

**UNIVERSITY OF TEXAS TYLER**  
**COLLEGE OF NURSING AND HEALTH SCIENCES**  
**School of Nursing**  
**Spring Semester, 2018**

**COURSE NUMBER AND TITLE:** NURS 4341/5341 Special Topics in Nursing  
Sleep Better: Neurophysiology of Sleep and Wake

**SECTION NUMBER:**

**CPIRSE CREDIT:** 3 Credits

**CLASS MEETING DAYS:** On-line

**PREREQUISITES:** None

**FACULTY:** Shih-Yu "Sylvia" Lee, RN, PhD

Professor

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### Welcome and Introduction



Welcome to the Sleep Better: Neurophysiology of Sleep and Wake. I am [Shih-Yu "Sylvia" Lee](#), your faculty member for this course. I originally came from Taiwan, Republic of China. I have practiced as a nurse in the area of perinatal nursing and served as faculty member in both Taiwan and the United States. My primary line of program of research is in the area of stress-related symptoms management with a focus on sleep disturbances, fatigue, and depressive symptoms.

The structure of this course has been arranged in four MODULES, all the weekly related materials will be available at least one week before the scheduled date. The learning outcomes for each module are:

#### **Module 1 (1<sup>st</sup>-3<sup>rd</sup> week) Basic science of sleep**

1. Describe and discuss sleep neurophysiology as a foundation for approaches for sleep problems.
2. Discuss functions of sleep.
3. List ways in which sleep can be assessed.
4. Ethical, legal, and social issues in sleep medicine.

#### **Module 2 (4<sup>th</sup>-6<sup>th</sup> week) Sleep in lifespan**

1. Compare sleep patterns across the lifespan (sleep in infants, children and adolescents, sleep in older adults, sleep in women).
2. Describe risk for sleep loss due to sleep insufficiency and life style habits.
3. Discuss your personal sleep patterns.

#### **Module 3 (7<sup>th</sup>-12<sup>th</sup> week) Common sleep problems and managements**

1. Describe the common sleep disorders (insomnia, excessive sleepiness, sleep-related breathing disorders, circadian rhythms disorders, parasomnias and abnormal sleep related movement, restless legs syndrome)
2. Describe bio-psycho-social outcomes of sleep loss.

3. List ways in which sleep can be assessed.
4. Examine standard behavioral approaches to treating sleep problems, alone and in combination with pharmacological treatments.

**Module 4 (13<sup>th</sup>- 15<sup>th</sup> week) Sleep and health promotion**

1. Describe risk for sleep loss due to sleep fragmentation and chronic illness (medications and their effects on sleep).
2. Discuss the healthcare provider’s role in educating patients about sleep hygiene as a health-promotion self-care strategy.

**COURSE DESCRIPTION:** Students will gain an understanding of sleep theories and neural mechanisms contributing to states of sleep and wakefulness. Emphasis is on understanding how perturbations neurotransmitter systems manifest as sleep related disorders and on interventions for sleep disorders.

**STUDENT LEARNING OUTCOMES**

Upon successful completion of this course, the student should be able to:

1. Define the basic neurophysiological regulation of sleep and wakefulness.
2. Define the physiological correlates and diagnostic criteria of common sleep disorders (insomnia, excessive sleepiness, sleep apnea, circadian rhythms disorders, and restless leg syndromes etc.).
3. Discuss qualitative and quantitative data to identify evidence of sleep abnormalities.
4. Assess electrophysiological, actigraphy, and sleep diaries to detect patterns of circadian and homeostatic correlates of both normal and abnormal sleep.
5. Develop a self-management plan to improve sleep based on the sleep diary.

In addition to meeting the aforementioned objectives, NURS 5341 students will

6. Develop a plan of care for individuals with sleep abnormalities using behavioral and/or complementary alternative medicine.

