12 hours shifts per week. This type of schedule allows the technician excellent flexibility to take daytime coursework. It also provides an income to support independent living in New York City while paying for tuition at a senior CUNY college. Others not interested in further education will also like the flexibility of working three-nights per week, which allows them to spend more time with family; this is particularly useful for single parents.

We believe the recent changes in NYS law, as well as the dearth of adequate training programs in New York for sleep technicians, makes this an ideal time for CUNY to invest in this new program. We believe the program will be popular with students, providing them with skills to enter the work force and professional employment while they continue their education at four-year schools. It is for these reasons we hope CUNY will approve this new program.

2. Purpose and goals

a. Educational Goals

The goal of the A.A.S. in polysomnographic technology is:

1. To prepare sleep technicians who are competent in the knowledge and skills required to work in accredited sleep laboratories throughout the country.

2. To qualify graduates to become licensed polysomnographic technicians in New York State.
Career Description

Sleep Technology, also called Polysomnographic Technology, is a separate and distinct allied health-care occupation embracing a unique body of knowledge and methodological skills. Overnight polysomnography is a standard tool in Sleep Medicine for evaluating sleep-related pathophysiology, sleep architecture, and sleep integrity. Specifically, it is a complex evaluation used as a quantitative measurement of multiple physiological parameters during sleep, combined with expert observational reporting. Sleep technicians, technicians and trainees are the technical group specially trained to perform polysomnography and other technical evaluations used for the diagnosis and treatment of sleep/arousal disorders. They are health-care professionals who work as part of a team under the general supervision of a licensed physician to assist in the education, evaluation, treatment and follow up of sleep disorders in patients of all ages. They follow accepted standards of care, including American Academy of Sleep Medicine (AASM) Practice Parameters, which are the foundation for clinical/technical decision-making and for provision of patient-sensitive care. This profession employs a unique set of diagnostic tools used in the interest of establishing diagnoses and developing future therapeutic interventions, which require expertise in the specialty of Sleep Medicine.

Scope of Practice

Instrumentation

The practice of polysomnography requires thorough familiarity with and proficiency in the use of specialized instruments and observations used to record a variety of parameters during sleep and wakefulness. These instruments and observations include, but are not limited to:

- Electrical potentials from brain using the International10-20 System of Electrode Placement (EEG)
- Electrical potentials from the eyes (EOG)
- Electrical potentials from skeletal muscles (EMG)
- Nasal and oral airflow
- End tidal or transcutaneous \( pCO_2 \)
- Esophageal pressure
- Respiratory effort from a variety of methods including inductance plethysmography, piezo-electric belts, strain gauges, and electrical potentials from the diaphragm and accessory respiratory muscles
- Pulse oximetry
- Electrocardiogram
- Esophageal pH
- Wrist actigraphy
- Audiovisual monitoring of wake and sleep movements, vocalizations, respiratory sounds, and body positions
- Patient self-report measures prior to and following study procedures, and patient communication of critical events occurring during study procedures including, but not limited to, hypnagogic or hypnopompic hallucinations, sleep paralysis, and nocturnal panic attacks
Performance of Polysomnography

The sleep technician (under general supervision) is responsible for the initiation and completion of overnight and daytime polysomnography, as well as Multiple Sleep Latency Testing (MSLT) and Maintenance of Wakefulness Testing (MWT). The sleep technician performance duties include:

- **Ensuring instrumentation** is properly functioning
- **Completing** required equipment and patient signal calibrations at beginning and end of the study
- **Running** continuous polysomnographic monitoring
- **Responding** to and correcting any equipment malfunction
- **Recognizing and correcting** artifacts in physiological and transduced signals
- **Performing** on-line monitoring and analysis of the polysomnographic, including sleep staging and notation of events including EEG arousals, variations in respiratory effort and airflow, changes in cardiac rate and/or rhythm, periodic limb movements, stereotypical body movements, vocalizations, and other physiologic and behavioral events
- **Instantly recognizing** sleep stages and wakefulness from the polysomnographic for proper performance of MSLT and MWT procedures, and ensuring patient wakefulness between testing bouts
- **Maintaining** a log of study events and interventions
- **Maximizing** patient comfort and safety throughout laboratory testing
- **Recognizing, documenting and characterizing** clinical and electrographic seizures
- **Performing** cognitive testing during clinical seizures
- **Performing** evaluations of excessive sleepiness and ability to maintain wakefulness
- **Recognizing and responding** to critical events occurring during polysomnographic monitoring of cardiac arrhythmias, oxygen desaturation, chest pain, breathing distress, seizures or other abnormal EEG activity with or without significant motor activity, potentially violent and injurious behaviors such as sleepwalking and REM sleep behavior disorder, and other potential medical emergencies
- **Performing or assisting** with basic cardiopulmonary resuscitation if required, and ensuring the simultaneous alerting of on-call responders (e.g., hospital “code team”) or emergency services personnel

The practice of Sleep Technology includes performing the following tasks during sleep studies upon the order of, and under the general supervision of, a physician licensed by the State Board of Medicine:

- **Application and titration** of non-invasive, bi-level or continuous positive airway pressure devices and/or supplemental low flow oxygen in spontaneously breathing patients during sleep studies
- **Application and monitoring** of pulse oximetry during sleep studies
- **Application and monitoring** of capnometry during sleep studies
- **Performing testing techniques** to assist in diagnosis, monitoring, treatment and research of sleep and waking disorders including, but not limited to, overnight attended polysomnography, Multiple Sleep Latency Testing, and Maintenance of Wakefulness Testing
- **Developing** future therapeutic interventions under the direction of the licensed physician and according to established protocols including positive airway pressure titration and oxygen titration
b. Status of the Profession

Electroencephalographic research of human sleep has been conducted for over 50 years. However, the first clinical sleep medicine laboratory was not opened until the 1970’s at Montefiore Hospital in the Bronx. Since 1977 the American Academy of Sleep Medicine has been accrediting clinical sleep laboratories in the United States.

Initially there were very few clinical sleep laboratories. However, in 1981 Colin Sullivan published a paper in the Lancet describing a very effective treatment for one of the most common sleep disorders, obstructive sleep apnea. This treatment is called continuous positive airway pressure (CPAP), and continues to be the most effective treatment for obstructive sleep apnea. Before the development of CPAP, patients with sleep apnea were treated with a tracheotomy, an uncomfortable surgical procedure, which significantly limits the type of activities a patient can engage in during the day. This discouraged patient’s from receiving a diagnosis and/or treatment for sleep apnea. However, this dramatically changed after the development of CPAP.

In order to diagnosis a patient with sleep apnea, a laboratory study, called a polysomnogram, is recommended. In addition, in order to determine the appropriate treatment setting on CPAP for patients diagnosed with sleep apnea, a second nighttime polysomnogram is required. As a result, the number of clinical sleep laboratories in the United States has increased exponentially since the 1970’s, mostly for the treatment of sleep apnea. However, polysomnograms are also conducted for a variety of other sleep disorders such as (to name just a few): narcolepsy, REM sleep behavior disorder, nighttime seizures, sleep walking, night terrors, periodic limb movement disorder, and bruxism (excessive grinding of the teeth and/or excessive clenching of the jaw). Since the beginning of clinical sleep medicine, the field has relied on nighttime polysomnographic technicians to conduct sleep studies. According to the American Academy of Sleep Medicine, there are currently more than 2,500 accredited sleep laboratories in the country, and likely twice as many unaccredited sleep laboratories.

c. National and Local Educational Trends

Until recently, sleep technicians were trained informally in a laboratory setting. Once the laboratory staff determined that a technician had obtained adequate training, they could then begin working independently with patients. However, sleep laboratories accredited through the American Academy of Sleep Medicine are required to have technicians certified through either the Board of Registered Polysomnographic Technicians or the American Board of Sleep Medicine. Receiving certification through either of these organizations requires a period of employment as a sleep technician, a didactic training course (A-step) or CAAHEP-approved associate degree education in polysomnographic technology, as well as passing a national exam. The Board of Registered Polysomnographic Technologists reports an 18% increase in registered sleep technicians in the past year, and a 47% increase in the past five-years.

New York State and New Jersey are two of many states that have enacted laws requiring technicians working in sleep laboratories to obtain a practice license. As previously described, in order to receive this license in New York State, technicians need to have an associate degree or higher in
polysomnographic technology. Currently eight states require licensure for sleep technicians. Within the
next decade it is anticipated that a majority of states in the U.S. will have similar licensure laws for
polysomnographic technicians.

d. Related College Offerings

KCC currently has AAS degree programs for other allied health professionals, including Surgical
Technology, Emergency Medical Services, Nursing and Physical Therapy Assistant. Instruction for all
these programs is conducted by qualified, accredited faculty in designated laboratories with state-of-
the-art equipment. These programs include many of the same foundation courses in liberal arts and
sciences, such as Freshman English I and II ENG 12 and 24) Human Anatomy and Physiology I and II (BIO
11 and 12), General Psychology (PSY 11), Medical Ethics (PHI 76) and mathematics. A fully equipped
polysomnographic training laboratory will be setup at KCC by slightly modifying the existing paramedic
laboratory. This modification includes adding polysomnographic amplifiers and computers, as well as
adding positive airway pressure equipment to this laboratory. The current stretchers and patient
simulators will be used to demonstrate patient montages for sleep studies, and proper fitting of positive
airway pressure equipment.

Moreover, the college is working towards the creation of a new academic department, named the Allied
Health Sciences Department, which will be responsible for AAS degree and certificate programs in allied
health. The new Polysomnographic Technology AAS program fits well within KCC’s vision of the future.

3. Need for Curriculum

The health care sector is currently the largest employer in Brooklyn, and one of the largest in New York
City. The Bureau of Labor Statistics projects that between 2010-2020 the healthcare sector will add 5.6
million jobs, more than any other sector of the U.S. economy. Recent legislation in New York State now
requires technicians working in sleep laboratories to have a practice license. Most current
polysomnographic technicians already working in the field will be “grandfathered” into this new law,
and will receive their practice license based on work experience and/or a current national registration as
a polysomnographic technician (R.PSGT or RST certification). However, technicians entering the field
after November 2012 will not be eligible for a practice license without at least an associate’s degree in
polysomnography technology.

There are currently no associate’s degree programs in polysomnographic technology in New York City.
Moreover, according to Mei Zhou at the NYS Office of Professions, only two license eligible programs are
currently under review by NYS, these include Hudson Valley Community College and Stony Brook
University (SUNY). Neither school is in close proximity to New York City. As a result, sleep laboratories in
New York City are already having difficulty filling vacancies in technical positions. Therefore, a new
associate degree program in Polysomnographic Technology at KCC will serve a vital role in providing
sleep laboratories in New York City with qualified technical staff.
4. Students

a. Interest

Kingsborough administration, faculty and counseling staff universally have confidence in the principle of "If we build it; they will come". Certainly, the population base served by Kingsborough is large enough to project that there will be a strong reaction to educational opportunities at his level for this rewarding profession. The applicant pool for this program is excellent. Brooklyn has a population of over 2.5 million, and cites its major employer as health care institutions.

Enrollment at Kingsborough Community College reached 14,997 matriculated degree students in the Fall 2011, with non-degree students added to that number the total swells to 19,261. In spite of the interest of significant numbers of these students in allied health career education, many do not have access due to the limited number of programs and program seats available. Therefore, there is a need to provide additional, equally viable career programs.

b. Enrollment projections

This program will be offered initially only as a full-time program of study. Students who transfer into the program with general education and pre-requisite courses satisfied, may be able to enroll in some major and clinical courses and complete a semester's work while enrolled for less than 12 credits. Other than these exceptions, first-time freshmen will be advised that the program requires a full-time credit load each semester.

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<thead>
<tr>
<th>A.A.S in Polysomnographic Technology</th>
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<tbody>
<tr>
<td>Year I</td>
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<tr>
<td>Full-Time</td>
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We expect enrollment to be approximately 15 students the first year, 25 the second year, and should stabilize the third year at 35 students; first-year to second-year attrition is calculated to be 30%. At the conclusion of the second-year of their attendance, all continuing students are assumed to have graduated or not completed and are therefore not calculated in the subsequent year.

This new program will specifically attract students from the NYC and Westchester area. KCC will be able to retain students and offer new opportunities for students who are specifically interested in allied health careers. Many students come to KCC looking for a degree in an allied health career and KCC will fulfill that need by becoming the first school to offer this Polysomnographic Technology in NYC. It is important to note that the projected 15 new students address this ongoing need for allied health programs for our KCC students. These new students will result in additional revenue to KCC. This program will also complement the strategic KCC goal of creating new allied health programs and eventually establishing a new Allied Health Sciences Department at KCC.
The work schedule for a full-time hospital based sleep technician generally involves working three, 12-hours shifts per week. Traditionally many sleep technicians have pursued additional education while maintaining full-time work. Moreover, workers with small children enjoy these work hours because it allows them to spend more time with their children during the day. Salary.com estimates the salary for a sleep technician in New York City ranges from $44,410 (10th percentile) to $70,176 (90th percentile), with a median of $56,866.

c. Admission requirements

Requirements for admission into this program include successful completion of all CUNY reading, writing and mathematical exams or successful completion of any developmental courses. Additional requirements for admission into this program include passing a background check and receiving medical clearance. During the first year in the program students will also be required to receive basic life support (BLS) certification from the American Heart Association.

5. Curriculum

This curriculum is specifically designed to qualify students, upon graduation, to be licensed as Polysomnographic Technicians in the State of New York. A secondary goal of this curriculum is to prepare students, with additional work experience, to sit for a national registration examination, and become registered through either the Board of Registered Polysomnographic Technicians or the American Board of Sleep Medicine. This will enable graduates to work anywhere in the United States as a Polysomnographic Technician.

a. Description of new courses (Pre and co-requisites for each course are found in Appendix C)

PSG 100 The Science of Sleep and Circadian Rhythms (3-Credits) – 3 hrs lec
This course is designed to provide students with the biological basis for clinical sleep and circadian rhythms disorders. Students will be introduced to the history of sleep research, and current theories regarding how and why we sleep. Daily biological rhythms, and their relationship to sleep and wake states will also be investigated in this course.

PSG 101 Neuroscience and Pharmacology in Sleep (4-Credits) - 4 hrs lec
This course will inform students of the neurological basis of sleep. The anatomical brain regions responsible for sleep and waking, as well as endogenous neurochemicals modulating sleep and wake will be discussed. In the second half of this course, the effects of pharmacological compounds on sleep architecture is described.

PSG 102 Foundations of Polysomnography I (3-Credits) – 2 hrs lec, 2 hrs lab
In this course students will be taught the basic skills required to perform a clinical sleep study. Including electrode placement using the international 10-20 system. How to use respiratory belts, pressure transducers, thermistors, pulse-oximetry, end tidal capnography, and electromyography during a sleep
recording. Use of polysomnographic equipment, including amplifier settings, inputting patient data, and setting up basic recording montages are also covered.

PSG 103 Clinical Practicum in Sleep Medicine I (6-Credits) – 12 hrs clinical
Students will be placed in an active clinical sleep laboratory for the entire semester. One night per week the student will observe a registered polysomnographic technician at work. As the student becomes familiar with the workings of the laboratory, they will begin preparing patients for nighttime sleep studies, and will learn how to monitor patients during the night.

PSG 104 Foundations of Polysomnography II (3-Credits) – 2 hrs lec, 2 hrs lab
Advanced topics for clinical sleep recordings will be covered in this course. Including how to perform Multiple Sleep Latency (MSLT) and Maintenance of Wakefulness (MWT) testing. Montages for special patient populations such as for seizure, REM behavior disorder, bruxism, and pediatrics. Identification of both physiological and non-physiological electrical artifact commonly seen while performing polysomnography, as well as advanced trouble shooting of technical equipment will also be covered.

PSG 105 Clinical Polysomnographic Scoring (3-Credits) – 2 hr lec, 2 hr lab
Students will learn to define sleep stages, respiratory events, periodic limb movements, seizures, bruxism, and EKG arrhythmias from electrophysiological data obtain during a polysomnographic recording. At the end of this course, students should be able to properly score a polysomnographic based on the criteria described in the American Academy of Sleep Medicine Manual for the Scoring of Sleep and Associated Events.

PSG 106 Classification of Sleep Disorders (3-Credits) – 3 hrs lec
The focus of this course is to give students a complete understanding of the nosology of clinical sleep and circadian rhythms disorders from the perspective of the International Classification of Sleep Disorders Diagnostic & Coding Manual. Upon completion of this course, students should know the diagnostic criteria of all major sleep and circadian rhythm disorders.

PSG 107 Cardiopulmonary Physiology in Sleep (3-Credits) – 3 hrs lec
The physiology of normal respiratory function during sleep, as well as our current understanding of the pathophysiology of obstructive and central apneas during sleep is described. Acute and long-term consequences of sleep apnea, as well as cardiac function and dysfunction with a specific focus on arrhythmias commonly associated with sleep-disordered breathing is investigated.

PSG 108 Clinical Practicum in Sleep Medicine II (6-Credits) – 12 hrs clinical
As in the Clinical Practicum in Sleep Medicine I, students in this course will spend a semester observing and working in a clinical sleep laboratory. During this semester students will focus on learning to titrate patients with positive airway pressure machines including CPAP, BiPAP and ASV. Titration of supplemental oxygen will also be taught. Real time obstructive and central sleep apnea and hypopnea, and EKG arrhythmia detection will be an area of particular focus. Students will also gain experience performing MSLT and MWT testing.
### A.A.S. Polysomnographic Technology Curriculum Outline

#### Major component

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<td>Classification of Sleep Disorders</td>
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<td>PSG 107</td>
<td>Cardiopulmonary Physiology in Sleep</td>
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<tr>
<td>PSG 108</td>
<td>Clinical Practicum in Sleep Medicine II</td>
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**Total credits: 34**

**General Education Component of the Polysomnographic Technology Curriculum**

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**Total credits: 26**

*Total Degree credits: 60*
Polysomnographic Technology Full-Time (4-semester) Program of Study

Fall/Winter-First Year

ENG 12 Freshman English I 3
BIO 11 Human Anatomy and Physiology I 4
MAT 9 College Algebra 3
PSY 11 General Psychology (Fall or Winter) 3
PSG 100 The Science of Sleep and Circadian Rhythms 3

Total credits: 16

Spring/ Summer-First Year

ENG 24 Freshman English II (Spring or Summer) 3
MAT 20 Elements of Statistics 3
BIO 12 Human Anatomy and Physiology II 4
PSG 101 Neuroscience and Pharmacology in Sleep 4
PSG 102 Foundations of Polysomnography I 3

Total credits: 17

Fall/ Winter-Second Year

PSG 103 Clinical Practicum in Sleep Medicine I 6
PSG 104 Foundations of Polysomnography II 3
PSG 105 Clinical Polysomnographic Scoring 3
PSG 106 Classification of Sleep Disorders (Winter) 3

Total credits: 15

Spring-Second Year

PSG 107 Cardiopulmonary Physiology in Sleep 3
PHI 76 Medical Ethics 3
PSG 108 Clinical Practicum in Sleep Medicine II 6

Total credits: 12

6. Cost assessment
   a. Faculty

Matthew R. Ebben, Ph.D. will be the director of the Polysomnographic Technology program. Dr. Ebben is a Diplomate of the American Board of Sleep Medicine (D, ABSM), a fellow of the American Academy of Sleep Medicine (FAASM), and is certified in behavioral sleep medicine (ABSM). He graduated with a Doctorate in Psychology from the Cognitive Neuroscience program at City College (formerly the Experimental Cognition program), and also has a post-doctoral Master of Science degree in Clinical Psychopharmacology from Fairleigh Dickinson University. As an undergraduate and graduate student at the City University he worked as the chief technician for the Center for Sleep Medicine at Weill Cornell Medical College. He also completed a pre-doctoral internship in sleep medicine/clinical psychology at Methodist Hospital in Brooklyn, and a post-doctoral fellowship in sleep medicine/clinical psychology in the Department of Neurology and Neuroscience at Weill Cornell Medical College. In total, he has been
training sleep technicians or working as a sleep technician for over 18 years. He is currently an Assistant Professor at Weill Cornell Medical College and is the Director of Laboratory Operations for the Center for Sleep Medicine at Cornell. Dr. Ebben developed the curriculum for KCC’s proposed A.A.S. in Polysomnographic Technology and helped prepare this proposal.