**LINKAGE AMONG STUDENT LEARNING OUTCOMES AND COURSE ASSESSMENT METHODS**

<b>Student Learning Outcomes</b>	<b>Course Assessment Methods</b>
1. Define the basic neurophysiological regulation of sleep and wakefulness.	Discussion
2. Define the physiological correlates and diagnostic criteria of common sleep disorders (insomnia, excessive sleepiness, sleep apnea, circadian rhythms disorders, and restless leg syndromes etc.).	Discussion
3. Discuss qualitative and quantitative data to identify evidence of sleep abnormalities.	Discussion, assignment 1
4. Assess electrophysiological, actigraphy, and sleep diaries to detect patterns of circadian and homeostatic correlates of both normal and abnormal sleep.	Discussion, assignments 1, 2
5. Develop a self-management plan to improve sleep based on the sleep diary.	Assignments 1, 2
6. Develop a plan of care for individuals with sleep abnormalities using behavioral and/or complementary alternative medicine (for the students in 5341).	Assignment 2 (extra case study)

**TEACHNG METHODS:** Lecture, discussion, audiovisual, sleep lab field trip.

**COURSE REQUIREMENTS:**

**EXPECTATIONS OF STUDENTS:**

1. Complete all the required readings and ask questions in a timely manner for clarification about assignments/topics.
2. Self-directed in meeting learning needs.
3. Active class participation. This includes contributing to discussions in a meaningful way, staying focused on the discussion at hand with relevant questions or comments, demonstrating that assignments have been read, and asking appropriate questions.
4. Routinely checking email/blackboard for any updates/changes.
5. **On time for all assignments (5 points per day deducted for late assignments, contact faculty member as soon as possible if you are experiencing any challenging).**

**COMMUNICATION:**

Faculty-student communication is ESSENTIAL for an effective learning environment. Students can communicate with course faculty via e-mail, telephone, zoom meeting, in person or set up time for an appointment

- Private or individual communication: you can call or e-mail (see p.1 for contact information)
- Group communication: We will use the UTT email for communication unless you specifically tell me your preferred email address.
- Faculty is available to talk with you about course-related issues and questions. It is important to contact me early in the process

**GRADING POLICY AND CRITERIAL TO DETERMIN FINAL GRADE:**

Grades will be based upon the following:

- |  |     |
|--|-----|
| 1. Personal sleep diary  | 20% |
| 2. Self-management plan to improve sleep<br>(for the students in 5341, in addition to a case study will be provided) | 50% |
| 3. Class discussion  | 30% |

**1. PERSONAL SLEEP DIARY:** A standardized 7-day sleep diary will be given, and each student is expected to complete it. **Due 3/4 at 11:59 pm.**

**2. SELF-MANAGEMENT PLAN TO IMPROVE SLEEP:** Each student is expected to: (1) analyze your own sleep pattern based on the 7-day sleep diary; (2) identify the factors related to your poor or good sleep; (3) develop a self-management plan to improve sleep. **Due 4/14 at 11:59 pm.**

**3. CLASS DISCUSSIONS:** For the discussion questions, each student needs post one original post for each question and respond to at least two of your peers.

**4. CASE STUDY (ONLY FOR THE STUDENTS IN 5341):** A clinical case will be given for the students in the 5341. Students are expected to: (1) identify the patient's sleep/health problems; (2) provide the existing and required subject and objective data to support the sleep/health problems; (3) provide suggestions to care for the sleep/health problem. **Due 4/21 at 11:59 pm.**

Final grades for the course will be determined based upon the following point assignments:

- A - 90-100
- B - 80-89
- C - 70-79
- D - 60-69
- F - Below 60

**Recommended (not required) texts and resources:**

Lee-Chiong, T. (2008). Sleep Medicine: Essential and Review. New York, NY: Oxford. ISBN 978-0-19-560659-0.

Strohl, K.P. (2014). Competencies in Sleep Medicine. New York, NY: Springer Science + Business Media. ISBN 978-1-4614-9064-7.

**SYLLABUS AS GENERAL OUTLINE**

This course syllabus is a general outline of course assignments and activities, subject to change if needed during the course of the semester.