There will be medical director, who will be a licensed physician board certified in sleep medicine, according to CAAHEP standards. Other program faculty will be qualified to teach the subject assigned and hold appropriate professional credentials.

b. Facilities, Laboratory Equipment, Supplies and Library Materials

The new paramedic laboratory will be modified to include the new Polysomnographic program. This strategy will help minimize the need for additional laboratory space at KCC, which is limited. This will consist of adding polysomnographic recording and scoring equipment, as well as multifunction CPAP/BiPAP/ASV systems. Each full-time faculty member will have appropriate separate and distinct office space. Weill Cornell Medical College, Mount Sinai School of Medicine, New York Methodist Hospital and other local area sleep laboratories will provide field-training sites.

Several professional journals and texts will be added to the Kibbee Library in sufficient numbers to support student assignments. The Library will need to provide online access to Medline, which is already provided for existing allied health programs. Usually arrangements can be made with hospitals and medical schools for students to have access to any medical journals or text they may need. Local hospital libraries can be appropriate resources and will meet all national standards as long as these arrangements are established and known to students, including any conditions for access students must follow.

Annual budgets for a typical polysomnographic training program include on-going disposable supplies as well as training equipment for the laboratory and classroom, continuing education for faculty, accreditation fees and other miscellaneous items. Some of the equipment for a typical polysomnographic program can be acquired by donation, rented or borrowed. The cost of equipping a polysomnographic learning laboratory can approach $160,000 (see Table 1). The anticipated faculty for this program includes: full time program director, full time director of clinical instruction, adjunct medical director, and two additional adjunct faculty. The cost of the proposed faculty (including fringe benefits) will total approximately $280,000.
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Appendix A
New York State Educational and Licensing Law for Polysomnographic Technologists
AMENDMENTS TO THE REGULATIONS OF THE COMMISSIONER OF EDUCATION

Pursuant to sections 207, 212, 6504, 6506, 6507, 6508, and 8505 of the Education Law and Chapter 262 of the Laws of 2011.

1. Section 52.42 of the Regulations of the Commissioner of Education is added, effective August 3, 2012, to read as follows:

§52.42 Polysomnographic technology.

(a) Definitions. As used in this section:

(1) Professional polysomnographic technology coursework shall mean didactic coursework and supervised clinical experiences. Such coursework and clinical experiences shall include, but shall not be limited to, the following curricular areas:

(i) polysomnographic procedures and protocols;

(ii) cardiopulmonary and neurological sciences, diagnostics, interpretation, and monitoring related to sleep disorders.

(iii) ethics of polysomnographic care;

(iv) infection control; and

(v) polysomnographic patient care and patient education related to sleep disorders;

(2) Equivalent shall mean substantially the same, as determined by the department.

(b) Program requirements. In addition to meeting all applicable provisions of this Part, to be registered as a program recognized as leading to the authorization in polysomnographic technology which meets the requirements in section 79-4.2(a) of this chapter, it shall be a program in polysomnographic technology leading to an associate degree or higher degree and shall meet the following requirements.
1. An associate degree program in polysomnographic technology shall contain at least 60 semester hours, or the equivalent, including a minimum of 30 semester hours in professional polysomnographic technology coursework, or the equivalent, and additional semester hours in appropriate related basic sciences and clinical sciences related to polysomnographic technology.

2. A baccalaureate degree program in polysomnographic technology shall contain a minimum of 40 semester hours of professional polysomnographic technology coursework, or the equivalent, and additional semester hours in appropriate related basic sciences and clinical sciences related to polysomnographic technology.

3. The required semester hours in professional polysomnographic technology content areas shall include supervised clinical experience.

4. Clinical facilities. A written contract or agreement shall be executed between the educational institution conducting the polysomnographic technology program and the clinical facility or agency which is designated to cooperate in providing the clinical experience. Such contract or agreement shall set forth the responsibilities of each party and shall be signed by the responsible officer of each party.

2. The title of Subpart 79-4 of the Regulations of the Commissioner of Education is amended, effective August 3, 2012, as follows:

Respiratory Therapy [and] Respiratory Therapy Technician, and Polysomnographic Technologist

3. Sections 79-4.8 through 79-4.17 of the Regulations of the Commissioner of Education are added, effective August 3, 2012, as follows:

§ 79-4.8 Definitions of the practice of polysomnographic technology and use of the title.
(a) Only a person authorized under this Subpart shall participate in the practice of polysomnographic technology as an authorized polysomnographic technologist, and only a person authorized under this Subpart shall use the title "authorized polysomnographic technologist."

(b) The term "practice of polysomnographic technology" shall mean the process of collecting, analyzing, scoring, monitoring and recording physiologic data during sleep and wakefulness to assist the supervising physician in the clinical assessment and diagnosis of sleep/wake disorders and other disorders, syndromes and dysfunctions that either are sleep related, manifest during sleep or disrupt normal sleep/wake cycles and activities. The practice of polysomnographic technology shall include the non-invasive monitoring, diagnostic testing, and initiation and delivery of treatments to determine therapeutic levels of inspiratory and expiratory pressures for individuals suffering from any sleep disorder, as listed in an authoritative classification of sleep disorders acceptable to the department, under the direction and supervision of a licensed physician who is available for consultation at all times during the provision of polysomnographic technology services in any setting. Such services shall not include the use of mechanical ventilators. Such services shall include, but shall not be limited to:

(1) application of electrodes and apparatus necessary to monitor and evaluate sleep disturbances, including application of devices that allow a physician to diagnose and treat sleep disorders, which disorders shall include, but shall not be limited to, insomnia, sleep breathing disorders, movement disorders, disorders of excessive somnolence, and parasomnias, provided, however, that such services shall include the use of oral appliances, but shall not include the use of any artificial airway or the drawing of arterial blood gasses;
(2) implementation of any type of physiologic non-invasive monitoring applicable to polysomnography, including monitoring the therapeutic and diagnostic use on non-ventilated patients of oxygen, continuous positive airway pressure (CPAP) and bi-level positive airway pressure;

(3) implementation of cardiopulmonary resuscitation, maintenance of patient’s airway (which does not include endotracheal intubation), and transcription and implementation of physician orders pertaining to the practice of polysomnographic technology;

(4) implementation of non-invasive treatment changes and testing techniques, as described in paragraphs (1) and (2) of this subdivision, and as required for the application of polysomnographic protocols under the direction and supervision of a licensed physician; and

(5) education of patients, family and the public concerning the procedures and treatments used during polysomnographic technology or concerning any equipment or procedure used for the treatment of any sleep disorder.

§ 79-4.9 Requirements and procedures for professional authorization.

To qualify for authorization as a polysomnographic technologist, an applicant shall be at least 18 years of age, file an application together with the applicable fees with the department, and meet the education, experience, examination and moral character requirements set forth in sections 79-4.10, 79-4.11, 79-4.12, and 79-4.13 of this Subpart, respectively.

§ 79-4.10 Professional study of polysomnographic technology.

To meet the professional education requirement for authorization as a polysomnographic technologist in this State, the applicant shall present evidence of:

(a) completion of an associate or higher degree in polysomnographic technology;
(1) in a program registered by the department; or

(2) in a program determined by the department to be substantially equivalent to a registered program.

or

(b) completion of a course of study which is substantially equivalent to a program determined to be acceptable pursuant to subdivision (a) of this paragraph and which is satisfactory to the department.

§ 79-4.11 Experience requirements for polysomnographic technologist authorization.

To meet the professional experience requirement for authorization as a polysomnographic technologist in this State, the applicant shall complete such experience as is required in section 52.42 of this Title.

§ 79-4.12 Examination for authorization as a polysomnographic technologist.

(a) Each candidate for authorization as a polysomnographic technologist shall pass an examination that is determined by the department to measure the applicant's knowledge, judgment and skills concerning the practice of polysomnographic technology and such other matters of law and/or ethics as may be deemed appropriate by the department.

(b) Grade retention. The grade retention limitations of section 59.5(f) of this Title shall not be applicable to the examination for authorization to practice polysomnographic technology.

(c) Passing standard. The passing standard for the examination shall be determined by the State Board for Respiratory Therapy.

§ 79-4.13 Moral character for polysomnographic technologist authorization.

Applicants shall be of good moral character, as determined by the department.
§ 79-4.14 Student authorization. The practice of polysomnographic technology as an integral part of a program of study by students enrolled in a polysomnographic technology education program approved by the department shall not be prohibited. All such student practice shall be under the direction and supervision of a licensed physician and under the direct and immediate supervision of an authorized polysomnographic technologists or another health care provider licensed under Title VIII of the Education Law, provided that all tasks or responsibilities supervised by the health care provider are within the scope of his or her practice.

§ 79-4.15 Limited permit authorization. Authorizations limited as to eligibility, practice and duration shall be issued by the department to eligible applicants as follows:

(a) Eligibility. A person who fulfills all requirements for authorization as a polysomnographic technologist except that related to the examination shall be eligible for a limited permit.

(b) Limit of practice. All practice under a limited permit shall be under the direction and supervision of a licensed physician and under the direct and immediate supervision of a health care provider licensed under Title VIII of the Education Law, provided that all tasks or responsibilities supervised by the health care provider are within the scope of his or her practice.

(c) Duration. A limited permit shall be valid for one year and may be renewed for one additional year.

(d) An application for a limited permit in polysomnographic technology shall be submitted on a form provided by the Department and shall be accompanied by a fee of $70.

§ 79-4.16 Special provisions for authorization for polysomnographic technologists.
Except as otherwise provided in subdivision (d) of this section, an individual who is at least 18 years of age shall be authorized to practice polysomnographic technology without satisfying the education, experience, and examination requirements set forth in sections 79-4.10, 79-4.11 and 79-4.12 of this Subpart; provided that no later than February 3, 2014, such individual shall meet the requirements of subdivisions (a), (b), and (c) of this section. In order to be authorized to practice polysomnographic technology pursuant to this section, the applicant shall:

(a) file an application and pay the appropriate fees to the department; and

(b) be of good moral character, as determined by the department; and

(c) (1) be certified by a national certifying or accrediting board for polysomnographic technology acceptable to the department, and have practiced polysomnographic technology under the direction and supervision of a licensed physician at least 21 clinical hours per week for not less than 18 months in the three years immediately preceding the receipt of his or her application; or

(2) have practiced polysomnographic technology under the direction and supervision of a licensed physician at least 21 clinical hours per week for not less than three years within the five years immediately preceding the receipt of his or her application.

(d) If at least four licensure qualifying programs in polysomnographic technology have not been registered by the department by February 3, 2014, the applicant shall meet the requirements of subdivisions (a), (b), and (c)(1) of this section prior to the date that a total of four such programs have been registered by the department.

§ 79-4.17 Disciplinary authority for polysomnographic technologists.

Authorized polysomnographic technologists shall be subject to the full disciplinary and regulatory authority of the Board of Regents and the department, as if
such authorization were a professional license. Authorized polysomnographic technologists shall be subject to all applicable provisions of the Education Law and of this Title relating to professional misconduct. For purposes of professional misconduct procedures relating to authorized polysomnographic technologists, the State Board for Respiratory Therapy shall serve as the state board responsible for all such procedures.
STATEMENT OF FACTS AND CIRCUMSTANCES WHICH NECESSITATE
EMERGENCY ACTION

The proposed amendment to the Regulations of the Commissioner of Education is necessary to implement Chapter 262 of the Laws of 2011, which amended Education Law section 8505 to authorize the provision of polysomnographic technology services, as defined by the Commissioner of Education, by individuals who meet standards promulgated by the Commissioner.

Because the Board of Regents meets at fixed intervals, and generally does not meet in the month of August, the earliest the proposed amendment can be presented for adoption, after expiration of the 45-day public comment period provided for in State Administrative Procedure Act (SAPA) section 202(1) and (5), is the October 9-10, 2012 Regents meeting. Furthermore, pursuant to SAPA, the earliest effective date of the proposed amendment, if adopted at the September meeting, would be October 31, 2012, the date a Notice of Adoption would be published in the State Register. However, the provisions of Chapter 262 of the Laws of 2011 will become effective on August 3, 2012.

Emergency action is necessary for the preservation of the public health and general welfare in order to enable the State Education Department to establish requirements for the authorized practice of polysomnographic technology, and thereby ensure the timely implementation of Chapter 262 of the Laws of 2011.

It is anticipated that the proposed amendments will be presented for adoption as a permanent rule at the October 2012 meeting of the Board of Regents, after publication in the State Register and expiration of the 45-day public comment period on proposed rule makings required by the State Administrative Procedure Act.
Appendix B
Standards and Guidelines for the Accreditation of Educational Programs in Polysomnographic Technology
Standards initially adopted in 2004 revised in 2011

Adopted by the American Association of Sleep Technologists, American Academy of Sleep Medicine, Board of Registered Polysomnographic Technologists, Committee on Accreditation for Polysomnographic Technologist Education and Commission on Accreditation of Allied Health Education Programs

The Commission on Accreditation of Allied Health Education Programs (CAAHEP) accredits programs upon the recommendation of the Committee on Accreditation of Educational Programs in Polysomnographic Technology.

These accreditation Standards and Guidelines are the minimum standards of quality used in accrediting programs that prepare individuals to enter the Polysomnographic Technology profession. Standards are the minimum requirements to which an accredited program is held accountable. Guidelines are descriptions, examples, or recommendations that elaborate on the Standards. Guidelines are not required, but can assist with interpretation of the Standards.

Standards are printed in regular typeface in outline form. Guidelines are printed in italic typeface in narrative form.

Preamble

The Commission on Accreditation of Allied Health Education Programs (CAAHEP) Committee on Accreditation of Polysomnographic Technologist Education (CoA PSG) and the American Association of Sleep Technologists (AAST), the American Academy of Sleep Medicine (AASM), and the Board of Registered Polysomnographic Technologists (BRPT) cooperate to establish, maintain and promote appropriate standards of quality for educational programs in Polysomnographic Technology and to provide recognition for educational programs that meet or exceed the minimum standards outlined in these accreditation Standards and Guidelines. Lists of accredited programs are published for the information of students, employers, educational institutions and agencies, and the public.

These Standards and Guidelines are to be used for the development, evaluation, and self-analysis of Polysomnographic Technology programs. On-site review teams assist in the evaluation of a program's relative compliance with the accreditation Standards.

Description of the Profession:

Polysomnographic technologists use sleep technology as part of a team, under the general supervision of a licensed physician, by applying a unique body of knowledge and methodological skills involving the education, evaluation, treatment and follow-up of sleep disorders in patients of all ages. The polysomnographic technologist performs polysomnography and tests such as the Multiple Sleep latency Test, Maintenance of Wakefulness Test, Actigraphy and others used by a physician to diagnose and treat sleep disorders. These tests involve recording, monitoring, and analyzing EEG (electroencephalography), EOG (electrooculography), EMG (electromyography), ECG (electrocardiography), and multiple breathing variables including capnometry and oximetry during sleep and wakefulness. Testing procedures may involve application and adjustment of therapeutic modalities such as supplemental oxygen or positive airway pressure and include application of techniques, equipment, and procedures that are safe, aseptic, preventive, and restorative. Interpretive knowledge is required to recognize and respond to respiratory, cardiac or behavioral events that may occur during testing procedures. Technologists provide supportive services related to the ongoing treatment of sleep related problems. The professional realm of this support includes patient instruction on the use of devices for the treatment of breathing problems during sleep and helping individuals develop sleeping habits that promote good sleep hygiene.

I. Sponsorship

A sponsoring institution must be one of the following: 1. A post-secondary academic institution accredited by
an institutional accrediting agency that is recognized by the U.S. Department of Education, and must be
authorized under applicable law or other acceptable authority to provide a post-secondary program, which
awards a minimum of a certificate/diploma at the completion of the program.

2. A full service sleep center or branch of the United States Armed Forces that has appropriate accreditation
such as that provided by the American Academy of Sleep Medicine (AASM).

*It is recommended that students earn an associate degree or higher either in conjunction with or prior to
completion of the program.*

3. A foreign post-secondary academic institution acceptable to CAAHEP that is authorized under applicable law
or other acceptable authority to provide a post-secondary program, which awards a minimum of a
certificate/diploma upon completion of the program.

**B. Consortium Sponsor**

1. A consortium sponsor is an entity consisting of two or more members that exists for the purpose of operating
an educational program. In such instances, at least one of the members of the consortium must meet the
requirements of a sponsoring institution as described in I.A.

2. The responsibilities of each member of the consortium must be clearly documented as a formal affiliation
agreement or memorandum of understanding, which includes governance and lines of authority.

*A consortium is an entity separate from its members. The consortium, not its members, is the sponsor of the
educational program. The consortium has its own governing body comprised of representatives from each of
the members. The lines of authority from that governing body throughout the educational program should be
illustrated by an organizational chart. With a consortium sponsor, when interpreting these Standards, substitute
“the consortium” for references to “the sponsor”.*

**C. Responsibilities of Sponsor**

The Sponsor must assure that the provisions of these *Standards and Guidelines* are met.

**II. Program Goals**

**A. Program Goals and Outcomes**

There must be a written statement of the program’s goals and learning domains consistent with and responsive
to the demonstrated needs and expectations of the various communities of interest served by the educational
program. The communities of interest that are served by the program must include, but are not limited to,
students, graduates, faculty, sponsor administration, employers, physicians, the public.

Program-specific statements of goals and learning domains provide the basis for program planning,
implementation and evaluation. Such goals and learning domains must be compatible with the mission of the
sponsoring institution(s), the expectations of the communities of interest, and nationally accepted standards of
roles and functions. Goals and learning domains are based upon the substantiated needs of health care
providers and employers, and the educational needs of the students served by the educational program.

*Nationally accepted roles and functions in polysomnographic technology are reflected in the roles fulfilled by
polysomnographic technologists in the workplace (the Board of Registered Polysomnographic Technologists
(BRPT) Job Analysis) and the material covered in the appropriate national credentialing examination(s) (BRPT
Examination Matrices), and the most recent version of the American Association of Sleep Technologist’s
standard curriculum.*

**B. Appropriateness of Goals and Learning Domains**

The program must regularly assess its goals and learning domains. Program personnel must identify and
respond to changes in the needs and/or expectations of its communities of interest.
An advisory committee, which is representative of at least each of the communities of interest named in these Standards, must be designated and charged with the responsibility of meeting at least annually, to assist program and sponsor personnel in formulating and periodically revising appropriate goals and learning domains, monitoring needs and expectations, and ensuring program responsiveness to change.

The public member of the Advisory Committee should be a person who has valuable input to the program. The public member should not be employed by the sponsor or a clinical affiliate, should not be related to any key personnel of the Program, and should not qualify as any other named community of interest representative.

C. Minimum Expectations

The program must have the following goal defining minimum expectations: “To prepare competent entry-level polysomnographic technologists in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains”.

Programs adopting educational goals beyond entry-level competence must clearly delineate this intent and provide evidence that all students have achieved the basic competencies prior to entry into the field.

Programs are encouraged to consider preparing advanced level or specialized practitioners.

III. Resources

A. Type and Amount

Program resources must be sufficient to ensure the achievement of the program’s goals and outcomes. Resources must include, but are not limited to: faculty; clerical and support staff; curriculum; finances; offices; classroom; laboratory and ancillary student facilities; clinical affiliates; equipment; supplies; computer resources; instructional reference materials, and faculty/staff continuing education.

Clinical affiliates should conform to professional standards of practice, standards established by the American Academy of Sleep Medicine and by other health care accrediting entities, where applicable. Clinical affiliates should insure that students have appropriate access to and interaction with other related health care personnel and agencies.

Learning resources should be available to students outside of regular classroom hours, e.g. evenings and weekends. This should conform to the operational plans and standards of the participating sponsor. Instructional plans should promote student utilization of these resources.