**COURSE COTNET/CALENDAR (tentative)**

WEEK	MODULE/TOPICS	READING AND ACTIVITIES
1 <sup>st</sup> week (1/14-18)	<b>Module 1 Basic Science of Sleep</b> Introduce the course What is sleep? Why we spend one third of our life in sleep?	<u>Readings:</u> 1. Schulz & Salzarulo (2016) 2. Buysse, D.J. (2014) <u>Activities:</u> 1. Self-reflection: why you take this course?
2 <sup>nd</sup> week (1/21-25)	<b>Module 1</b> Two-process model of sleep regulation Whys to assess sleep	<u>Readings:</u> 1. Buysse, D.J. (2014) 2. Marino, M. et al. (2013) <u>Activities:</u> 1. Explore National Sleep Foundation ( <a href="#">NSF</a> )
3 <sup>rd</sup> week (1/28-2/1)	<b>Module 1</b> Sleep and memory Ethical, legal, and social issues in sleep medicine	<u>Readings:</u> 1. Ahuja, S. et al., (2018). <u>Activities:</u> 1. Discussion board: how to improve your memory from sleep perspective?
4 <sup>th</sup> week (2/4-8)	<b>Module 2 Sleep in Lifespan</b> Sleep in infants, children, and adolescents	<u>Activities:</u> 1. Explore NSF: <a href="#">Children and Sleep</a> 2. Explore NSF: <a href="#">Teens and Sleep</a>
5 <sup>th</sup> week (2/11-15)	<b>Module 2</b> Sleep in older adults	<u>Readings:</u> 1. Mander, B.A. et al., (2017) <u>Activities:</u> 1. Discussion board: the sleep patterns of your grandparents or an older adult you know

WEEK	MODULE/TOPICS	READING AND ACTIVITIES
6 <sup>th</sup> week (2/18-22)	<b>Module 2 Sleep in Lifespan</b> Sex and genders differences in sleep	<u>Readings:</u> 1. Mallampalli & Carter (2014) <u>Activities:</u> 1. Explore NSF: <a href="#">do women need more sleep than men?</a>
7 <sup>th</sup> week (2/25-3/1)	<b>Module 3 Common Sleep Problems and Managements</b> Sleepless while you are under stress Managements for insomnia	<u>Activities:</u> 1. Explore American Psychological Association: <a href="#">Stress and sleep</a>
8 <sup>th</sup> week (3/4-8)	<b>Module 3</b> The problems as a shift-worker Managements for circadian rhythms disorders	<u>Readings:</u> 1. <a href="#">Saulle, R. et al.</a> (2018) <u>Activities:</u> 1. Explore NSF: <a href="#">shift work and sleep</a> 2. 7-days sleep diary due 3/4 at 11:50 pm
9 <sup>th</sup> week (3/11-15)	SPRING BREAK	
10 <sup>th</sup> week (3/18-23)	<b>Module 3</b> Are you falling sleep in classes? Managements for excessive sleepiness and narcolepsy	<u>Readings:</u> 1. Concecion et al. (2014) <u>Activities:</u> 1. Discussion board: what is your ideal school schedule from sleep perspective?
11 <sup>th</sup> week (3/25-30)	<b>Module 3</b> Snoring or sleep apnea? Management of sleep-relate breathing disorders	<u>Activities:</u> 1. Explore National Heart, Lung, and Blood Institute: <a href="#">sleep apnea</a>
12 <sup>th</sup> week (4/1-5)	<b>Module 3 (Last day to withdraw is 4/1)</b> Why my body keep shacking? Management of abnormal sleep related movements	<u>Activities:</u> 1. Explore NSF: <a href="#">restless legs syndromes and sleep</a>
13 <sup>th</sup> week (4/8-12)	<b>Module 4 Sleep and Health Promotion</b> Strategies to Sleep Better Chronic illness and its effects on sleep	<u>Readings:</u> 1. Hiditch et al. (2016) <u>Activities:</u> <b>1. Self-management plan due 4/14 at 11:59 pm.</b>
14 <sup>th</sup> week (4/15-19)	<b>Module 4</b> Chronic illness and its effects on sleep	<u>Readings:</u> 1. Ancoli-Israel (2006)
15 <sup>th</sup> week (4/22-26)	<b>Module 4</b> Medications and their effects on sleep What you should expect from the healthcare provider when you have sleep problems?	<u>Readings:</u> 1. Watson et al. (2017) <u>Activities:</u> <b>Case report due 4/21 at 11:59 pm (students in 5341)</b>
16 <sup>th</sup> week (4/29-5/3)	Final Week	Wrap up the course

Learning Resources:

1. [National Sleep Foundation](#)
2. [American Academy of Sleep Medicine](#)
3. [American Psychological Association](#)

**Reading Articles**

Ahuja, S. et al., (2018). Role of normal sleep and sleep apnea in human memory processing. *Nature and Science of Sleep*, 10, 255-269.