B. Personnel

The sponsor must appoint sufficient faculty and staff with the necessary qualifications to perform the functions identified in documented job descriptions and to achieve the program’s stated goals and outcomes.

1. Program Director a. Responsibilities The Program Director must be responsible for the continuous review, planning, development, and general effectiveness of the program. The Program Director has primary responsibility for the organization and administration of the program as well as provision of input and participation in all aspects of the program. The program director may delegate responsibilities to other individual(s) qualified to perform those responsibilities. The Program Director should pursue ongoing formal training designed to maintain and upgrade his/her professional, instructional and administrative capabilities.

b. Qualifications The Program Director must possess a registered graduate degree in a field related to polysomnography and have a minimum of two years clinical experience as a practicing polysomnographic technologist.

2. Medical Director a. Responsibilities The Medical Director of the program must ensure that the medical components of the curriculum, both didactic and supervised clinical practice, meet current standards of medical practice.

The Medical Director should ensure physician instructional involvement in the training of polysomnographic
technologists and promote the cooperation and support of practicing physicians.

b. Qualifications

The Medical Director must be a licensed physician board certified in sleep medicine.

3. Faculty and/or Clinical Instructional Staff  
   a. Responsibilities In classrooms, laboratories, and all clinical facilities where a student is assigned, there must be (a) qualified individual(s) clearly designated as liaison(s) to the program to provide instruction, supervision, and timely assessments of the student’s progress in meeting program requirements.

b. Qualifications

The faculty must be knowledgeable in course content and effective in teaching their assigned subjects, and capable through academic preparation, training and experience to teach the courses or topics to which they are assigned.

Each clinical affiliate must have an instructor/preceptor who holds a national credential in polysomnography to supervise and evaluate the students.

C. Curriculum

The curriculum must ensure the achievement of program goals and learning domains. Instruction must be an appropriate sequence of classroom, laboratory and clinical activities. Instruction must be based on clearly written course syllabi that include course description, course objectives, methods of evaluation, topic outline and competencies required for graduation.

A program-length goal for the core curriculum, excluding requisites, should be 12 months.

1. Curriculum Requisites

The program must establish curriculum requisites that are met prior to, or concurrent with, the core curriculum. As a minimum these requisites must include:

a. Written and oral communication

b. Computational mathematics

c. Computer literacy

d. Social or behavioral sciences

e. Biological sciences

f. Medical ethics and law

g. Basic patient care, comfort and safety

h. Emergency preparedness in a medical setting

i. Infection control

j. Medical terminology

k. Basic Cardiac Life Support certification
These requisites may be fulfilled by documented college level coursework or demonstrated competency.

Requisites for social or behavioral sciences and biological sciences should provide the basis for relevant learning outcomes in the core curriculum.

2. Core Curriculum

The core curriculum must include at least the following:

a. Core Knowledge

1) History of Sleep Medicine  2) Anatomy & physiology relevant to sleep and sleep disorders

a) Cardiovascular  b) Respiratory  c) Neurological

3) Normal and abnormal physiology and behavior of sleep  4) Classification, diagnosis and treatment of sleep disorders  5) Clinical evaluation of sleep and wakefulness  6) Application and management of positive airway pressure modalities for treatment of sleep related breathing disorders  7) Medication effects related to sleep and sleep disorders  8) Basic principles of biopotential recording and digital data acquisition  9) Basic principles of monitoring of breathing  10) Ethics and professionalism in sleep medicine

b. Polysomnographic Methodology

1) Preparation of the patient for polysomnography  2) Patient sleep history taking  3) Selection and preparation of appropriate equipment  4) Recording montage design for polysomnography  5) Audio and video recording of movement and behavior during sleep  6) Patient monitoring and documentation  7) Recognition and correction of recording artifact  8) Infection control in the sleep laboratory  9) Employee and patient safety in the sleep laboratory  10) Medical, neurological and psychiatric emergencies in the sleep laboratory  11) Special patient needs a) Pediatric  b) Geriatric  c) Bariatric  d) Mental or physical impairment

c. Procedural Protocols

1) Polysomnography  2) Multiple Sleep Latency Test  3) Maintenance of Wakefulness Test  4) Actigraphy  5) Positive airway pressure administration and titration  6) Administration of supplemental oxygen  7) Home sleep testing  8) Capnography  9) Pulse oximetry  10) Special considerations for pediatric patients

d. Data analysis

1) Recognition of normal and abnormal electroencephalographic patterns  2) Identification of sleep stages  3) Identification of arousals  4) Identification of respiratory events and patterns  5) Identification of movement events and patterns  6) Identification of electrocardiographic events  7) Summation and reporting of observational and analyzed results  8) Transfer and storage of recorded data

D. Resource Assessment

The program must, at least annually, assess the appropriateness and effectiveness of the resources described in these Standards. The results of resource assessment must be the basis for ongoing planning and appropriate change. An action plan must be developed when deficiencies are identified in the program resources. Implementation of the action plan must be documented and results measured by ongoing resource assessment.

Other dimensions of the program may merit evaluation as well, such as the admission criteria and process, the curriculum design, and the purpose and productivity of the Advisory Committee.

The format for resource assessment documents should be: • Purpose statements; • Measurement systems; • Dates of measurement;

• Results; • Analyses; • Action plans; • Follow-up
IV. Student and Graduate Evaluation/Assessment

A. Student Evaluation

1. Frequency and purpose

Evaluation of students must be conducted on a recurrent basis and with sufficient frequency to provide both the students and program faculty with valid and timely indications of the students’ progress toward and achievement of the competencies and learning domains stated in the curriculum.

The evaluation system should provide each student and the program with a thorough analysis of the student's knowledge, performance-based strengths and areas needing improvement.

Valid means that the evaluation methods chosen in didactic, laboratory, and clinical activities are consistent with the competencies and objectives being tested, and are designed to measure stated objectives at the appropriate level of difficulty.

Students should have adequate time to correct identified deficiencies in knowledge and/or performance. Guidance should be available: to help students understand course content; to comply with program practices and policies; to provide counseling or referral for problems that may interfere with their progress through the program. Students should be eligible for all services offered by the educational institution.

2. Documentation

Records of student evaluations must be maintained in sufficient detail to document learning progress and achievements.

B. Outcomes

1. Outcomes Assessment

The program must periodically assess its effectiveness in achieving its stated goals and learning domains. The results of this evaluation must be reflected in the review and timely revision of the program.

Outcomes assessments include, but are not limited to: national technologist credentialing examination performance, programmatic retention/attrition, graduate satisfaction, employer satisfaction, job (positive) placement, and programmatic summative measures. The program must meet the outcomes thresholds established by the CoA PSG.

Programmatic summative measures may include comprehensive final examinations, terminal competency assessment, or student performance in a keystone course.

"Positive Placement" means that the graduate is employed full or part-time in a related field; and/or continuing his/her education; and/or serving in the military.

“National technologist credentialing examinations” are those accredited by the National Commission for Certifying Agencies (NCCA).

In an effort to keep programmatic attrition below the established CoAPSG threshold, the program should provide objective, success-related admissions standards, and/or prerequisites, and effective methods of assessing basic academic skills for all prospective students. Prospective students should be admitted to the program after having demonstrated at least a minimum acceptable level of academic skills performance.

2. Outcomes Reporting

The program must periodically submit to the CoAPSG the program goal(s), learning domains, evaluation systems (including type, cut score, and appropriateness), outcomes, its analysis of the outcomes and an appropriate action plan based on the analysis.

The program should maintain records of evaluations of the effectiveness of its action plan(s).

Programs not meeting the established thresholds must begin a dialogue with the CoA PSG to develop an
appropriate plan of action to respond to the identified shortcomings.

V. Fair Practices

A. Publications and Disclosure

1. Announcements, catalogs, publications and advertising must accurately reflect the program offered.

2. At least the following must be made known to all applicants and students: the sponsor’s institutional and programmatic accreditation status as well as the name, mailing address, website address and phone number of the accrediting agencies; admissions policies and practices, including technical standards (when used); policies on advanced placement, transfer of credits, and credits for experiential learning; number of credits required for completion of the program; tuition/fees and other costs required to complete the program; policies and processes for withdrawal and for refunds of tuition/fees.

3. At least the following shall be made known to all students: academic calendar, student grievance procedure, criteria for successful completion of each segment of the curriculum and graduation, and policies and processes by which students may perform clinical work while enrolled in the program.

4. The sponsor must maintain, and provide upon request, current and consistent information about student/graduate achievement that includes the results of one or more of the outcomes assessments required in these Standards.

The sponsor should develop a suitable means of communicating to the communities of interest the achievement of students/graduates.

B. Lawful and Non-discriminatory Practices

All activities associated with the program, including student and faculty recruitment, student admission, and faculty employment practices, must be non-discriminatory and in accord with federal and state statutes, rules, and regulations. There must be a faculty grievance procedure made known to all paid faculty. In accordance with the Americans with Disabilities Act (ADA) and other governmental regulations, technical standards that define the essential functions of polysomnographic technology may be published and used in the lawful and non-discriminatory admission of students. A procedure should be established for determining that a student's health will permit him or her to meet the documented technical standards of the program.

C. Safeguards

The health and safety of patients, students and faculty associated with the educational activities of the students must be adequately safeguarded. All activities required in the program must be educational and students must not be substituted for staff. The combined total program scheduled didactic/clinical educational activities of a student in the program should not exceed 40 hours per week.

D. Student Records

Satisfactory records must be maintained for student admission, advisement, counseling and evaluation. Grades and credits for courses must be recorded on the student transcript and permanently maintained by the sponsor in a safe and accessible location.

E. Substantive Change

The sponsor must report substantive change(s) as described in Appendix A to CAAHEP/CoAPSG in a timely manner. Additional substantive changes to be reported to the CoAPSG within the time limits prescribed include: • The institution’s legal status or form of control • Change in award level • Addition of or conversion to distance education delivery

F. Agreements

There must be a formal affiliation agreement or memorandum of understanding between the sponsor and all other entities that participate in the education of the students describing the relationship, role and responsibilities between the sponsor and that entity.

APPENDIX A Application, Maintenance and Administration of Accreditation

A. Program and Sponsor Responsibilities
1. **Applying for Initial Accreditation**
   a. The chief executive officer or an officially designated representative of the sponsor completes a “Request for Accreditation Services” form and returns it electronically or by mail to:

   CoA PSG 6 Pine Knoll Drive Beverly, MA 01915-1425

   The “Request for Accreditation Services” form can be obtained from the CAAHEP website at www.caahep.org/Content.aspx?ID=11.

   **Note:** There is no CAAHEP fee when applying for accreditation services; however, individual committees on accreditation may have an application fee.

   b. The program undergoes a comprehensive review, which includes a written self-study report and an on-site review.

   The self-study instructions and report form are available from the Committee on Accreditation for Polysomnographic Technologist Education (CoA-PSG). The on-site review will be scheduled in cooperation with the program and CoA-PSG once the self-study report has been completed, submitted, and accepted by the CoA-PSG.

2. **Applying for Continuing Accreditation**
   a. Upon written notice from the Committee on Accreditation for Polysomnographic Technologist Education (CoA-PSG), the chief executive officer or an officially designated representative of the sponsor completes a “Request for Accreditation Services” form, and returns it electronically or by mail to:

   CoA PSG 6 Pine Knoll Drive Beverly, MA 01915-1425

   The “Request for Accreditation Services” form can be obtained from the CAAHEP website at www.caahep.org/Content.aspx?ID=11.

   The program may undergo a comprehensive review in accordance with the policies and procedures of the Committee on Accreditation for Polysomnographic Technologist Education.

   If it is determined that there were significant concerns with the conduct of the on-site review, the sponsor may request a second site visit with a different team.

   After the on-site review team submits a report of its findings, the sponsor is provided the opportunity to comment in writing and to correct factual errors prior to the CoA-PSG forwarding a recommendation to CAAHEP.

   b. **3. Administrative Requirements for Maintaining Accreditation**

   a. The program must inform the CoA-PSG and CAAHEP within a reasonable period of time (as defined by the committee on accreditation and CAAHEP policies) of changes in chief executive officer, dean of health professions or equivalent position, and required program personnel (Refer to Standard III.B.).

   b. The sponsor must inform CAAHEP and the CoA-PSG of its intent to transfer program sponsorship. To begin the process for a Transfer of Sponsorship, the current sponsor must submit a letter (signed by the CEO or designated individual) to CAAHEP and the CoA-PSG that it is relinquishing its sponsorship of the program. Additionally, the new sponsor must submit a “Request for Transfer of Sponsorship Services” form. The CoA-PSG has the discretion of requesting a new self-study report with or without an on-site review. Applying for a transfer of sponsorship does not guarantee that the transfer of accreditation will be granted.

   c. The sponsor must promptly inform CAAHEP and the CoA-PSG of any adverse decision affecting its
accreditation by recognized institutional accrediting agencies and/or state agencies (or their equivalent).

d. Comprehensive reviews are scheduled by the CoA-PSG in accordance with its policies and procedures. The time between comprehensive reviews is determined by the CoA-PSG and based on the program’s ongoing compliance with the Standards, however, all programs must undergo a comprehensive review at least once every ten years.

e. The program and the sponsor must pay CoA-PSG and CAAHEP fees within a reasonable period of time, as determined by the CoA-PSG and CAAHEP respectively.

f. The sponsor must file all reports in a timely manner (self-study report, progress reports, probation reports, annual reports, etc.) in accordance with CoA-PSG policy.

g. The sponsor must agree to a reasonable on-site review date that provides sufficient time for CAAHEP to act on a CoA-PSG accreditation recommendation prior to the “next comprehensive review” period, which was designated by CAAHEP at the time of its last accreditation action, or a reasonable date otherwise designated by the CoA-PSG.

Failure to meet any of the aforementioned administrative requirements may lead to administrative probation and ultimately to the withdrawal of accreditation. CAAHEP will immediately rescind administrative probation once all administrative deficiencies have been rectified.

4. Voluntary Withdrawal of a CAAHEP-Accredited Program

Notification of voluntary withdrawal of accreditation from CAAHEP must be made by the Chief Executive Officer or an officially designated representative of the sponsor by writing to CAAHEP indicating: the desired effective date of the voluntary withdrawal, and the location where all records will be kept for students who have completed the program.

5. Requesting Inactive Status of a CAAHEP-Accredited Program

Inactive status for any accredited program other than one holding Initial Accreditation may be requested from CAAHEP at any time by the Chief Executive Officer or an officially designated representative of the sponsor writing to CAAHEP indicating the desired date to become inactive. No students can be enrolled or matriculated in the program at any time during the time period in which the program is on inactive status. The maximum period for inactive status is two years. The sponsor must continue to pay all required fees to the CoA-PSG and CAAHEP to maintain its accreditation status.

To reactivate the program the Chief Executive Officer or an officially designated representative of the sponsor must provide notice of its intent to do so in writing to both CAAHEP and the CoA-PSG. The sponsor will be notified by the CoA-PSG of additional requirements, if any, that must be met to restore active status.

If the sponsor has not notified CAAHEP of its intent to re-activate a program by the end of the two-year period, CAAHEP will consider this a “Voluntary Withdrawal of Accreditation.”

B. CAAHEP and Committee on Accreditation Responsibilities – Accreditation Recommendation Process

1. After a program has had the opportunity to comment in writing and to correct factual errors on the on-site review report, the CoA-PSG forwards a status of public recognition recommendation to the CAAHEP Board of Directors. The recommendation may be for any of the following statuses: initial accreditation, continuing accreditation, transfer of sponsorship, probationary accreditation, withhold of accreditation, or withdrawal of accreditation.

The decision of the CAAHEP Board of Directors is provided in writing to the sponsor immediately following the CAAHEP meeting at which the program was reviewed and voted upon.
2. Before the CoA-PSG allows the Initial Accreditation of a program to expire, the sponsor must have the opportunity to request reconsideration of that decision or to request voluntary withdrawal of accreditation. The CoA-PSG’s decision is final and CAAHEP will not entertain any appeal on behalf of the program. CAAHEP will notify the sponsor in writing of the CoA-PSG’s decision.

3. Before the CoA-PSG forwards a recommendation to CAAHEP that a program be placed on probationary accreditation, the sponsor must have the opportunity to request reconsideration of that recommendation or to request voluntary withdrawal of accreditation. The CoA-PSG’s reconsideration of a recommendation for probationary accreditation must be based on conditions existing both when the committee arrived at its recommendation as well as on subsequent documented evidence of corrected deficiencies provided by the sponsor.

The CAAHEP Board of Directors’ decision to confer probationary accreditation is not subject to appeal.

4. Before the CoA-PSG forwards a recommendation to CAAHEP that a program’s accreditation be withdrawn or that accreditation be withheld, the sponsor must have the opportunity to request reconsideration of the recommendation, or to request voluntary withdrawal of accreditation or withdrawal of the accreditation application, whichever is applicable. The CoA-PSG’s reconsideration of a recommendation of withdraw or withhold accreditation must be based on conditions existing both when the CoA-PSG arrived at its recommendation as well as on subsequent documented evidence of corrected deficiencies provided by the sponsor.

The CAAHEP Board of Directors’ decision to withdraw or withhold accreditation may be appealed. A copy of the CAAHEP “Appeal of Adverse Accreditation Actions” is enclosed with the CAAHEP letter notifying the sponsor of either of these actions.

At the completion of due process, when accreditation is withheld or withdrawn, the sponsor’s Chief Executive Officer is provided with a statement of each deficiency. Programs are eligible to re-apply for accreditation once the sponsor believes that the program is in compliance with the accreditation Standards.

Note: Any student who completes a program that was accredited by CAAHEP at any time during his/her matriculation is deemed by CAAHEP to be a graduate of a CAAHEP-accredited program.
Appendix C
Descriptions and syllabi for new courses
Kingsborough Community College
The City University of New York

1. Department, Course number and Title:
   Nursing, PSG 100, The Science of Sleep and Circadian Rhythms

2. Does this course meet distribution requirements for groups I-V? If so, which group? N/A

3. Transferability of this course. Describe how this course transfers: N/A

4. Bulletin description of course:
   This course is designed to provide students with the biological basis for clinical sleep and circadian rhythms disorders. Students will be introduced to the history of sleep research, and current theories regarding how and why we sleep. Daily biological rhythms, and their relationship to sleep and wake states will also be investigated in this course.

5. Number of weekly class hours (please indicate the number of hours per week spent in a lab, hours spent on site doing fieldwork, hours of supervision and hours in classroom- if applicable): 3 classroom hours

6. Number of Credits: 3 Number of Hours: 3 Lecture

7. Course prerequisites or Corequisites: ENG 12, BIO 11, MAT 9

8. Brief rational to justify proposed course to include:
   There is a need to train polysomnographic technicians in New York State. This course will provide a didactic framework for understanding the science of sleep and sleep disorders, which is necessary to train sleep technicians.

9. List of courses, if any, to be withdrawn when course(s) is (are) adopted: N/A

10. If course is an internship or independent study or the like, provide an explanation as to how the students will earn the credits awarded. The credits awarded should be consistent with students’ effort required in a traditional classroom setting:

11. Proposed text book(s) and/or other required instructional material(s):
   *Principles and Practice of Sleep Medicine.* M.H. Kryger, T. Roth, W.C. Dement

12. Required course for majors and/or area of concentration? This is a requirement for the A.A.S. in Polysomnographic Technology.

13. If open only to selected students (specify): Open to all students.
14. Explain what students will know and be able to do upon completion of course: Upon completion of this course students will understand the science behind sleep and circadian rhythms in terrestrial mammals.

15. Methods of teaching-eg., lectures, laboratories, and other assignments for students, including any of the following: demonstrations, group work, website or e-mail interactions and/or assignments, practice in application of skills: The course will include two-didactic lectures with PowerPoint presentations per week. Weekly reading assignments will be given. Evaluation will be performed through a midterm and final exam, as well as a term paper.

16. Assignments to students: Weekly reading assignments will be given.

17. Describe method of evaluating learning specified in #15: Midterm and final exam. Term paper. The rubric for the course grade is:

- Mid-term exam: 40%
- Final exam: 40%
- Term paper: 20%

18. Topical course outline (which should be as specific as possible regarding topics covered, learning activities and assignments):

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<tr>
<th>Week</th>
<th>Session</th>
<th>Topic/Content</th>
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<tr>
<td>1</td>
<td>1/2</td>
<td>History of sleep medicine</td>
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<td>Reading Assignment: PPSM Chapter 1</td>
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<td>3/4</td>
<td>Normal human sleep</td>
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<td>Reading Assignment: PPSM Chapter 2</td>
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<td>Sleep through the aging process</td>
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<td>Reading Assignment: PPSM Chapter 3</td>
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<td>Mammalian sleep</td>
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<td>Reading Assignment: PPSM Chapter 8</td>
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<td>9/10</td>
<td>Effects of sleep deprivation</td>
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<td>Reading Assignment: PPSM Chapter 5</td>
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<td>11/12</td>
<td>Mid-term exam</td>
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<td>Basic Mechanism of Sleep/Wake States</td>
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<td>Reading Assignment: PPSM Chapter 28 &amp; 29</td>
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<td>Sleep homeostasis and melatonin</td>
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<td>Reading Assignment: PPSM Chapters 32 &amp; 33</td>
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<td>12</td>
<td>23/24</td>
<td>Final exam</td>
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19. Selected bibliography and source materials: *Principles and Practice of Sleep Medicine*. M.H. Kryger, T. Roth, W.C. Dement
3 credits: 3 hours lecture

**Course Description**
This course is designed to provide students with the biological basis for clinical sleep and circadian rhythms disorders. Students will be introduced to the history of sleep research, and current theories regarding how and why we sleep. Daily biological rhythms, and their relationship to sleep and wake states will also be investigated in this course.

**Pre-requisite or Co-requisite**
Pre requisite or Corequisite: ENG 12, BIO 11, MAT 9

**Course Objectives**
Upon completion of this course students will understand the science behind sleep and circadian rhythms in terrestrial mammals. This includes but is not limited to understanding: normal sleep patterns, the affect of aging on sleep, the anatomy and physiology of the sleep/wake system in the human body, the effects of sleep deprivation, and biological rhythms.

**Teaching Strategies**
The course will include two-didactic lectures with PowerPoint presentations per week. Weekly reading assignments will be given. Evaluation will be performed through a midterm and final exam, as well as a term paper.

**Course Requirements**
1. **Textbook:** Principles and Practice of Sleep Medicine. M.H. Kryger, T. Roth, W.C. Dement

2. **Attendance:** A student is deemed excessively absent when he or she has been absent 15% of the number of contact hours a class meets during a semester. When a student is excessively absent a grade of “w” or “WU” will be assigned as described in the college catalog.

3. **Evaluation:** Grades will be calculated according to college and departmental policy as follows:
   - A+ 97-100
   - A 93-96
   - A- 90-92
   - B+ 87-89
   - B 83-86
   - B- 80-82
   - C+ 78-79
   - C 75-77
   - C- 70-74
   - D+ 66-69
   - D 60-65
   - F <60 and below
   - W Withdrew without penalty
   - WU Unofficial withdrawal (counts as failure)
INC  Incomplete. Counts as “F” grade unless work is completed within six months.

Grading policy:
- Mid-term exam: 40%
- Final exam: 40%
- Term paper: 20%

The Department of Nursing adheres to the Policies and Procedures on Academic Integrity as set forth by CUNY. Students are expected to take all tests when scheduled. Exceptions to this rule will be made for emergency situations, but the faculty must know in advance. Students who do not take a test on the scheduled date are required to take a makeup test. All makeup tests will be given at the end of the semester. Students who fail to take the scheduled or makeup exam will receive a grade of zero for that test. All written assignments must comply with college standards for written work. Written assignments are to be turned in during the class period on the date that they are due. All assignments must be handed in by the end of the course to complete the requirements of the course. A late assignment will meet the requirements of the course, but will not receive full credit. If written assignments are not submitted by the end of the course, the student will receive a grade of “F” for the course. A conference with the instructor is required at mid-semester, and at the end of the course to discuss the student’s progress. Students may initiate conferences at other times.

4. Classroom Decorum:

All pagers, wireless phones, electronic games, radios, tape or CD players or other devices that generate sound must be turned off when any member of the academic community enters a classroom. Cellular devices are allowed to be on in the classroom only if the owner is using the caller ID, voice messages or a vibrating function or universal clip mechanism. NO TEXTING IS ALLOWED AT ANY TIME DURING CLASS AND/OR LABS. Members of the academic community must exit the classroom to make or receive calls.

5. Retention Criteria:

Criteria for retention in the Program mandates that students must:
- receive no more that two grades under "C" in any pre or co-requisites
- earn a minimum final grade of "C" in every Polysomnographic Technology course
- the student must repeat an Polysomnographic Technology course once if the grade is below "c"
- a second grade below "C" will result in the student's dismissal from the program.
- students who fail a course achieving a grade of not less the "C-" may apply to repeat the course one time only.
- repeating the course is subject to space availability.
- students must submit an "Intent to Return to the Polysomnographic Technology course form" outlining why they were unsuccessful, and include a plan for success that demonstrates significant changes in how they will approach the course when repeated.

6. Dress Requirements:
- Clothing with vulgar language, obscene pictures, weapons, drug/alcohol or drug paraphernalia and tobacco products is prohibited.
- No hats unless for religious or health reasons.
c. No sunglasses unless prescribed.

7. Class Schedule & Location:
   Class will meet in room M411. Class will meet twice per week, at times to be determined.

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<td>11</td>
<td>21/22</td>
<td>Sleep homeostasis and melatonin</td>
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</tbody>
</table>
Reading Assignment: PPSM Chapters 32 & 33

12  23/24  Final exam
1. Department, Course number and Title:

   Nursing, PSG 101, Neuroscience and Pharmacology in Sleep

2. Does this course meet distribution requirements for groups I-V? If so, which group? N/A

3. Transferability of this course. Describe how this course transfers: N/A

4. Bulletin description of course:

   a. This course will inform students of the neurological basis of sleep. The anatomical brain regions responsible for sleep and waking, as well as endogenous neurochemicals modulating sleep and wake will be discussed. In the second half of this course, the effects of pharmacological compounds on sleep architecture is described.

5. Number of Credits: 4   Number of Hours:  4 Lecture

6. Course prerequisites: PSG 100

   Co-requisites: PSG 102

7. Brief rational to justify proposed course to include:

   a. There is a need to train polysomnographic technicians in New York State. This course will provide a didactic framework for understanding clinical sleep disorders, which is necessary to train sleep technicians.

8. List of courses, if any, to be withdrawn when course(s) is (are) adopted: N/A

9. If course is an internship or independent study or the like, provide an explanation as to how the students will earn the credits awarded. The credits awarded should be consistent with students’ effort required in a traditional classroom setting: N/A

10. Proposed text book(s) and/or other required instructional material(s):

   b. Principles and Practice of Sleep Medicine. M.H. Kryger, T. Roth, W.C. Dement

11. Required course for majors and/or area of concentration? This is a requirement for the A.A.S. in Polysomnographic Technology.
12. If open only to selected students (specify): Open only to students matriculated into the Polysomnographic Technology AAS program.

13. Explain what students will know and be able to do upon completion of course: Upon completion of this course students will be able to understand the anatomical and physiological processes underlying the sleep/wake process. Students will also learn about how medications can impact sleep architecture.

14. Methods of teaching—e.g., lectures, laboratories, and other assignments for students, including any of the following: demonstrations, group work, website or e-mail interactions and/or assignments, practice in application of skills: The course will include two didactic lectures with PowerPoint presentations per week. Weekly reading assignments will be given. Evaluation will be performed through a midterm and final exam, as well as a term paper.

15. Assignments to students: Weekly reading assignments will be given.

16. Describe method of evaluating learning specified in #15: Midterm and final exam. Term paper. The rubric for the course grade is:
   
   a. Mid-term exam: 40%
   b. Final exam: 40%
   c. Term paper: 20%

17. Topical course outline (which should be as specific as possible regarding topics covered, learning activities and assignments):

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<th>Session</th>
<th>Topic/Content</th>
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<td></td>
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<td>Reading Assignment: PPSM Chapters 36,40</td>
</tr>
<tr>
<td>12</td>
<td>23/24</td>
<td>Final exam</td>
</tr>
</tbody>
</table>

18. Selected bibliography and source materials:

*Neuroscience.* D. Purves, G.J. Augustine, D. Fitzpatrick, W.C. Hall, A. LaMantia, J.O. McNamara, L.E. White

*Principles and Practice of Sleep Medicine.* M.H. Kryger, T. Roth, W.C. Dement

*Sleep Neurobiology for the Clinician.* R.A. Espana, T.E. Scammell. Sleep 27(4) 2004 (handout)
4 credits: 4 hours lecture

**Course Description**
This course will inform students of the neurological basis of sleep. The anatomical brain regions responsible for sleep and waking, as well as endogenous neurochemicals modulating sleep and wake will be discussed. In the second half of this course, the effects of pharmacological compounds on sleep architecture is described.

**Pre-requisite or Co-requisite**
Prerequisite: PSG 100 Corequisite: PSG 102

**Course Objectives**
Upon completion of this course students will be able to understand the anatomical and physiological processes underlying the sleep/wake process. Students will also learn about how medications can impact sleep architecture.

**Teaching Strategies**
The course will include two didactic lectures with PowerPoint presentations per week. Weekly reading assignments will be given. Evaluation will be performed through a midterm and final exam, as well as a term paper.

**Course Requirements**
1. **Textbooks:**
   
   b. *Principles and Practice of Sleep Medicine*. M.H. Kryger, T. Roth, W.C. Dement
   

2. **Attendance:** A student is deemed excessively absent when he or she has been absent 15% of the number of contact hours a class meets during a semester. When a student is excessively absent a grade of “w” or “WU” will be assigned as described in the college catalog.

3. **Evaluation:** Grades will be calculated according to college and departmental policy as follows:
   
<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>97-100</td>
</tr>
<tr>
<td>A</td>
<td>93-96</td>
</tr>
<tr>
<td>A-</td>
<td>90-92</td>
</tr>
<tr>
<td>B+</td>
<td>87-89</td>
</tr>
<tr>
<td>B</td>
<td>83-86</td>
</tr>
<tr>
<td>B-</td>
<td>80-82</td>
</tr>
<tr>
<td>C+</td>
<td>78-79</td>
</tr>
<tr>
<td>C</td>
<td>75-77</td>
</tr>
</tbody>
</table>
C-  70-74  
D+  66-69  
D    60-65  
F    <60 and below  
W    Withdrew without penalty  
WU   Unofficial withdrawal (counts as failure)  
INC  Incomplete. Counts as “F” grade unless work is completed within six months.

Grading policy:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid-term exam</td>
<td>40%</td>
</tr>
<tr>
<td>Final exam</td>
<td>40%</td>
</tr>
<tr>
<td>Term paper</td>
<td>20%</td>
</tr>
</tbody>
</table>

The Department of Nursing adheres to the Policies and Procedures on Academic Integrity as set forth by CUNY. Students are expected to take all tests when scheduled. Exceptions to this rule will be made for emergency situations, but the faculty must know in advance. Students who do not take a test on the scheduled date are required to take a makeup test. All makeup tests will be given at the end of the semester. Students who fail to take the scheduled or makeup exam will receive a grade of zero for that test. All written assignments must comply with college standards for written work. Written assignments are to be turned in during the class period on the date that they are due. All assignments must be handed in by the end of the course to complete the requirements of the course. A late assignment will meet the requirements of the course, but will not receive full credit. If written assignments are not submitted by the end of the course, the student will receive a grade of “F” for the course. A conference with the instructor is required at mid-semester, and at the end of the course to discuss the student’s progress. Students may initiate conferences at other times.

4. Classroom Decorum:

All pagers, wireless phones, electronic games, radios, tape or CD players or other devices that generate sound must be turned off when any member of the academic community enters a classroom. Cellular devices are allowed to be on in the classroom only if the owner is using the caller ID, voice messages or a vibrating function or universal clip mechanism. NO TEXTING IS ALLOWED AT ANY TIME DURING CLASS AND/OR LABS. Members of the academic community must exit the classroom to make or receive calls.

5. Retention Criteria:

Criteria for retention in the Program mandates that students must:

a. receive no more that two grades under "C" in any pre or co-requisites  
b. earn a minimum final grade of "C" in every Polysomnographic Technology course  
c. the student must repeat an Polysomnographic Technology course once if the grade is below "C"  
d. a second grade below "C" will result in the student's dismissal from the program.  
e. students who fail a course achieving a grade of not less the "C-" may apply to repeat the course one time only.

repeating the course is subject to space availability. 

f. students must submit an "Intent to Return to the Polysomnographic Technology course form" outlining why they were unsuccessful, and include a plan for success that demonstrates significant changes in how they will approach the course when repeated.

6. Dress Requirements:
   a) Clothing with vulgar language, obscene pictures, weapons, drug/alcohol or drug paraphernalia and tobacco products is prohibited.
   b) No hats unless for religious or health reasons.
   c) No sunglasses unless prescribed.

7. Class Schedule & Location:
   Class will meet in room M411. Class will meet twice per week, at times to be determined.

<table>
<thead>
<tr>
<th>Week</th>
<th>Session</th>
<th>Topic/Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/2</td>
<td>Studying the Nervous System</td>
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<tr>
<td></td>
<td></td>
<td>Reading Assignment: Neuroscience pp 1-22</td>
</tr>
<tr>
<td>2</td>
<td>3/4</td>
<td>Signals of Nerve Cells</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reading Assignment: Neuroscience Chapters 2,3</td>
</tr>
<tr>
<td>3</td>
<td>5/6</td>
<td>Synaptic Transmission</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reading Assignment: Neuroscience Chapters 4,5</td>
</tr>
<tr>
<td>4</td>
<td>7/8</td>
<td>Neurotransmitters and Molecular Signaling</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reading Assignment: Neuroscience Chapters 6,7</td>
</tr>
<tr>
<td>5</td>
<td>9/10</td>
<td>Brain Activity and Sensory Processing during Sleep</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reading Assignment: PPSM Chapter 9</td>
</tr>
<tr>
<td>6</td>
<td>11/12</td>
<td>Mid-term exam</td>
</tr>
<tr>
<td>7</td>
<td>13/14</td>
<td>REM sleep</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reading Assignment: PPSM Chapter 10</td>
</tr>
<tr>
<td>8</td>
<td>15/16</td>
<td>Basic Mechanisms of Sleep-Wake States</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reading Assignment: PPSM Chapter 11</td>
</tr>
<tr>
<td>9</td>
<td>17/18</td>
<td>Control of Motoneurons during Sleep</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reading Assignment: PPSM Chapter 12</td>
</tr>
<tr>
<td>Week</td>
<td>Date</td>
<td>Reading Assignment</td>
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<td>------</td>
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</tr>
<tr>
<td>10</td>
<td>19/20</td>
<td>Sleep Neurobiology for the Clinician</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reading Assignment: Handout</td>
</tr>
<tr>
<td>11</td>
<td>21/22</td>
<td>Drugs That Affect Sleep and Wakefulness</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reading Assignment: PPSM Chapters 36,40</td>
</tr>
<tr>
<td>12</td>
<td>23/24</td>
<td>Final exam</td>
</tr>
</tbody>
</table>
1. Department, Course number and Title:

Nursing, PSG 102, Foundations of Polysomnography I

2. Does this course meet distribution requirements for groups I-V? If so, which group? N/A

3. Transferability of this course. Describe how this course transfers: N/A

4. Bulletin description of course:

In this course students will be taught the basic skills required to perform a clinical sleep study. Including electrode placement using the international 10-20 system. How to use respiratory belts, pressure transducers, thermistors, pulse-oximetry, end tidal capnography, and electromyography during a sleep recording. Use of polysomnographic equipment, including amplifier settings, inputting patient data, and setting up basic recording montages are also covered.

5. Number of credits: 3 Number of Hours: 2 hrs lecture; 2 hrs lab

6. Course prerequisites: PSG 100

Co-requisites: PSG 101

7. Brief rational to justify proposed course to include:

There is a need to train polysomnographic technicians in New York State. This course will provide a didactic framework for understanding clinical sleep disorders, which is necessary to train sleep technicians.

8. List of courses, if any, to be withdrawn when course(s) is (are) adopted: N/A

9. If course is an internship or independent study or the like, provide an explanation as to how the students will earn the credits awarded. The credits awarded should be consistent with students’ effort required in a traditional classroom setting: N/A

10. Proposed text book(s) and/or other required instructional material(s):

      William H. Spriggs.

11. Required course for majors and/or area of concentration? This is a requirement for the A.A.S. in Polysomnographic Technology.
12. If open only to selected students (specify): Open only to students matriculated into the Polysomnographic Technology AAS program.

13. Explain what students will know and be able to do upon completion of course: Upon completion of this course students will be able to place electrodes using the international 10-20 system. Use respiratory belts, pressure transducers, thermistors, pulse-oximetry, end tidal capnography, and electromyography during a sleep recording. They will also understand the use of polysomnographic equipment, including amplifier settings, inputting patient data, and setting up basic recording montages.

14. Methods of teaching—eg., lectures, laboratories, and other assignments for students, including any of the following: demonstrations, group work, website or e-mail interactions and/or assignments, practice in application of skills: The course will include one didactic lecture with PowerPoint presentations each week, and one laboratory session per week demonstrating technical skills discussed during the lecture session. Weekly reading assignments will be given. Evaluation will be performed through a midterm and final exam, as well as a technical skill assessment at the end of the semester.

15. Assignments to students: Weekly reading assignments will be given.

16. Describe method of evaluating learning specified in #15: Midterm and final exam. Final technical skill assessment. The rubric for the course grade is:

   a. Mid-term exam:  40%
   b. Final exam:     40%
   c. Technical skill assessment:  20%

17. Topical course outline (which should be as specific as possible regarding topics covered, learning activities and assignments):

<table>
<thead>
<tr>
<th>Week</th>
<th>Session</th>
<th>Topic/Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Overview of the flow of patient care in a clinical sleep laboratory.</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Lab – Introduction to polysomnographic patient registration software</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>Life as a shift worker, patient safety and infection control</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Lab – Cleaning of laboratory equipment</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>Introduction to diagnostic equipment used in a sleep laboratory</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Lab - Electrode types, amplifiers, and digital polysomnography</td>
</tr>
</tbody>
</table>
Introduction of International 10-20 system
Lab – EEG, EOG, chin EMG placement.
Weekly Reading Assignment: EP chapter 6

Understand digital viewing of polysomnography
Lab – Introduction to digital signal adjustment.
Weekly Reading Assignment: EP chapter 7

Mid-term review
Mid-term exam

Selecting a study montage, and performing bio-calibration
Lab – Starting a digital sleep study.
Weekly Reading Assignment: EP chapter 9

Pulse-oximetry and end tidal capnography
Lab- Introduction to oxygen and CO2 monitoring
Weekly Reading Assignment: EP pp.163-166

Introduction to positive airway pressure (PAP)
Lab – PAP mask fitting
Weekly Reading Assignment: EP chapter 10 pp 254-261

Bi-Level PAP and supplemental oxygen
Lab – Introduction to different types of PAP systems
Weekly Reading Assignment: EP chapter 10 pp 262-270

Review for final exam.
Technical skills assessment

Final Exam

18. Selected bibliography and source materials:

Course Description
In this course students will be taught the basic skills required to perform a clinical sleep study. Including electrode placement using the international 10-20 system. How to use respiratory belts, pressure transducers, thermistors, pulse-oximetry, end tidal capnography, and electromyography during a sleep recording. Use of polysomnographic equipment, including amplifier settings, inputting patient data, and setting up basic recording montages are also covered.

Pre-requisite or Co-requisite
Prerequisite: PSG 100  Corequisite: PSG 101

Course Objectives
Upon completion of this course students will be able to place electrodes using the international 10-20 system. Use respiratory belts, pressure transducers, thermistors, pulse-oximetry, end tidal capnography, and electromyography during a sleep recording. They will also understand the use of polysomnographic equipment, including amplifier settings, inputting patient data, and setting up basic recording montages.