Ancoil-Israel (2006). The impact and prevalence of chronic insomnia and other sleep disturbances associated with chronic illness. *The American Journal of Managed Care*, 12 (8s), 221-229.

Buysse, D.J. (2014). Sleep health: can we define it? does it matter?

Concepcion, T. et al. (2014). Daytime sleepiness, poor sleep quality, eveningness chronotype and common mental disorders among Chilean college students. *Journal of American College Health*

Hiditch, C.J. et al., (2016). A 30-minute, but not a 10-minute nighttime nap is associated with sleep inertia. *Journal of Sleep*, 3, 675-685.

Mander, B.A., et al., (2017). Sleep and human aging. *Neuron*, 94, 19-36.

Mallampalli, M.P. & Carter, C.L. (2014). Exploring sex and gender differences in sleep health: a society for women’s health research report. *Journal of Women’s Health*, 553-562

Marino, M. et al., (2013). Measuring sleep: accuracy, sensitivity, and specificity of wrist actigraphy compared to polysomnography. *Journal of Sleep*, 36, 1747-1755.

Saulle, R., et al., (2018). Shift work, overweight and obesity in health professionals: a systematic review and meta-analysis.

Schulz & Salzarulo (2016). The development of sleep medicine: a historical sketch. *Journal of Clinical Sleep Medicine*, 1041-1052.

Watson, N.F., Rosen, I.M., & Chervin, R.D. (2017). The past is prologue: the future of sleep medicine. *Journal of Clinical Sleep Medicine*, 13, 127-135.

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**UNIVERSITY POLICIES**

**UT Tyler Honor Code**

Every member of the UT Tyler community joins together to embrace: Honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of those who do.

**Students Rights and Responsibilities**

To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link: <http://www.uttyler.edu/wellness/rightsresponsibilities.php>

**Campus Carry**

We respect the right and privacy of students 21 and over who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is available at

<http://www.uttyler.edu/about/campus-carry/index.php>.

## **UT Tyler a Tobacco-Free University**

All forms of tobacco will not be permitted on the UT Tyler main campus, branch campuses, and any property owned by UT Tyler. This applies to all members of the University community, including students, faculty, staff, University affiliates, contractors, and visitors. Forms of tobacco not permitted include cigarettes, cigars, pipes, water pipes (hookah), bidis, kreteks, electronic cigarettes, smokeless tobacco, snuff, chewing tobacco, and all other tobacco products. There are several cessation programs available to students looking to quit smoking, including counseling, quitlines, and group support. For more information on cessation programs please visit [www.uttyler.edu/tobacco-free](http://www.uttyler.edu/tobacco-free).

## **Grade Replacement/Forgiveness and Census Date Policies**

Students repeating a course for grade forgiveness (grade replacement) must file a Grade Replacement Contract with the Enrollment Services Center (ADM 230) on or before the Census Date of the semester in which the course will be repeated. (For Fall, the Census Date is Sept. 12.) Grade Replacement Contracts are available in the Enrollment Services Center or at <http://www.uttyler.edu/registrar>. Each semester's Census Date can be found on the Contract itself, on the Academic Calendar, or in the information pamphlets published each semester by the Office of the Registrar.

Failure to file a Grade Replacement Contract will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates are eligible to exercise grade replacement for only three course repeats during their career at UT Tyler; graduates are eligible for two grade replacements. Full policy details are printed on each Grade Replacement Contract. The Census Date (Sept. 12th) is the deadline for many forms and enrollment actions of which students need to be aware. These include:

- Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses as Audit, Pass/Fail or Credit/No Credit.
- Receiving 100% refunds for partial withdrawals. (There is no refund for these after the Census Date)
- Schedule adjustments (section changes, adding a new class, dropping without a "W" grade)
- Being reinstated or re-enrolled in classes after being dropped for non-payment
- Completing the process for tuition exemptions or waivers through Financial Aid

## **State-Mandated Course Drop Policy**

Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the census date (See Academic Calendar for the specific date).

Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Enrollment Services Center and must be accompanied by documentation of the extenuating circumstance. Please contact the Enrollment Services Center if you have any questions.

## **Disability/Accessibility Services**

In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University offers accommodations to students with learning, physical and/or psychiatric disabilities. If you have a disability, including non-visible disabilities such as learning disabilities, chronic illness, TBI, PTSD, ADHD, or you have a history of modifications or accommodations in a previous educational environment you are encouraged to visit the <https://hood.accessiblelearning.com/UTTyler> and fill out the New Student application.

The Student Accessibility and Resources (SAR) office will contact you when your application has been submitted and an appointment with Cynthia Lowery, Assistant Director of Student Services/ADA Coordinator. For more information, including filling out an application for services, please visit the SAR webpage at <http://www.utt Tyler.edu/disabilityservices>, the SAR office located in the University Center, #3150 or call 903.566.7079.

## **Student Absence due to Religious Observance**

Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

## **Student Absence for University-Sponsored Events and Activities**

If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

## **Social Security and FERPA Statement**

It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

## **Emergency Exits and Evacuation**

Everyone is required to exit the building when a fire alarm goes off. Follow your instructor's directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.

## **Student Standards of Academic Conduct**

Disciplinary proceedings may be initiated against any student who engages in scholastic dishonesty, including, but not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

- i. "Cheating" includes, but is not limited to:
  - copying from another student's test paper;



- using, during a test, materials not authorized by the person giving the test;
  - failure to comply with instructions given by the person administering the test;
  - possession during a test of materials which are not authorized by the person giving the test, such as class notes or specifically designed “crib notes”. The presence of textbooks constitutes a violation if they have been specifically prohibited by the person administering the test;
  - using, buying, stealing, transporting, or soliciting in whole or part the contents of an unadministered test, test key, homework solution, or computer program;
  - collaborating with or seeking aid from another student during a test or other assignment without authority;
  - discussing the contents of an examination with another student who will take the examination;
  - divulging the contents of an examination, for the purpose of preserving questions for use by another, when the instructors has designated that the examination is not to be removed from the examination room or not to be returned or to be kept by the student;
  - substituting for another person, or permitting another person to substitute for oneself to take a course, a test, or any course-related assignment;
  - paying or offering money or other valuable thing to, or coercing another person to obtain an unadministered test, test key, homework solution, or computer program or information about an unadministered test, test key, home solution or computer program;
  - falsifying research data, laboratory reports, and/or other academic work offered for credit;
  - taking, keeping, misplacing, or damaging the property of The University of Texas at Tyler, or of another, if the student knows or reasonably should know that an unfair academic advantage would be gained by such conduct; and
  - misrepresenting facts, including providing false grades or resumes, for the purpose of obtaining an academic or financial benefit or injuring another student academically or financially.
- ii. “Plagiarism” includes, but is not limited to, the appropriation, buying, receiving as a gift, or obtaining by any means another’s work and the submission of it as one’s own academic work offered for credit.
- iii. “Collusion” includes, but is not limited to, the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any section of the rules on scholastic dishonesty.
- iv. All written work that is submitted will be subject to review by SafeAssign™, available on Blackboard.

### **UT Tyler Resources for Students**

- [UT Tyler Writing Center](http://writingcenter@uttyler.edu) (903.565.5995), [writingcenter@uttyler.edu](mailto:writingcenter@uttyler.edu)
- [UT Tyler Tutoring Center](http://tutoring@uttyler.edu) (903.565.5964), [tutoring@uttyler.edu](mailto:tutoring@uttyler.edu)
- The Mathematics Learning Center, RBN 4021, this is the open access computer lab for math students, with tutors on duty to assist students who are enrolled in early-career courses.
- [UT Tyler Counseling Center](http://counseling@uttyler.edu) (903.566.7254)