Teaching Strategies
The course will include one didactic lecture with PowerPoint presentations each week, and one laboratory session per week demonstrating technical skills discussed during the lecture session. Weekly reading assignments will be given. Evaluation will be performed through a midterm and final exam, as well as a technical skill assessment at the end of the semester.

Course Requirements
1. Textbooks:

   2. Attendance: A student is deemed excessively absent when he or she has been absent 15% of the number of contact hours a class meets during a semester. When a student is excessively absent a grade of “w” or “WU” will be assigned as described in the college catalog.

   3. Evaluation: Grades will be calculated according to college and departmental policy as follows:
      
      A+  97-100
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      A-  90-92
      B+  87-89
      B   83-86
      B-  80-82
      C+  78-79
      C   75-77
      C-  70-74
      D+  66-69
D  60-65
F  <60 and below
W  Withdrew without penalty
WU Unofficial withdrawal (counts as failure)
INC Incomplete. Counts as “F” grade unless work is completed within six months.

Grading policy:
Mid-term exam:  40%
Final exam:     40%
Technical skills assessment:  20%

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5. Retention Criteria:

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a. receive no more that two grades under "C" in any pre or co-requisites
b. earn a minimum final grade of "C" in every Polysomnographic Technology course
c. the student must repeat an Polysomnographic Technology course once if the grade is below "C"
d. a second grade below "C" will result in the student's dismissal from the program.
e. students who fail a course achieving a grade of not less the "C-" may apply to repeat the course one time only.
f. students must submit an "Intent to Return to the Polysomnographic Technology course form" outlining why they were unsuccessful, and include a plan for success that demonstrates significant changes in how they will approach the course when repeated.
6. **Dress Requirements:**
   a) Clothing with vulgar language, obscene pictures, weapons, drug/alcohol or drug paraphernalia and tobacco products is prohibited.
   b) No hats unless for religious or health reasons.
   c) No sunglasses unless prescribed.

7. **Class Schedule & Location:**
   Class will meet in room M411. Class will meet twice per week, at times to be determined.

<table>
<thead>
<tr>
<th>Week</th>
<th>Session</th>
<th>Topic/Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Flow of patient care in a clinical sleep laboratory.</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Lab – Introduction to polysomnographic patient registration Weekly Reading Assignment: EP chapter 3</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>Life as a shift worker, patient safety and infection control</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Lab – Cleaning of laboratory equipment Weekly Reading Assignment: EP chapter 4</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>Introduction to diagnostic equipment used in a sleep laboratory</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Lab- Electrode types, amplifiers, and digital polysomnography Weekly Reading Assignment: EP chapter 5</td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>Introduction of International 10-20 system</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Lab – EEG, EOG, chin EMG placement. Weekly Reading Assignment: EP chapter 6</td>
</tr>
<tr>
<td>5</td>
<td>9</td>
<td>Understand digital viewing of polysomnography</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Lab – Introduction to digital signal adjustment. Weekly Reading Assignment: EP chapter 7</td>
</tr>
<tr>
<td>6</td>
<td>11</td>
<td>Mid-term review</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>Mid-term exam</td>
</tr>
<tr>
<td>7</td>
<td>13</td>
<td>Selecting a study montage, and performing bio-calibration</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>Lab – Starting a digital sleep study. Weekly Reading Assignment: EP chapter 9</td>
</tr>
<tr>
<td>8</td>
<td>15</td>
<td>Pulse-oximetry and end tidal capnography</td>
</tr>
<tr>
<td>Week</td>
<td>Date</td>
<td>Activity</td>
</tr>
<tr>
<td>------</td>
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<td>----------</td>
</tr>
</tbody>
</table>
| 16   | Lab- Introduction to oxygen and CO2 monitoring  
      Weekly Reading Assignment: EP pp.163-166, |
| 9    | 17   | Introduction to positive airway pressure (PAP)  
      Lab – PAP mask fitting  
      Weekly Reading Assignment: EP chapter 10 pp 254-261 |
| 10   | 19   | Bi-Level PAP and supplemental oxygen  
      Lab – Introduction to different types of PAP systems  
      Weekly Reading Assignment: EP chapter 10 pp 262-270 |
| 11   | 21   | Review for final exam.  
      Technical skills assessment |
| 12   | 23   | Final Exam |
1. Department, Course number and Title:
   Nursing, PSG 103 Clinical Practicum in Sleep Medicine I

2. Does this course meet distribution requirements for groups I-V? If so, which group? N/A

3. Transferability of this course. Describe how this course transfers: N/A

4. Bulletin description of course:
   Students will be placed in an active clinical sleep laboratory for the entire semester. One night per week the student will observe a registered polysomnographic technician at work. As the student becomes familiar with the workings of the laboratory, they will begin preparing patients for nighttime sleep studies, and will learn how to monitor patients during the night.

5. Number of credits: 6    Number of Hours: 12 clinical hrs

6. Course prerequisites: PSG 101, PSG 102, BLS certification, and medical clearance from internship site
   Co-requisites: PSG 104, PSG 105

7. Brief rational to justify proposed course to include:
   There is a need to train polysomnographic technicians in New York State. This course will provide a didactic framework for understanding clinical sleep disorders, which is necessary to train sleep technicians.

8. List of courses, if any, to be withdrawn when course(s) is (are) adopted: N/A

9. If course is an internship or independent study or the like, provide an explanation as to how the students will earn the credits awarded. The credits awarded should be consistent with students’ effort required in a traditional classroom setting: Students will earn credits based on clinical field evaluation from their supervising technician, a review of their weekly patient logs, and attendance.

10. Proposed text book(s) and/or other required instructional material(s):
      William H. Spriggs. (textbook)
   b. *Clinical Practice Parameters: practice parameters and review papers for the clinical practice of sleep medicine.* American Academy of Sleep Medicine. (Handouts)
11. Required course for majors and/or area of concentration? This is a requirement for the A.A.S. in Polysomnographic Technology.

12. If open only to selected students (specify): Open only to students matriculated into the Polysomnographic Technology AAS program.

13. Explain what students will know and be able to do upon completion of course:
   a. Enter patient data into a digital polygraph, select the appropriate recording montage, and begin a sleep recording
   b. Place EEG electrodes on the patient utilizing the international 10-20 system
   c. Fit the patient with respiratory belts, a pressure transducer, EKG and EMG electrodes
   d. Check electrode impedance to insure proper electrode fit
   e. Remove physiological equipment upon completion of a sleep study
   f. Clean and disinfect all physiological equipment used during a sleep recording

14. Methods of teaching—eg., lectures, laboratories, and other assignments for students, including any of the following: demonstrations, group work, website or e-mail interactions and/or assignments, practice in application of skills: This course will utilize practical instruction from a New York State licensed polysomnographic technician.

15. Assignments to students: Students will spend the semester embedded in a clinical sleep laboratory. They will shadow a technician for one, twelve-hour shift per week, and learn the practice of nighttime digital polysomnography. They will also write a weekly log of patient interactions.

16. Describe method of evaluating learning specified in #15: Students will be evaluated on clinical field performance, patient logs, and attendance. The rubric for the course grade is:
   a. Clinical field evaluation: 40%
   b. Patient logs: 40%
   c. Attendance: 20%

17. Topical course outline (which should be as specific as possible regarding topics covered, learning activities and assignments):

<table>
<thead>
<tr>
<th>Week</th>
<th>Session</th>
<th>Topic/Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Preparation, patient assessment, a conduct of a digital polysomnogram</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Preparation, patient assessment, a conduct of a digital polysomnogram</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>Preparation, patient assessment, a conduct of a digital polysomnogram</td>
</tr>
</tbody>
</table>
Preparation, patient assessment, a conduct of a digital polysomnogram

Preparation, patient assessment, a conduct of a digital polysomnogram

Preparation, patient assessment, a conduct of a digital polysomnogram

Preparation, patient assessment, a conduct of a digital polysomnogram

Preparation, patient assessment, a conduct of a digital polysomnogram

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Preparation, patient assessment, a conduct of a digital polysomnogram

Preparation, patient assessment, a conduct of a digital polysomnogram

18. Selected bibliography and source materials:


*Clinical Practice Parameters: practice parameters and review papers for the clinical practice of sleep medicine. American Academy of Sleep Medicine. (Handouts)*
6 credits: 12 clinical hours

Course Description
Students will be placed in an active clinical sleep laboratory for the entire semester. One night per week the student will observe a registered polysomnographic technician at work. As the student becomes familiar with the workings of the laboratory, they will begin preparing patients for nighttime sleep studies, and will learn how to monitor patients during the night.

Pre-requisite or Co-requisite
Prerequisite: PSG 101, PSG 102, BLS certification and medical clearance from the internship site.
Corequisite: PSG 104, PSG 105

Course Objectives
Upon completion of this course students will be able to:
- Enter patient data into a digital polygraph, select the appropriate recording montage, and begin a sleep recording
- Place electrodes on the patient utilizing the international 10-20 system
- Fit the patient with respiratory belts, a pressure transducer, EKG and EMG electrodes
- Check electrode impedance to insure proper electrode fit
- Remove physiological equipment upon completion of a sleep study
- Clean and disinfect all physiological equipment used during a sleep recording

Teaching Strategies
This course will utilize practical instruction from a New York State licensed polysomnographic technician. Students will spend the semester embedded in a clinical sleep laboratory. They will shadow a technician for one, twelve-hour shift per week, and learn the practice of nighttime digital polysomnography.

Course Requirements
1. Textbooks:

   Clinical Practice Parameters: practice parameters and review papers for the clinical practice of sleep medicine. American Academy of Sleep Medicine. (Handouts)

2. Attendance: A student is deemed excessively absent when he or she has been absent 15% of the number of contact hours a practicum meets during a semester. When a student is excessively absent a grade of “w” or “WU” will be assigned as described in the college catalog.

3. Evaluation: Grades will be calculated according to college and departmental policy as follows:
   - P Pass
   - F Fail
   - W Withdraw without penalty
WU Unofficial withdrawal (counts as failure)
INC Incomplete. Counts as “F” grade unless work is completed within six months.

Grading policy:

<table>
<thead>
<tr>
<th>Course</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical field evaluation</td>
<td>40%</td>
</tr>
<tr>
<td>Patient logs</td>
<td>40%</td>
</tr>
<tr>
<td>Attendance</td>
<td>20%</td>
</tr>
</tbody>
</table>

The Department of Nursing adheres to the Policies and Procedures on Academic Integrity as set forth by CUNY. Students are expected to take all tests when scheduled. Exceptions to this rule will be made for emergency situations, but the faculty must know in advance. Students who do not take a test on the scheduled date are required to take a makeup test. All makeup tests will be given at the end of the semester. Students who fail to take the scheduled or makeup exam will receive a grade of zero for that test. All written assignments must comply with college standards for written work. Written assignments are to be turned in during the class period on the date that they are due. All assignments must be handed in by the end of the course to complete the requirements of the course. A late assignment will meet the requirements of the course, but will not receive full credit. If written assignments are not submitted by the end of the course, the student will receive a grade of “F” for the course. A conference with the instructor is required at mid-semester, and at the end of the course to discuss the student’s progress. Students may initiate conferences at other times.

4. Classroom Decorum:

All pagers, wireless phones, electronic games, radios, tape or CD players or other devices that generate sound must be turned off when any member of the academic community enters a classroom. Cellular devices are allowed to be on in the classroom only if the owner is using the caller ID, voice messages or a vibrating function or universal clip mechanism. NO TEXTING IS ALLOWED AT ANY TIME DURING CLASS AND/OR LABS. Members of the academic community must exit the classroom to make or receive calls.

5. Retention Criteria:

Criteria for retention in the Program mandates that students must:

a. receive no more that two grades under "C" in any pre or co-requisites
b. earn a minimum final grade of "C" in every Polysomnographic Technology course
c. the student must repeat an Polysomnographic Technology course once if the grade is below "C"
d. a second grade below "C" will result in the student's dismissal from the program.
e. students who fail a course achieving a grade of not less the "C-" may apply to repeat the course one time only.
   repeating the course is subject to space availability.
f. students must submit an "Intent to Return to the Polysomnographic Technology course form" outlining why they were unsuccessful, and include a plan for success that demonstrates significant changes in how they will approach the course when repeated.

6. Dress Requirements:
Students are required to follow the dress code at the practicum site. This will generally involve wearing “scrubs” or a “lab coat”. Open toed shoes, jeans, and t-shirts are not allowed. Overly provocative clothing is also prohibited.

7. Class Schedule & Location:
Students will meet at their practicum site for one, 12-hour nighttime shift per week.

<table>
<thead>
<tr>
<th>Week</th>
<th>Session</th>
<th>Topic/Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Preparation, patient assessment, a conduct of a digital polysomnogram</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Preparation, patient assessment, a conduct of a digital polysomnogram</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>Preparation, patient assessment, a conduct of a digital polysomnogram</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>Preparation, patient assessment, a conduct of a digital polysomnogram</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>Preparation, patient assessment, a conduct of a digital polysomnogram</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>Preparation, patient assessment, a conduct of a digital polysomnogram</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>Preparation, patient assessment, a conduct of a digital polysomnogram</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>Preparation, patient assessment, a conduct of a digital polysomnogram</td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>Preparation, patient assessment, a conduct of a digital polysomnogram</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>Preparation, patient assessment, a conduct of a digital polysomnogram</td>
</tr>
<tr>
<td>11</td>
<td>11</td>
<td>Preparation, patient assessment, a conduct of a digital polysomnogram</td>
</tr>
<tr>
<td>12</td>
<td>12</td>
<td>Group semester review</td>
</tr>
</tbody>
</table>
Kingsborough Community College  
The City University of New York

Department, Course number and Title:

Nursing, PSG 104 Foundations of Polysomnography II

1. Does this course meet distribution requirements for groups I-V? If so, which group? N/A

2. Transferability of this course. Describe how this course transfers: N/A

3. Bulletin description of course:

Advanced topics for clinical sleep recordings will be covered in this course. Including how to perform Multiple Sleep Latency (MSLT) and Maintenance of Wakefulness (MWT) testing. Montages for special patient populations such as for seizure, REM behavior disorder, bruxism, and pediatrics. Identification of both physiological and non-physiological electrical artifact commonly seen while performing polysomnography, as well as advanced trouble shooting of technical equipment will also be covered.

4. Course prerequisites: PSG 101, PSG 102

Co-requisites: PSG 103, PSG 105

5. Number of credits: 3 Number of Hours: 2 lecture; 2 lab

6. Brief rational to justify proposed course to include:

There is a need to train polysomnographic technicians in New York State. This course will provide a didactic framework for understanding clinical sleep disorders, which is necessary to train sleep technicians.

7. List of courses, if any, to be withdrawn when course(s) is (are) adopted: N/A

8. If course is an internship or independent study or the like, provide an explanation as to how the students will earn the credits awarded. The credits awarded should be consistent with students’ effort required in a traditional classroom setting: N/A

9. Proposed text book(s) and/or other required instructional material(s):

   b. Clinical Practice Parameters: practice parameters and review papers for the clinical practice of sleep medicine. American Academy of Sleep Medicine. (Handouts)

10. Required course for majors and/or area of concentration? This is a requirement for the A.A.S. in Polysomnographic Technology.
11. If open only to selected students (specify): Open only to students matriculated into the Polysomnographic Technology AAS program.

12. Explain what students will know and be able to do upon completion of course: Upon completion of this course students will be able to perform Multiple Sleep Latency (MSLT) and Maintenance of Wakefulness (MWT) testing. Setup recording montages for special patient populations such as for seizure, REM behavior disorder, bruxism, and pediatrics. Identify physiological and non-physiological electrical artifact commonly seen while performing polysomnography, as well as perform advanced troubleshooting of technical equipment.

13. Methods of teaching—e.g., lectures, laboratories, and other assignments for students, including any of the following: demonstrations, group work, website or e-mail interactions and/or assignments, practice in application of skills: The course will include one-didactic lecture with PowerPoint presentations each week, and one laboratory session per week demonstrating technical skills discussed during the lecture session. Weekly reading assignments will be given. Evaluation will be performed through a midterm and final exam, as well as a technical skill assessment at the end of the semester.

14. Assignments to students: Weekly reading assignments will be given.

15. Describe method of evaluating learning specified in #15: Midterm and final exam. Final technical skill assessment. The rubric for the course grade is:

   a. Mid-term exam: 40%
   b. Final exam: 40%
   c. Technical skill assessment: 20%

16. Topical course outline (which should be as specific as possible regarding topics covered, learning activities and assignments):

<table>
<thead>
<tr>
<th>Week</th>
<th>Session</th>
<th>Topic/Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Overview of PSG 01110</td>
</tr>
</tbody>
</table>
|      | 2       | Lab – Overview of technical skills developed in PSG 01110  
Weekly Reading Assignment: Review notes from PSG 01110 |
| 2    | 3       | Artifact detection and troubleshooting  
4     | Lab – Identifying EKG, movement, sweat, 60Hz, and snore artifact.  
Weekly Reading Assignment: EP chapter 8 |
| 3    | 5       | Performing multiple sleep latency testing (MSLT)  
6     | Lab- Clinical MSLT testing |
<table>
<thead>
<tr>
<th>Week</th>
<th>Reading Assignment</th>
<th>Lab Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Performing maintenance of wakefulness test (MWT)</td>
<td>Clinical MWT testing</td>
</tr>
<tr>
<td>5</td>
<td>Testing for epileptiform activity on a polysomnographic montage</td>
<td>Proper use of a nocturnal seizure montage</td>
</tr>
<tr>
<td>6</td>
<td>Mid-term review</td>
<td>Mid-term exam</td>
</tr>
<tr>
<td>7</td>
<td>Monitoring for Parasomnias and bruxism</td>
<td>REM behavior disorder and bruxism montages</td>
</tr>
<tr>
<td>8</td>
<td>Periodic limb movements (PLMS)/Restless legs syndrome (RLS)</td>
<td>Testing for PLMS and RLS</td>
</tr>
<tr>
<td>9</td>
<td>EKG detection</td>
<td>Normal EKG tracing, sinus rhythms, atrial rhythms, ventricular rhythms, and heart block</td>
</tr>
<tr>
<td>10</td>
<td>Pediatric sleep testing</td>
<td>Pediatric patient hookup and monitoring</td>
</tr>
<tr>
<td>11</td>
<td>Review for final exam.</td>
<td>Technical skills assessment</td>
</tr>
<tr>
<td>12</td>
<td>Final Exam</td>
<td></td>
</tr>
</tbody>
</table>
17. Selected bibliography and source materials:


Clinical Practice Parameters: practice parameters and review papers for the clinical practice of sleep medicine. American Academy of Sleep Medicine. (Handouts)
Course Description
Advanced topics for clinical sleep recordings will be covered in this course. Including how to perform Multiple Sleep Latency (MSLT) and Maintenance of Wakefulness (MWT) testing. Montages for special patient populations such as for seizure, REM behavior disorder, bruxism, and pediatrics. Identification of both physiological and non-physiological electrical artifact commonly seen while performing polysomnography, as well as advanced trouble shooting of technical equipment will also be covered.

Pre-requisite or Co-requisite
Prerequisite: PSG 101, PSG 102  Corequisite: PSG 103, PSG 105

Course Objectives
Upon completion of this course students will be able to perform Multiple Sleep Latency (MSLT) and Maintenance of Wakefulness (MWT) testing. Setup recording montages for special patient populations such as for seizure, REM behavior disorder, bruxism, and pediatrics. Identify physiological and non-physiological electrical artifact commonly seen while performing polysomnography, as well as perform advanced trouble shooting of technical equipment.

Teaching Strategies
The course will include one didactic lecture with PowerPoint presentations each week, and one laboratory session per week demonstrating technical skills discussed during the lecture session. Weekly reading assignments will be given. Evaluation will be performed through a midterm and final exam, as well as a technical skill assessment at the end of the semester.

Course Requirements
1. Textbooks:
   Clinical Practice Parameters: practice parameters and review papers for the clinical practice of sleep medicine. American Academy of Sleep Medicine. (Handouts)

2. Attendance: A student is deemed excessively absent when he or she has been absent 15% of the number of contact hours a class meets during a semester. When a student is excessively absent a grade of “w” or “WU” will be assigned as described in the college catalog.

3. Evaluation: Grades will be calculated according to college and departmental policy as follows:
   - A+ 97-100
   - A 93-96
   - A- 90-92
   - B+ 87-89
   - B 83-86
   - B- 80-82
   - C+ 78-79
C  75-77
C-  70-74
D+  66-69
D   60-65
F  <60 and below
W  Withdrew without penalty
WU Unofficial withdrawal (counts as failure)
INC Incomplete. Counts as “F” grade unless work is completed within six months.

Grading policy:
Mid-term exam:  40%
Final exam:    40%
Technical skills assessment:  20%

The Department of Nursing adheres to the Policies and Procedures on Academic Integrity as set forth by CUNY. Students are expected to take all tests when scheduled. Exceptions to this rule will be made for emergency situations, but the faculty must know in advance. Students who do not take a test on the scheduled date are required to take a makeup test. All makeup tests will be given at the end of the semester. Students who fail to take the scheduled or makeup exam will receive a grade of zero for that test. All written assignments must comply with college standards for written work. Written assignments are to be turned in during the class period on the date that they are due. All assignments must be handed in by the end of the course to complete the requirements of the course. A late assignment will meet the requirements of the course, but will not receive full credit. If written assignments are not submitted by the end of the course, the student will receive a grade of “F” for the course. A conference with the instructor is required at mid-semester, and at the end of the course to discuss the student’s progress. Students may initiate conferences at other times.

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5. Retention Criteria:

Criteria for retention in the Program mandates that students must:

a. receive no more that two grades under “c” in any pre or co-requisites
b. earn a minimum final grade of "C" in every Polysomnographic Technology course
   c. the student must repeat an Polysomnographic Technology course once if the grade is below "c"
d. a second grade below "C" will result in the student’s dismissal from the program.
   e. students who fail a course achieving a grade of not less the "C-" may apply to repeat the course one time only.
repeating the course is subject to space availability. - . . .
f. students must submit an "Intent to Return to the Polysomnographic Technology course form" outlining why they were unsuccessful, and include a plan for success that demonstrates significant changes in how they will approach the course when repeated.

6. **Dress Requirements:**
   a) Clothing with vulgar language, obscene pictures, weapons, drug/alcohol or drug paraphernalia and tobacco products is prohibited.
   b) No hats unless for religious or health reasons.
   c) No sunglasses unless prescribed.

7. **Class Schedule & Location:**
   Class will meet in room M411. Class will meet twice per week, at times to be determined.

<table>
<thead>
<tr>
<th>Week</th>
<th>Session</th>
<th>Topic/Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>Overview of PSG 01110</td>
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</tbody>
</table>
|      | 2       | Lab – Overview of technical skills developed in PSG 01110  
Weekly Reading Assignment: Review notes from PSG 01110 |
| 2    | 3       | Artifact detection and troubleshooting |
|      | 4       | Lab – Identifying EKG, movement, sweat, 60Hz, and snore artifact. Troubleshooting technical problems during a polysomnographic  
Weekly Reading Assignment: EP chapter 8 |
| 3    | 5       | Performing multiple sleep latency testing (MSLT)  
6 | Lab- Clinical MSLT testing  
Weekly Reading Assignment: EP pp.275, Standards of Practice Committee of the AASM. Practice parameters for clinical use of the MSLT. (Handout) |
| 4    | 7       | Performing maintenance of wakefulness test (MWT)  
8 | Lab – Clinical MWT testing  
Weekly Reading Assignment: EP pp275, Standards of Practice Committee of the AASM. Practice parameters for clinical use of the MSLT and MWT. (Handout) |
| 5    | 9       | Testing for epileptiform activity on a polysomnographic  
10 | Lab – Proper use of a nocturnal seizure montage.  
Weekly Reading Assignment: EP pp. 276, 357 |
Mid-term review
Mid-term exam

Monitoring for Parasomnias and bruxism
Lab – REM behavior disorder and bruxism montages

Periodic limb movements (PLMS)/Restless legs syndrome (RLS)
Lab- Testing for PLMS and RLS

EKG detection
Lab – Normal EKG tracing, sinus rhythms, atrial rhythms, ventricular rhythms, and heart block.
Weekly Reading Assignment: EP chapter 14

Pediatric sleep testing
Lab – Pediatric patient hookup and monitoring
Weekly Reading Assignment: EP Chapter 16

Review for final exam.
Technical skills assessment

Final Exam
1. Department, Course number and Title:
   Nursing, PSG 105 Clinical Polysomnographic Scoring

2. Does this course meet distribution requirements for groups I-V? If so, which group? N/A

3. Transferability of this course. Describe how this course transfers: N/A

4. Bulletin description of course:

   Students will learn to define sleep stages, respiratory events, periodic limb movements, seizures, bruxism, and EKG arrhythmias from electrophysiological data obtain during a polysomnographic recording. At the end of this course, students should be able to properly score a polysomnographic based on the criteria described in the American Academy of Sleep Medicine Manual for the Scoring of Sleep and Associated Events.

5. Number of credits: 3   Number of Hours: 2 lecture; 2 lab

6. Course prerequisites: PSG 101, PSG 102
   Co-requisites: PSG 103, PSG 104

7. Brief rational to justify proposed course to include:

   There is a need to train polysomnographic technicians in New York State. This course will provide a didactic framework for understanding clinical sleep disorders, which is necessary to train sleep technicians.

8. List of courses, if any, to be withdrawn when course(s) is (are) adopted: N/A

9. If course is an internship or independent study or the like, provide an explanation as to how the students will earn the credits awarded. The credits awarded should be consistent with students' effort required in a traditional classroom setting: N/A

10. Proposed text book(s) and/or other required instructional material(s):


11. Required course for majors and/or area of concentration? This is a requirement for the A.A.S. in Polysomnographic Technology.
12. If open only to selected students (specify): Open only to students matriculated into the Polysomnographic Technology AAS program.

13. Explain what students will know and be able to do upon completion of course: Upon completion of this course students will be able to score a clinical sleep study for sleep stages, respiratory events, periodic limb movements, bruxism, and EKG arrhythmias.

14. Methods of teaching-eg., lectures, laboratories, and other assignments for students, including any of the following: demonstrations, group work, website or e-mail interactions and/or assignments, practice in application of skills: This course will include one-didactic lecture with PowerPoint presentations each week, and one laboratory session per week reviewing a clinical polysomnographic for the topic discussed during the lecture session. Weekly reading assignments will be given. Evaluation will be performed through a midterm and final exam, as well as a scoring skill assessment at the end of the semester.

15. Assignments to students: Weekly reading assignments will be given.

16. Describe method of evaluating learning specified in #15: Midterm and final exam. Final technical skill assessment. The rubric for the course grade is:
   a. Mid-term exam: 33%
   b. Final exam: 33%
   c. Technical skill assessment: 34%

17. Topical course outline (which should be as specific as possible regarding topics covered, learning activities and assignments):

<table>
<thead>
<tr>
<th>Week</th>
<th>Session</th>
<th>Topic/Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Acceptable montages for scoring clinical sleep studies</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Lab – Introduction to polysomnographic scoring montages</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weekly Reading Assignment: AASM scoring manual pp 1-16, EP chapter 7</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>Sleep stage scoring I</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Lab – Clinical sleep stage scoring I</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weekly Reading Assignment: AASM scoring manual pp 17-32, EP pp. 281-318,</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>Sleep stage scoring II</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Lab- Clinical sleep stage scoring II</td>
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<tr>
<td></td>
<td></td>
<td>Weekly Reading Assignment: EP pp. 319-342</td>
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<tr>
<td>4</td>
<td>7</td>
<td>Respiratory event scoring I</td>
</tr>
<tr>
<td>Week</td>
<td>Topic</td>
<td>Reading Assignment</td>
</tr>
<tr>
<td>------</td>
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<td>-------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>5</td>
<td>Respiratory event scoring II</td>
<td></td>
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<tr>
<td>10</td>
<td>Lab – Scoring of central and mixed apneas, and Cheyne-Stokes Breathing</td>
<td>Weekly Reading Assignment: EP chapter pp.382-399, AASM scoring manual pp.44</td>
</tr>
<tr>
<td>6</td>
<td>Mid-term review</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Respiratory rules for children</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Lab – Clinical scoring of respiratory events in children</td>
<td>Weekly Reading Assignment: AASM scoring manual pp.45-47 EP pp 440-442</td>
</tr>
<tr>
<td>8</td>
<td>Abnormal events</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Lab- Clinical scoring of abnormal events</td>
<td>Weekly Reading Assignment: EP Chapter 13, AASM scoring manual pp 33</td>
</tr>
<tr>
<td>9</td>
<td>Periodic limb movements in sleep, and other muscle movements during sleep</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Lab – Clinical EMG scoring</td>
<td>Weekly Reading Assignment: EP chapter pp 357-368, AASM scoring manual pp. 36-38</td>
</tr>
<tr>
<td>10.</td>
<td>EKG rhythms I</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Lab – Scoring cardiac arrhythmias I</td>
<td>Weekly Reading Assignment: EP chapter 14, AASM scoring manual pp 34-35</td>
</tr>
<tr>
<td>11</td>
<td>EKG rhythms II</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
<td>Technical skills assessment</td>
</tr>
<tr>
<td>12</td>
<td>Final Exam</td>
<td></td>
</tr>
</tbody>
</table>

18. **Selected bibliography and source materials:**


Course Description
Students will learn to define sleep stages, respiratory events, periodic limb movements, seizures, bruxism, and EKG arrhythmias from electrophysiological data obtained during a polysomnographic recording. At the end of this course, students should be able to properly score a polysomnographic based on the criteria described in the American Academy of Sleep Medicine Manual for the Scoring of Sleep and Associated Events.

Pre-requisite or Co-requisite
Prerequisite: PSG 101, PSG 102  Corequisite: PSG 103, PSG 104

Course Objectives
Upon completion of this course students will be able to score a clinical sleep study for sleep stages, respiratory events, periodic limb movements, bruxism, and EKG arrhythmias.

Teaching Strategies
This course will utilize practical instruction from a New York State licensed polysomnographic technician. Students will spend the semester embedded in a clinical sleep laboratory. They will shadow a technician for one, twelve-hour shift per week, and learn the practice of nighttime/ daytime digital polysomnography.

Course Requirements
1. Textbooks:

2. Attendance: A student is deemed excessively absent when he or she has been absent 15% of the number of contact hours a practicum meets during a semester. When a student is excessively absent a grade of “w” or “WU” will be assigned as described in the college catalog.

3. Evaluation: Grades will be calculated according to college and departmental policy as follows:
   A+  97-100
   A   93-96
   A-  90-92
   B+  87-89
   B   83-86
   B-  80-82
   C+  78-79
   C   75-77
Grading policy:

- Mid-term exam: 33%
- Final exam: 33%
- Technical skill assessment: 34%

The Department of Nursing adheres to the Policies and Procedures on Academic Integrity as set forth by CUNY. Students are expected to take all tests when scheduled. Exceptions to this rule will be made for emergency situations, but the faculty must know in advance. Students who do not take a test on the scheduled date are required to take a makeup test. All makeup tests will be given at the end of the semester. Students who fail to take the scheduled or makeup exam will receive a grade of zero for that test. All written assignments must comply with college standards for written work. Written assignments are to be turned in during the class period on the date that they are due. All assignments must be handed in by the end of the course to complete the requirements of the course. A late assignment will meet the requirements of the course, but will not receive full credit. If written assignments are not submitted by the end of the course, the student will receive a grade of “F” for the course. A conference with the instructor is required at mid-semester, and at the end of the course to discuss the student’s progress. Students may initiate conferences at other times.

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Criteria for retention in the Program mandates that students must:

a. receive no more that two grades under "c" in any pre or co-requisites
b. earn a minimum final grade of "C" in every Polysomnographic Technology course
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6. **Dress Requirements:**
   a) Clothing with vulgar language, obscene pictures, weapons, drug/alcohol or drug paraphernalia and tobacco products is prohibited.
   b) No hats unless for religious or health reasons.
   c) No sunglasses unless prescribed.

7. **Class Schedule & Location:**
   Class will meet in room M411. Class will meet twice per week, at times to be determined.

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<tr>
<th>Week</th>
<th>Session</th>
<th>Topic/Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Acceptable montages for scoring clinical sleep studies</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Lab – Introduction to polysomnographic scoring montages</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weekly Reading Assignment: AASM scoring manual pp 1-16, EP chapter 7</td>
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<tr>
<td>2</td>
<td>3</td>
<td>Sleep stage scoring I</td>
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<tr>
<td></td>
<td>4</td>
<td>Lab – Clinical sleep stage scoring I</td>
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<tr>
<td></td>
<td></td>
<td>Weekly Reading Assignment: AASM scoring manual pp 17-32, EP pp. 281-318,</td>
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<td>3</td>
<td>5</td>
<td>Sleep stage scoring II</td>
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<td>6</td>
<td>Lab- Clinical sleep stage scoring II</td>
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<td></td>
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<td>Weekly Reading Assignment: EP pp. 319-342</td>
</tr>
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<td>4</td>
<td>7</td>
<td>Respiratory event scoring I</td>
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<td>8</td>
<td>Lab – Scoring obstructive apneas, hypopneas and respiratory effort-related arousals</td>
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<tr>
<td>5</td>
<td>9</td>
<td>Respiratory event scoring II</td>
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<td>10</td>
<td>Lab – Scoring of central and mixed apneas, and Cheyne-Stokes Breathing</td>
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<td></td>
<td>Weekly Reading Assignment: EP chapter pp.382-399, AASM scoring manual pp.44</td>
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<tr>
<td>Week</td>
<td>Activity</td>
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<tr>
<td>6</td>
<td>Mid-term review</td>
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<tr>
<td>7</td>
<td>Mid-term exam</td>
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<tr>
<td>8</td>
<td>Respiratory rules for children</td>
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<td>9</td>
<td>Lab – Clinical scoring of respiratory events in children</td>
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<tr>
<td>10</td>
<td>Weekly Reading Assignment: AASM scoring manual pp.45-47 EP pp 440-442</td>
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<tr>
<td>11</td>
<td>Abnormal events</td>
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<td>12</td>
<td>Lab- Clinical scoring of abnormal events</td>
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<tr>
<td>13</td>
<td>Weekly Reading Assignment: EP Chapter 13, AASM scoring manual pp 33</td>
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<tr>
<td>14</td>
<td>Periodic limb movements in sleep, and other muscle movements during sleep</td>
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<tr>
<td>15</td>
<td>Lab – Clinical EMG scoring</td>
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<tr>
<td>16</td>
<td>Weekly Reading Assignment: EP chapter pp 357-368, AASM scoring manual pp. 36-38</td>
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<tr>
<td>17</td>
<td>EKG rhythms I</td>
<td></td>
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<tr>
<td>18</td>
<td>Lab – Scoring cardiac arrhythmias I</td>
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<tr>
<td>19</td>
<td>Weekly Reading Assignment: EP chapter 14, AASM scoring manual pp 34-35</td>
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<tr>
<td>20</td>
<td>EKG rhythms II</td>
<td></td>
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<tr>
<td>21</td>
<td>Technical skills assessment</td>
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<tr>
<td>22</td>
<td>Final Exam</td>
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</tbody>
</table>
Kingsborough Community College  
The City University of New York

1. Department, Course number and Title:
   Nursing, PSG 106, Classification of Sleep Disorders

2. Does this course meet distribution requirements for groups I-V? If so, which group? N/A

3. Transferability of this course. Describe how this course transfers: N/A

4. Bulletin description of course:
   a. The focus of this course is to give students a complete understanding of the nosology of clinical sleep and circadian rhythms disorders from the perspective of the International Classification of Sleep Disorders Diagnostic & Coding Manual. Upon completion of this course, students should know the diagnostic criteria of all major sleep and circadian rhythm disorders.

5. Number of Credits: 3   Number of Hours: 3 lecture

6. Course prerequisites: PSG 103, PSG 104, PSG 105
   Co-requisites: None

7. Brief rational to justify proposed course to include:
   a. There is a need to train polysomnographic technicians in New York State. This course will provide a didactic framework for understanding clinical sleep disorders, which is necessary to train sleep technicians.

8. List of courses, if any, to be withdrawn when course(s) is (are) adopted: N/A

9. If course is an internship or independent study or the like, provide an explanation as to how the students will earn the credits awarded. The credits awarded should be consistent with students' effort required in a traditional classroom setting: N/A

10. Proposed text book(s) and/or other required instructional material(s):
    b. Principles and Practice of Sleep Medicine. M.H. Kryger, T. Roth, W.C. Dement

11. Required course for majors and/or area of concentration? This is a requirement for the A.A.S. in Polysomnographic Technology.
12. If open only to selected students (specify): Open only to students matriculated into the Polysomnographic Technology AAS program.

13. Explain what students will know and be able to do upon completion of course: Upon completion of this course students will be able to understand the diagnostic criteria for all commonly seen clinical sleep disorders.

14. Methods of teaching—e.g., lectures, laboratories, and other assignments for students, including any of the following: demonstrations, group work, website or e-mail interactions and/or assignments, practice in application of skills: The course will include two didactic lectures with PowerPoint presentations per week. Weekly reading assignments will be given. Evaluation will be performed through a midterm and final exam, as well as a term paper.

15. Assignments to students: Weekly reading assignments will be given.

16. Describe method of evaluating learning specified in #15: Midterm and final exam. Term paper. The rubric for the course grade is:
   a. Mid-term exam: 40%
   b. Final exam: 40%
   c. Term paper: 20%

17. Topical course outline (which should be as specific as possible regarding topics covered, learning activities and assignments):

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<tr>
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<td>Understanding patients with sleep disorders and clinical tools for assessing sleep disorders. Reading Assignment: PPSM Chapters 48, 49, 50</td>
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<tr>
<td>2</td>
<td>5-8</td>
<td>Classification of sleep disorders/ Obstructive sleep apnea Reading Assignment: PPSM Chapters 51, 82, 87 ICSD Intro and pp. 51-56</td>
</tr>
<tr>
<td>3</td>
<td>9-12</td>
<td>Central sleep apnea/ Mid-term exam Reading Assignment: PPSM Chapter 81. ICSD pp. 35-47</td>
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<td>4</td>
<td>13-16</td>
<td>Narcolepsy and Epilepsy Reading Assignment: PPSM Chapters 64, 65, 72. ICSD pp. 79-91, 232-236</td>
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<tr>
<td>5</td>
<td>17-20</td>
<td>Insomnia/ Parasomnias</td>
</tr>
</tbody>
</table>
Reading Assignment: PPSM Chapters 59, 60, 74, 75. ICSD pp. 1-31, 137-155

6  21-24  Periodic Limb Movements & Restless Leg Syndrome/ Final Exam

Reading Assignment: PPSM Chapter 70 ICSD pp. 177-189

18. Selected bibliography and source materials:

*The International Classification of Sleep Disorders: Diagnostic and Coding Manual.* American Academy of Sleep Medicine.

*Principles and Practice of Sleep Medicine.* M.H. Kryger, T. Roth, W.C. Dement
Course Description
The focus of this course is to give students a complete understanding of the nosology of clinical sleep and circadian rhythms disorders from the perspective of the International Classification of Sleep Disorders Diagnostic & Coding Manual. Students will also be introduced to a theoretical understanding of all primary sleep disorders seen in clinical practice. Upon completion of this course, students should know the diagnostic criteria of all major sleep and circadian rhythm disorders.

Pre-requisite or Co-requisite
Prerequisite: PSG 103, PSG 104, PSG 105 Corequisite: None

Course Objectives
Upon completion of this course, students should know the diagnostic criteria of all major sleep and circadian rhythm disorders.

Teaching Strategies
The course will include two didactic lectures with PowerPoint presentations per week. Weekly reading assignments will be given. Evaluation will be performed through a midterm and final exam, as well as a term paper.

Course Requirements
1. Textbooks:

2. Attendance: A student is deemed excessively absent when he or she has been absent 15% of the number of contact hours a class meets during a semester. When a student is excessively absent a grade of “w” or “WU” will be assigned as described in the college catalog.

3. Evaluation: Grades will be calculated according to college and departmental policy as follows:
   - A+ 97-100
   - A  93-96
   - A- 90-92
   - B+ 87-89
   - B  83-86
   - B- 80-82
   - C+ 78-79
   - C  75-77
   - C- 70-74
   - D+ 66-69
   - D  60-65
   - F  <60 and below
W Withdrew without penalty
WU Unofficial withdrawal (counts as failure)
INC Incomplete. Counts as “F” grade unless work is completed within six months.

Grading policy:
- Mid-term exam: 40%
- Final exam: 40%
- Term paper: 20%

The Department of Nursing adheres to the Policies and Procedures on Academic Integrity as set forth by CUNY. Students are expected to take all tests when scheduled. Exceptions to this rule will be made for emergency situations, but the faculty must know in advance. Students who do not take a test on the scheduled date are required to take a makeup test. All makeup tests will be given at the end of the semester. Students who fail to take the scheduled or makeup exam will receive a grade of zero for that test. All written assignments must comply with college standards for written work. Written assignments are to be turned in during the class period on the date that they are due. All assignments must be handed in by the end of the course to complete the requirements of the course. A late assignment will meet the requirements of the course, but will not receive full credit. If written assignments are not submitted by the end of the course, the student will receive a grade of “F” for the course. A conference with the instructor is required at mid-semester, and at the end of the course to discuss the student’s progress. Students may initiate conferences at other times.

4. Classroom Decorum:

All pagers, wireless phones, electronic games, radios, tape or CD players or other devices that generate sound must be turned off when any member of the academic community enters a classroom. Cellular devices are allowed to be on in the classroom only if the owner is using the caller ID, voice messages or a vibrating function or universal clip mechanism. NO TEXTING IS ALLOWED AT ANY TIME DURING CLASS AND/OR LABS. Members of the academic community must exit the classroom to make or receive calls.

5. Retention Criteria:

Criteria for retention in the Program mandates that students must:
- a. receive no more than two grades under "C" in any pre or co-requisites
- b. earn a minimum final grade of "C" in every Polysomnographic Technology course
- c. the student must repeat an Polysomnographic Technology course once if the grade is below "C"
- d. a second grade below "C" will result in the student's dismissal from the program.
- e. students who fail a course achieving a grade of not less than the "C-" may apply to repeat the course one time only.
- repeating the course is subject to space availability. -. . . .
- f. students must submit an "Intent to Return to the Polysomnographic Technology course form" outlining why they were unsuccessful, and include a plan for success that demonstrates significant changes in how they will approach the course when repeated.

6. Dress Requirements:
d. Clothing with vulgar language, obscene pictures, weapons, drug/alcohol or drug paraphernalia and tobacco products is prohibited.

e. No hats unless for religious or health reasons.

f. No sunglasses unless prescribed.

7. Class Schedule & Location:
   Class will meet in room M411. Class will meet twice per week, at times to be determined.

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1. Department, Course number and Title:
   Nursing, PSG 107, Cardiopulmonary Physiology in Sleep

2. Does this course meet distribution requirements for groups I-V? If so, which group? N/A

3. Transferability of this course. Describe how this course transfers: N/A

4. Bulletin description of course:

   The physiology of normal respiratory function during sleep, as well as our current understanding of the pathophysiology of obstructive and central apneas during sleep is described. Acute and long-term consequences of sleep apnea, as well as cardiac function and dysfunction with a specific focus on arrhythmias commonly associated with sleep-disordered breathing is investigated. Prerequisite: PSG 100- The Science of Sleep and Circadian Rhythms.

5. Number of Credits: 3 Number of Hours: 3

6. Course prerequisites: PSG 106
   Co-requisites: PSG 108, PHI 76

7. Brief rational to justify proposed course to include:

   There is a need to train polysomnographic technicians in New York State. This course will provide a didactic framework for understanding clinical sleep disorders, which is necessary to train sleep technicians.

8. List of courses, if any, to be withdrawn when course(s) is (are) adopted: N/A

9. If course is an internship or independent study or the like, provide an explanation as to how the students will earn the credits awarded. The credits awarded should be consistent with students' effort required in a traditional classroom setting: N/A

10. Proposed text book(s) and/or other required instructional material(s):

    b. *Principles and Practice of Sleep Medicine.* M.H. Kryger, T. Roth, W.C. Dement

11. Required course for majors and/or area of concentration? This is a requirement for the A.A.S. in Polysomnographic Technology.

12. If open only to selected students (specify): Open only to students matriculated into the Polysomnographic Technology AAS program.
14. Explain what students will know and be able to do upon completion of course: Upon completion of this course students will be able to understand the anatomical and physiological processes of the cardiorespiratory system. Students will also learn about how sleep disordered breathing can effect the cardiorespiratory system.

15. Methods of teaching—eg., lectures, laboratories, and other assignments for students, including any of the following: demonstrations, group work, website or e-mail interactions and/or assignments, practice in application of skills: The course will include two-didactic lectures with PowerPoint presentations per week. Weekly reading assignments will be given. Evaluation will be performed through a midterm and final exam, as well as a term paper.

16. Assignments to students: Weekly reading assignments will be given.

17. Describe method of evaluating learning specified in #15: Midterm and final exam. Term paper. The rubric for the course grade is:
   a. Mid-term exam: 40%
   b. Final exam: 40%
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<td></td>
<td>Reading Assignment: Respiratory Physiology Chapters 1,2</td>
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<tr>
<td>2</td>
<td>3/4</td>
<td>Lung Volumes and Balance of Forces</td>
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<td>Reading Assignment: Respiratory Physiology Chapter 3</td>
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<tr>
<td>3</td>
<td>5/6</td>
<td>Central and Peripheral Regulation</td>
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<td>Reading Assignment: PPSM Chapters 15,16</td>
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<td>4</td>
<td>7/8</td>
<td>Control of Ventilation</td>
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<tr>
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<td>Reading Assignment: PPSM Chapters 17,18</td>
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<tr>
<td>5</td>
<td>9/10</td>
<td>Normal Breathing</td>
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<td></td>
<td>Reading Assignment: PPSM Chapter 19</td>
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<tr>
<td>6</td>
<td>11/12</td>
<td>Mid-term exam</td>
</tr>
<tr>
<td>7</td>
<td>13/14</td>
<td>Sleep and Cardiovascular Disease</td>
</tr>
</tbody>
</table>
Reading Assignment: PPSM Chapter 96, 97

8  15/16  Cardia Arrhythmogenesis

Reading Assignment: PPSM Chapter 98

9  17/18  Cardiovascular Effects in Sleep Apnea

Reading Assignment: PPSM Chapter 99, 100

10  19/20  Heart Failure

Reading Assignment: PPSM Chapter 102

11  21/22  Semester Review

12  23/24  Final exam

19. Selected bibliography and source materials:


*Principles and Practice of Sleep Medicine.* M.H. Kryger, T. Roth, W.C. Dement
Kingsborough Community College          PSG 107
AAS in Polysomnographic Technology    Cardiopulmonary Physiology in Sleep

3 credits: 3 hours lecture

Course Description
The physiology of normal respiratory function during sleep, as well as our current understanding of the pathophysiology of obstructive and central apneas during sleep is described. Acute and long-term consequences of sleep apnea, as well as cardiac function and dysfunction with a specific focus on arrhythmias commonly associated with sleep-disordered breathing is investigated. Prerequisite: The Science of Sleep and Circadian Rhythms.

Pre-requisite or Co-requisite
Prerequisite: PSG 106        Corequisite: PSG 108, PHI 76

Course Objectives
Upon completion of this course students will be able to understand the anatomical and physiological processes of the cardiorespiratory system. Students will also learn about how sleep disordered breathing can effect the cardiorespiratory system.

Teaching Strategies
The course will include two-didactic lectures with PowerPoint presentations per week. Weekly reading assignments will be given. Evaluation will be performed through a midterm and final exam, as well as a term paper.

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  repeating the course is subject to space availability.
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<td>11</td>
<td>21/22 Semester Review</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>23/24 Final exam</td>
<td></td>
</tr>
</tbody>
</table>
Department, Course number and Title:

Nursing, PSG 108 Clinical Practicum in Sleep Medicine II

Does this course meet distribution requirements for groups I-V? If so, which group? N/A

Transferability of this course. Describe how this course transfers: N/A

Bulletin description of course:

As in the Clinical Practicum in Sleep Medicine I, students in this course will spend a semester observing and working in a clinical sleep laboratory. During this semester students will focus on learning to titrate patients with positive airway pressure machines including CPAP, BiPAP and ASV. Titration of supplemental oxygen will also be taught. Real time obstructive and central sleep apnea and hypopnea, and EKG arrhythmia detection will be an area of particular focus. Students will also gain experience performing MSLT and MWT testing. Prerequisite: Clinical Practicum in Sleep Medicine I.

Number of credits: 6  Number of Hours: 12 clinical

Course prerequisites: PSG 106 and medical clearance from internship site

Co-requisites: PSG 107, PHI 76

Brief rational to justify proposed course to include:

There is a need to train polysomnographic technicians in New York State. This course will provide a didactic framework for understanding clinical sleep disorders, which is necessary to train sleep technicians.

List of courses, if any, to be withdrawn when course(s) is (are) adopted: N/A

If course is an internship or independent study or the like, provide an explanation as to how the students will earn the credits awarded. The credits awarded should be consistent with students’ effort required in a traditional classroom setting: Students will earn credits based on clinical field evaluation from their supervising technician, a review of their weekly patient logs, and attendance.

Proposed text book(s) and/or other required instructional material(s):

b. Clinical Practice Parameters: practice parameters and review papers for the clinical practice of sleep medicine. American Academy of Sleep Medicine. (Handouts)

11 Required course for majors and/or area of concentration? This is a requirement for the A.A.S. in Polysomnographic Technology.

12 If open only to selected students (specify): Open only to students matriculated into the Polysomnographic Technology AAS program.

13 Explain what students will know and be able to do upon completion of course:
   a. Enter patient data into a digital polygraph, select the appropriate recording montage, and begin a sleep recording
   b. Place EEG electrodes on the patient utilizing the international 10-20 system
   c. Fit the patient with respiratory belts, a pressure transducer, EKG and EMG electrodes
   d. Check electrode impedance to insure proper electrode fit
   e. Remove physiological equipment upon completion of a sleep study
   f. Clean and disinfect all physiological equipment used during a sleep recording

14 Methods of teaching-eg., lectures, laboratories, and other assignments for students, including any of the following: demonstrations, group work, website or e-mail interactions and/or assignments, practice in application of skills: This course will utilize practical instruction from a New York State licensed polysomnographic technician.

15 Assignments to students: Students will spend the semester embedded in a clinical sleep laboratory. They will shadow a technician for one, twelve-hour shift per week, and learn the practice of nighttime digital polysomnography. They will also write a weekly log of patient interactions.

16 Describe method of evaluating learning specified in #15: Students will be evaluated on clinical field performance, patient logs, and attendance. The rubric for the course grade is:
   a. Clinical field evaluation: 40%
   b. Patient logs: 40%
   c. Attendance: 20%

17 Topical course outline (which should be as specific as possible regarding topics covered, learning activities and assignments):

<table>
<thead>
<tr>
<th>Week</th>
<th>Session</th>
<th>Topic/Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Preparation, patient assessment, a conduct of a digital polysomnogram</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Preparation, patient assessment, a conduct of a digital polysomnogram</td>
</tr>
</tbody>
</table>
Preparation, patient assessment, a conduct of a digital polysomnogram

Selected bibliography and source materials:


*Clinical Practice Parameters: practice parameters and review papers for the clinical practice of sleep medicine. American Academy of Sleep Medicine. (Handouts)*
Course Description
As in the Clinical Practicum in Sleep Medicine I, students in this course will spend a semester observing and working in a clinical sleep laboratory. During this semester students will focus on learning to titrate patients with positive airway pressure machines including CPAP, BiPAP and ASV. Titration of supplemental oxygen will also be taught. Real time obstructive and central sleep apnea and hypopnea, and EKG arrhythmia detection will be an area of particular focus. Students will also gain experience performing MSLT and MWT testing. Prerequisite: Clinical Practicum in Sleep Medicine I.

Pre-requisite or Co-requisite
Prerequisite: PSG 106 and medical clearance from internship site
Corequisite: PSG 107, PHI 76

Course Objectives
Upon completion of this course students will be able to:
- Enter patient data into a digital polygraph, select the appropriate recording montage, and begin a sleep recording
- Place electrodes on the patient utilizing the international 10-20 system
- Fit the patient with respiratory belts, a pressure transducer, EKG and EMG electrodes
- Check electrode impedance to insure proper electrode fit
- Remove physiological equipment upon completion of a sleep study
- Clean and disinfect all physiological equipment used during a sleep recording

Teaching Strategies
This course will utilize practical instruction from a New York State licensed polysomnographic technician. Students will spend the semester embedded in a clinical sleep laboratory. They will shadow a technician for one, twelve-hour shift per week, and learn the practice of nighttime digital polysomnography.

Course Requirements
1. Textbooks:

   Clinical Practice Parameters: practice parameters and review papers for the clinical practice of sleep medicine. American Academy of Sleep Medicine. (Handouts)

2. Attendance: A student is deemed excessively absent when he or she has been absent 15% of the number of contact hours a practicum meets during a semester. When a student is excessively absent a grade of “w” or “WU” will be assigned as described in the college catalog.

3. Evaluation: Grades will be calculated according to college and departmental policy as follows:
   P Pass
F  Fail
W  Withdrew without penalty
WU Unofficial withdrawal (counts as failure)
INC Incomplete. Counts as “F” grade unless work is completed within six months.

Grading policy:
Clinical field evaluation: 40%
Patient logs: 40%
Attendance: 20%

The Department of Nursing adheres to the Policies and Procedures on Academic Integrity as set forth by CUNY. Students are expected to take all tests when scheduled. Exceptions to this rule will be made for emergency situations, but the faculty must know in advance. Students who do not take a test on the scheduled date are required to take a makeup test. All makeup tests will be given at the end of the semester. Students who fail to take the scheduled or makeup exam will receive a grade of zero for that test. All written assignments must comply with college standards for written work. Written assignments are to be turned in during the class period on the date that they are due. All assignments must be handed in by the end of the course to complete the requirements of the course. A late assignment will meet the requirements of the course, but will not receive full credit. If written assignments are not submitted by the end of the course, the student will receive a grade of “F” for the course. A conference with the instructor is required at mid-semester, and at the end of the course to discuss the student’s progress. Students may initiate conferences at other times.

4. Classroom Decorum:
All pagers, wireless phones, electronic games, radios, tape or CD players or other devices that generate sound must be turned off when any member of the academic community enters a classroom. Cellular devices are allowed to be on in the classroom only if the owner is using the caller ID, voice messages or a vibrating function or universal clip mechanism. NO TEXTING IS ALLOWED AT ANY TIME DURING CLASS AND/OR LABS. Members of the academic community must exit the classroom to make or receive calls.

5. Retention Criteria:
Criteria for retention in the Program mandates that students must:
a. receive no more that two grades under "c" in any pre or co-requisites
b. earn a minimum final grade of "C" in every Polysomnographic Technology course
c. the student must repeat an Polysomnographic Technology course once if the grade is below "c"
d. a second grade below "C" will result in the student’s dismissal from the program.
e. students who fail a course achieving a grade of not less the "C-" may apply to repeat the course one time only.
repeating the course is subject to space availability. - . . .
f. students must submit an "Intent to Return to the Polysomnographic Technology course form" outlining why they were unsuccessful, and include a plan for success that demonstrates significant changes in how they will approach the course when repeated.

6. Dress Requirements:
Students are required to follow the dress code at the practicum site. This will generally involve wearing “scrubs” or a “lab coat”. Open toed shoes, jeans, and t-shirts are not allowed. Overly provocative clothing is also prohibited.

7. **Class Schedule & Location:**
   Students will meet at their practicum site for one, 12-hour nighttime shift per week.

<table>
<thead>
<tr>
<th>Week</th>
<th>Session</th>
<th>Topic/Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Preparation, patient assessment, a conduct of a digital polysomnogram</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Preparation, patient assessment, a conduct of a digital polysomnogram</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>Preparation, patient assessment, a conduct of a digital polysomnogram</td>
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<td>4</td>
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<td>5</td>
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<td>6</td>
<td>Preparation, patient assessment, a conduct of a digital polysomnogram</td>
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<td>7</td>
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<td>9</td>
<td>9</td>
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<tr>
<td>10</td>
<td>10</td>
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</tr>
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</table>
Preparation, patient assessment, a conduct of a digital polysomnogram

Group semester review
Appendix D
Sample program schedule (SED form)
### Table 2: Undergraduate Program Schedule

- Indicate **academic calendar** type: \_X\_Semester \_X\_Quarter \_X\_Trimester \_X\_Other (describe)
- Label each term in sequence, consistent with the institution’s academic calendar (e.g., Fall 1, Spring 1, Fall 2)
- Use the table to show how a typical student may progress through the program; copy/expand the table as needed.

<table>
<thead>
<tr>
<th>Term: Fall-1</th>
<th>Check course classification(s)</th>
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</thead>
<tbody>
<tr>
<td><strong>Course Number &amp; Title</strong></td>
<td>Cr</td>
</tr>
<tr>
<td>ENG 12 Freshman English</td>
<td>3</td>
</tr>
<tr>
<td>BIO 11 Human Anatomy and Physiology I</td>
<td>4</td>
</tr>
<tr>
<td>MAT 9 College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>PSY 11 General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSG 100 The Science of Sleep and Circadian rhythms</td>
<td>3</td>
</tr>
<tr>
<td><strong>Term credit total:</strong></td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Term: Spring-1</th>
<th>Check course classification(s)</th>
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<tbody>
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<td><strong>Course Number &amp; Title</strong></td>
<td>Cr</td>
</tr>
<tr>
<td>ENG 24 Freshman English II</td>
<td>3</td>
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<tr>
<td>MAT 20 Elements of Statistics</td>
<td>3</td>
</tr>
<tr>
<td>BIO 12 Human Anatomy and Physiology II</td>
<td>4</td>
</tr>
<tr>
<td>PSG 101 Neuroscience and Pharmacology in Sleep</td>
<td>4</td>
</tr>
<tr>
<td>PSG 102 Foundations of Polysomnography I</td>
<td>3</td>
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<tr>
<td><strong>Term credit total:</strong></td>
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</table>

<table>
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<th>Term: Fall-2</th>
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</thead>
<tbody>
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<td><strong>Course Number &amp; Title</strong></td>
<td>Cr</td>
</tr>
<tr>
<td>PSG 103 Clinical Practicum in Sleep Medicine I</td>
<td>6</td>
</tr>
<tr>
<td>PSG 104 Foundations of Polysomnography II</td>
<td>3</td>
</tr>
<tr>
<td>PSG 105 Clinical Polysomnographic Scoring</td>
<td>3</td>
</tr>
<tr>
<td>Course Number &amp; Title</td>
<td>Cr</td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
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</tr>
<tr>
<td>PSG 106 Classification of Sleep Disorders</td>
<td>3</td>
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<td></td>
<td></td>
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<tr>
<td>Term credit total: 15</td>
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</tr>
<tr>
<td>Term: Spring-2</td>
<td></td>
</tr>
<tr>
<td>Course Number &amp; Title</td>
<td>Cr</td>
</tr>
<tr>
<td>PSG 107 Cardiopulmonary Physiology in Sleep</td>
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<tr>
<td>PHI 76 Medical Ethics</td>
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</tr>
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<td>PSG 108 Clinical Practicum in Sleep Medicine II</td>
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<td></td>
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<tr>
<td>Term credit total: 12</td>
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<tr>
<td>Program Totals:</td>
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<tr>
<td>Liberal Arts &amp; Sciences: 26</td>
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<tr>
<td>Major: 34</td>
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</tr>
<tr>
<td>Elective &amp; Other:</td>
<td></td>
</tr>
</tbody>
</table>

**Cr:** credits  
**LAS:** liberal arts & sciences  
**Maj:** major requirement  
**New:** new course  

**Prerequisite(s):** list prerequisite(s) for the noted courses
Appendix E
Faculty teaching assignments (SED form)
<table>
<thead>
<tr>
<th>Course Title (a)</th>
<th>No. of Credit (b)</th>
<th>Faculty Member(s) (c) Assigned to Each Course. (Use “D” to Specify Program Director)</th>
<th>Highest Earned Degree &amp; Discipline, College or University (d)</th>
<th>Relevant Occupational Experience (e)</th>
<th>Relevant other experience (such as certification/licensure) (f)</th>
<th>Recent Scholarly Contributions (optional below baccalaureate level) (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSG 100 The Science of Sleep and Circadian Rhythms</td>
<td>3</td>
<td>“D”</td>
<td>Master’s or higher</td>
<td>Previous teaching experience</td>
<td>D, ABSM, ABSM,CBS M, RPSG.T, or RST</td>
<td>Scholarly record appropriate to appointment to Assistant Professor</td>
</tr>
<tr>
<td>ENG 12 Freshman English I</td>
<td>3</td>
<td>English dept. faculty</td>
<td>Bachelor’s or higher</td>
<td>Previous teaching experience</td>
<td>n/a</td>
<td>Scholarly record appropriate to appointment to Assistant Professor</td>
</tr>
<tr>
<td>BIO 11 Human Anatomy and Physiology I</td>
<td>4</td>
<td>Biology dept. faculty</td>
<td>Master’s or higher</td>
<td>Previous teaching experience</td>
<td>n/a</td>
<td>Scholarly record appropriate to appointment to Assistant Professor</td>
</tr>
<tr>
<td>MAT 9 College Algebra</td>
<td>3</td>
<td>Math dept. faculty</td>
<td>Master’s or higher</td>
<td>Previous teaching experience</td>
<td>n/a</td>
<td>Scholarly record appropriate to appointment to Assistant Professor</td>
</tr>
<tr>
<td>PSY 11 General Psychology</td>
<td>3</td>
<td>Social Science dept.</td>
<td>Master’s or higher</td>
<td>Previous teaching experience</td>
<td>n/a</td>
<td>Scholarly record appropriate to appointment to Assistant Professor</td>
</tr>
<tr>
<td>ENG 24 Freshman English II</td>
<td>3</td>
<td>English dept. faculty</td>
<td>Bachelor’s or higher</td>
<td>Previous teaching experience</td>
<td>n/a</td>
<td>Scholarly record appropriate to appointment to Assistant Professor</td>
</tr>
<tr>
<td>MAT 20 Elements of Statistics</td>
<td>3</td>
<td>Math or Social Science dept.</td>
<td>Master’s or higher</td>
<td>Previous teaching experience</td>
<td>n/a</td>
<td>Scholarly record appropriate to appointment to Assistant Professor</td>
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<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
<td>Grade</td>
<td>Degree Level</td>
<td>Previous Teaching Experience</td>
<td>Scholarly Record Required</td>
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<tr>
<td>BIO 12</td>
<td>Human Anatomy and Physiology II</td>
<td>4</td>
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<td>Master’s or higher</td>
<td>Previous teaching experience</td>
<td>Scholarly record appropriate to appointment to Assistant Professor</td>
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<tr>
<td>PSG 101</td>
<td>Neuroscience and Pharmacology in Sleep</td>
<td>4</td>
<td>“D”</td>
<td>Master’s or higher</td>
<td>Previous teaching experience</td>
<td>D, ABSM, RPSG.T, or RST</td>
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<tr>
<td>PSG 102</td>
<td>Foundations of Polysomnography I</td>
<td>3</td>
<td>“D”</td>
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<td>Previous teaching experience</td>
<td>D, ABSM, RPSG.T, or RST</td>
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<td>PSG 103</td>
<td>Clinical Practicum in Sleep Medicine I</td>
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<td>D, ABSM, RPSG.T, or RST</td>
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<td>PSG 104</td>
<td>Foundations of Polysomnography II</td>
<td>3</td>
<td>“D”</td>
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<td>PSG 106</td>
<td>Classification of Sleep Disorders</td>
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<td>D, ABSM, RPSG.T, or RST</td>
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<td>PSG 107</td>
<td>Cardiopulmonary Physiology in Sleep</td>
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<td>Master’s or higher</td>
<td>Previous teaching experience</td>
<td>D, ABSM, RPSG.T, or RST</td>
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<tr>
<td>PHI 76</td>
<td>Medical Ethics</td>
<td>3</td>
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<td>Master’s or higher</td>
<td>Previous teaching experience</td>
<td>n/a</td>
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<td>PSG 108 Clinical Practicum in Sleep Medicine II</td>
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<td>Master’s or higher</td>
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<td>D, ABSM, ABSM, RPSG.T, or RST</td>
<td>Scholarly record appropriate to appointment to Assistant Professor</td>
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Appendix F
Projected expenditures (SED form)
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<td>Academic Year</td>
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<tr>
<td>Part Time Faculty</td>
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<td>$68,666.40</td>
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<td>Full Time Staff</td>
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<td>Equipment</td>
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[1] Specify the inflation rate used for projections.
[2] Specify the academic year.
[4] New resources means resources engendered specifically by the proposed program. The new resources from the previous year should be carried over to the following year, new resources with adjustments for inflation, if a continuing cost.
[5] Specify what is included in "other" category, (e.g., student financial aid).
Appendix G
Projected revenue (SED form)
## Projected Revenue Related to the Proposed Program

<table>
<thead>
<tr>
<th></th>
<th>1st Year 2015-16</th>
<th>2nd Year 2016-17</th>
<th>3rd Year 2017-18</th>
<th>4th Year 2018-19</th>
<th>5th Year 2019-20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tuition Revenue</strong>&lt;sup&gt;[3]&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01. From Existing Sources&lt;sup&gt;[4]&lt;/sup&gt;</td>
<td>$0</td>
<td>$58,405</td>
<td>$98,828</td>
<td>$121,530</td>
<td>$135,250</td>
</tr>
<tr>
<td>02. From New Sources&lt;sup&gt;[5]&lt;/sup&gt;</td>
<td>$68,250</td>
<td>$128,020</td>
<td>$184,036</td>
<td>$193,957</td>
<td>$204,201</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$68,250</td>
<td>$186,425</td>
<td>$282,864</td>
<td>$315,487</td>
<td>$339,451</td>
</tr>
<tr>
<td><strong>State Revenue</strong>&lt;sup&gt;[6]&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04. From Existing Sources&lt;sup&gt;[7]&lt;/sup&gt;</td>
<td>$0</td>
<td>$24,220</td>
<td>$41,174</td>
<td>$48,440</td>
<td>$48,440</td>
</tr>
<tr>
<td>05. From New Sources&lt;sup&gt;[8]&lt;/sup&gt;</td>
<td>$36,330</td>
<td>$60,550</td>
<td>$77,504</td>
<td>$84,770</td>
<td>$84,770</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$36,330</td>
<td>$84,770</td>
<td>$118,678</td>
<td>$133,210</td>
<td>$133,210</td>
</tr>
<tr>
<td><strong>Other Revenue</strong>&lt;sup&gt;[7]&lt;/sup&gt; Perkins</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07. From Existing Sources&lt;sup&gt;[9]&lt;/sup&gt;</td>
<td>$90,000</td>
<td>$90,000</td>
<td>$90,000</td>
<td>$90,000</td>
<td>$90,000</td>
</tr>
<tr>
<td>08. From New Sources&lt;sup&gt;[10]&lt;/sup&gt;</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$100,000</td>
<td>$100,000</td>
<td>$100,000</td>
<td>$100,000</td>
<td>$100,000</td>
</tr>
<tr>
<td><strong>Grand Total</strong>&lt;sup&gt;[11]&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. From Existing Sources&lt;sup&gt;[12]&lt;/sup&gt;</td>
<td>$90,000</td>
<td>$172,625</td>
<td>$230,002</td>
<td>$259,970</td>
<td>$273,690</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>$204,580</td>
<td>$371,195</td>
<td>$501,542</td>
<td>$548,697</td>
<td>$572,661</td>
</tr>
</tbody>
</table>

<sup>[12]</sup> Inflation rate used for projections.

<sup>[2]</sup> Specify the academic year.

<sup>[3]</sup> $4,550 was used for instate students and $10,430 was used for out of state students.

<sup>[4]</sup> Existing sources means revenue generated by continuing students. 30% attrition rate was used.


<sup>[6]</sup> $2,422 per FTE

<sup>[7]</sup> Perkins funds (existing) and donations of used equipment and money acquired through fundraising (new resources).

<sup>[8]</sup> Enter total of Tuition, State and Other Revenue, from Existing or New Sources.
Appendix H
Faculty Curricula Vitae
Curriculum vitae and Bibliography

Date of preparation: 8/12/13

A. GENERAL INFORMATION

1. Name: Matthew R. Ebben

2. Home address, telephone: 96-14 72nd Ave., Forest Hills, NY 11375
   P:718-793-4958

3. Cell phone:646-729-6879

4. Email: voice3@earthlink.net

5. Citizenship: US

B. EDUCATIONAL BACKGROUND

1. Degree(s) (B.A. and above), institution name and location, dates attended, and date(s) of award).

<table>
<thead>
<tr>
<th>Degree</th>
<th>Institution</th>
<th>Dates attended</th>
<th>Year Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.S.</td>
<td>Fairleigh Dickinson University</td>
<td>9/07-2/10</td>
<td>2010</td>
</tr>
<tr>
<td>Ph.D.</td>
<td>City University of New York</td>
<td>9/97-1/04</td>
<td>2004</td>
</tr>
<tr>
<td>M.Phil</td>
<td>City University of New York</td>
<td>En route</td>
<td>2002</td>
</tr>
<tr>
<td>B.A.</td>
<td>City College of New York</td>
<td>1/92-5/97</td>
<td>1997</td>
</tr>
</tbody>
</table>

C. PROFESSIONAL POSITIONS AND EMPLOYMENT

(In chronological order beginning with post-doctoral training positions; include full titles, ranks and inclusive dates held)

1. Post-doctoral training (include residency/fellowships)
<table>
<thead>
<tr>
<th>Title</th>
<th>Institution name and location</th>
<th>Dates held</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-Doctoral Fellow</td>
<td>Weill Medical College of Cornell University-Center for Sleep Medicine</td>
<td>2004-2005</td>
</tr>
</tbody>
</table>

2. **Academic positions (teaching and research)**

<table>
<thead>
<tr>
<th>Title</th>
<th>Institution name and location</th>
<th>Dates held</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistant Professor of Psychology in Neurology</td>
<td>Weill Cornell Medical College, New York, N.Y.</td>
<td>2006-Present</td>
</tr>
<tr>
<td>Instructor of Psychology in Neurology</td>
<td>Weill Cornell Medical College, New York, NY</td>
<td>2005-2006</td>
</tr>
<tr>
<td>Graduate Teaching Fellow</td>
<td>City College of New York</td>
<td>1999-2002</td>
</tr>
<tr>
<td>Research Fellow</td>
<td>Hunter College, New York, NY</td>
<td>1997-1999</td>
</tr>
<tr>
<td>Research Assistant</td>
<td>Rockefeller University, New York</td>
<td>1997-1998</td>
</tr>
</tbody>
</table>
3. Hospital positions (e.g., attending physician)

<table>
<thead>
<tr>
<th>Title</th>
<th>Institution name and location</th>
<th>Dates held</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistant Attending Psychologist</td>
<td>New York Presbyterian Hospital</td>
<td>2005-</td>
</tr>
<tr>
<td></td>
<td>New York Methodist Hospital, Brooklyn, NY</td>
<td>Present</td>
</tr>
<tr>
<td>Clinical Psychology Intern</td>
<td>New York Methodist Hospital, Brooklyn, NY</td>
<td>2002-2003</td>
</tr>
</tbody>
</table>

D. LICENSURE, BOARD CERTIFICATION, MALPRACTICE

1. LICENSURE

   (Every doctor appointed to the Hospital staff, except interns and aliens in the US via non-immigrant visas, must have a New York State license or a temporary certificate in lieu of the license.)

   a. State Number Date of issue Date of last registration


2. Board Certification
<table>
<thead>
<tr>
<th>Full Name of Board</th>
<th>Certificate #</th>
<th>Date (MM/DD/YY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diplomate of the American Board of Sleep Medicine (ABSM)</td>
<td>3546</td>
<td>9/19/2006</td>
</tr>
<tr>
<td>Certification in Behavioral Sleep Medicine (AASM)</td>
<td>73</td>
<td>6/18/2006</td>
</tr>
<tr>
<td>National Register of Health Service Providers In Psychology</td>
<td>51936</td>
<td>11/20/2007</td>
</tr>
<tr>
<td>Fellow, American Academy of Sleep Medicine</td>
<td></td>
<td>2007</td>
</tr>
<tr>
<td>Certification in Rational Emotive Therapy (Albert Ellis Institute)</td>
<td></td>
<td>2004</td>
</tr>
</tbody>
</table>

3. **Malpractice insurance**

Do you have Malpractice insurance? yes

Name of Provider: MCIC Vermont Inc.

Premiums paid by: (choose one)

WCMC

**E. PROFESSIONAL MEMBERSHIPS (medical and scientific societies)**
<table>
<thead>
<tr>
<th>Member/officer</th>
<th>Name of Organization</th>
<th>Dates held</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member</td>
<td>American Psychological Association</td>
<td>1997-Present</td>
</tr>
<tr>
<td>Member</td>
<td>American Academy of Sleep Medicine</td>
<td>1999-Present</td>
</tr>
<tr>
<td>Member</td>
<td>New York Academy of Sciences</td>
<td>2009-Present</td>
</tr>
<tr>
<td>Academic Affairs</td>
<td>New York State Society of Sleep Medicine</td>
<td>2009-Present</td>
</tr>
</tbody>
</table>

**F. HONORS AND AWARDS**

<table>
<thead>
<tr>
<th>Name of award</th>
<th>Date awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barmack Award for Outstanding Dissertation</td>
<td>2004</td>
</tr>
<tr>
<td>APA Dissertation Research Award</td>
<td>2004</td>
</tr>
<tr>
<td>PSC-CUNY research award</td>
<td>2001-2004</td>
</tr>
<tr>
<td>Graduate Teaching Fellowship</td>
<td>1999-2002</td>
</tr>
<tr>
<td>Science Fellowship</td>
<td>1997-1999</td>
</tr>
<tr>
<td>CUNY tuition scholarship</td>
<td>1997-1999</td>
</tr>
<tr>
<td>CUNY equipment and travel grant</td>
<td>1998</td>
</tr>
<tr>
<td>CCNY-magna cum laude</td>
<td>1997</td>
</tr>
<tr>
<td>City College undergraduate fellowship</td>
<td>1995-1997</td>
</tr>
<tr>
<td>National dean’s list</td>
<td>1992</td>
</tr>
</tbody>
</table>

**G. INSTITUTIONAL/HOSPITAL AFFILIATION**
1. Primary Hospital Affiliation: New York Presbyterian

H. **RESEARCH SUPPORT (past and present)**
   (Summarize past research support and list the following for current extramural and intramural research funding)

1. Source, amount, and duration of support (dates)
2. Name of Principal Investigator
3. Individual's role in project, including percent (%) effort

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
<th>Duration</th>
<th>Investigator/Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSC-CUNY</td>
<td>$2500.00</td>
<td>2001</td>
<td>Matthew Ebben / Arthur Spielman</td>
</tr>
<tr>
<td>PSC-CUNY</td>
<td>$3200.00</td>
<td>2004</td>
<td>Matthew Ebben</td>
</tr>
<tr>
<td>APA Dissertation Award</td>
<td>$1000.00</td>
<td>2004</td>
<td>Matthew Ebben</td>
</tr>
<tr>
<td>GCRC-WCMC pilot award</td>
<td>$20,000.00</td>
<td>2006</td>
<td>Matthew Ebben</td>
</tr>
<tr>
<td>Helicor Inc.</td>
<td>$23,000.00</td>
<td>2007</td>
<td>Matthew Ebben</td>
</tr>
</tbody>
</table>

I. **EXTRAMURAL PROFESSIONAL RESPONSIBILITIES**
   (e.g., Journal reviewer, NIH study section, etc.)

Journal reviewer for:

- Nature Clinical Practice Neurology
- Psychological Reports and Perceptual and Motor Skills.
- Frontiers in Sleep and Chronobiology
- International Journal of Psychophysiology
- Epilepsy Research
- The Primary Care Companion for CNS Disorders
Public Education (for television):

CBS Evening News-11/05/07
Today Show on NBC-01/30/2008
CBS Sunday Morning-3/9/2008
MSNBC-4/1/2008
KABC Los Angeles-4/1/2008
News Channel 5 Nashville-4/1/2008
News 4 Jacksonville-4/7/2008
WCTV Tallahassee-4/18/2008
NBC 16 South Bend-4/18/2008
NBC 5 Palm Beach-4/19/2008
King 5 NBC Washington-1/1/2009
Bloomberg News 1/8/2010
ABC news 3/15/2010
CBS Morning Show 4/15/2011

Public Education (radio):

Joan Hamburg Show 10/22/2010

Public Education (print media):

New York Sun-7/25/2006
Weill Cornell Medicine Magazine-Fall 2007
USA Today-12/17/2007
New York Post-12/30/2007
Elle-7/3/2008
ABCNews.com 8/2/2010

Public Education (invited talks):

New Jersey Psychological Association “Sleep and Circadian Rhythms” 10/18/2008

92nd Street Y “Overcoming Your Sleep Struggles” 10/28/2010

Weill Cornell Health and Wellness seminar “Improve your zzzz's: Strategies to Address Lack of Sleep” 11/9/2010

Iris Cantor Women's Health Center “How to Get a Better Night's Rest” 10/6/2011

Northeast Sleep Society (NESS) “CPAP Adaptation” 3/31/2012

Hospital for Special Surgery “How to Get a Better Night’s Sleep” 5/22/2012

Montefiore Hospital/ Albert Einstein Medical School. Sleep-Wake Disorders Grand Rounds “The impact of equipment and feature choice on CPAP compliance and efficacy” 11/13/2012


Norwalk Hospital- Sleep Grand Rounds. “Improving CPAP compliance and efficacy” 3/8/2013

**J. BIBLIOGRAPHY**

Entries should follow standard journal format, listing all authors, complete titles and inclusive pagination. Number the entries and put your name in bold type. The listings must be organized in chronological order within the following categories:

Peer Reviewed Articles


Matthew R. Ebben, Mona Shahbazi, Dale J. Lange, Ana C. Krieger:


Book Chapters:


Abstracts:


Appendix I

Letter of Support
August 22, 2013

To Whom It May Concern:

This letter is in support of the proposed Kingsborough Community College (KBCC) program in Polysomnographic Technology. Since the opening of our Center for Sleep Medicine, we have conducted our own training of polysomnographic technicians due to lack of adequate professional training in the region. Having a training program at KBCC will provide a reliable source of highly qualified and properly trained technicians. Furthermore, this new training program at KBCC will allow technicians to obtain an associate’s degree, which is a new requirement in order to qualify for State licensure to work as a polysomnographic technician in a clinical sleep laboratory in New York State.

Our Center fully endorses the development of this program at KBCC. Moreover, we believe this Polysomnographic Technologist training program will be a great recruitment source for ours and other sleep centers in the region. Having proper leadership is essential to gaining credibility in the field. Therefore, I am very happy that Dr. Matthew Ebben has been recruited to direct this program. He has been in charge of training technicians in our Center for the past 17 years and I can think of no better person to take the lead in this training program.

Please feel free to contact me should you have any questions about this matter.

Ana C. Krieger, MD, MPH, FCCP, FAASM
Medical Director, Weill Cornell Center for Sleep Medicine
Associate Professor, Departments of Medicine, Neurology & Neuroscience and Genetic Medicine
Associate Attending Physician, New York Presbyterian Hospital and Rockefeller University Hospital
Weill Cornell Medical College, Cornell University
Phone: (646) 962-7378
Fax: (646) 962-0455
E-mail: ack2003@med.cornell.edu