

Program Information	
<b>Major</b> (Name of Program)	International Course for Sleep Technologists ICST-Shiraz (2020)
<b>Program Type<sup>1</sup></b> (For Further Information Regarding Program Types, Please Refer to the Glossary)	Degree Based <input type="checkbox"/> Non-Degree Based <input checked="" type="checkbox"/> (Please specify in one of the next two rows)
<b>Degree Based Level of study<sup>2</sup></b> (For Further Information Regarding Degree-Based Levels of Study Please Refer to the Glossary)	Undergraduate <input type="checkbox"/> Master's <input type="checkbox"/> Ph.D. (By Coursework and Research <input type="checkbox"/> By Research <input type="checkbox"/> Specialty <input type="checkbox"/> Subspecialty <input type="checkbox"/>
<b>Non-Degree Based Level Of Study<sup>2</sup></b> (For Further Information Regarding Non-Degree Based Levels of Study, Please Refer to the Glossary)	Fellowship <input type="checkbox"/> Post-Doctorate <input type="checkbox"/> Short-Term Training Program <input checked="" type="checkbox"/> (Duration: 3 Months) Medical Elective (Clinical Rotation/Internships) <input type="checkbox"/> Summer Program <input type="checkbox"/> Other <input type="checkbox"/> (Please specify) .....
<b>School/Research Center</b>	Behavioral Sleep Disorders Unit (BSDU), Department of Neuroscience, School of Advanced Medical Sciences and Technologies, SUMS
<b>Department</b>	Neuroscience
<b>Brief Description of the Major/Study Program</b> (300 to 1000 Characters)	Sleep technologists, often referred to as polysomnography technologists, perform studies on patients suffering from sleep disorders. The duties of these technologists include preparing rooms and patients for observation, monitoring patients as they sleep, and recording results. This 12-wk course and hands-on will assist the attendees with their career pathway in becoming a sleep technologist. During the ICST-Shiraz Program, they would be provided with the opportunity to grasp in-depth knowledge and theoretical insights as well as practical hints and hands-on experience. The course, further, is moderated by cross-disciplinary international experts.
<b>Keywords (At Least 3)</b>	PSG, Sleep Technologists, A-step, International Course, Certificate

<b>Related Website/Webpage</b> (If Any)	www.gsia.sums.ac.ir
<b>Program Approach</b>	Theoretical <input type="checkbox"/> Practical <input type="checkbox"/> Mixed <input checked="" type="checkbox"/>
<b>Capacity</b> (Number of International Students for Each Academic Year)	Minimum: 8 Maximum: 16
<b>Tuition Fee</b>	1450 USD
<b>First Admission Round for This Academic Year (2019-2020)</b>	September 2019 (Mehr 1398) <input type="checkbox"/> February 2019 (Bahman 1398) <input checked="" type="checkbox"/>
<b>Complete Description (Curriculum) of the Major/Study Program</b>	<p style="color: red;">“Complete description and the course content of the program can be found at the end of this file.”</p>
<b>Language Requirements<sup>3</sup></b>	For further information regarding English Language Proficiency, please see the Glossary.
<b>Admission Requirements<sup>4</sup></b> (For Further Information Regarding Admission Requirements, Please See the Glossary)	B.Sc./M.Sc./ M.Sc. students in Allied Medical Sciences Medical Students Registered Nurses  Applicants should submit their prior academic degree(s) or their current certificate of academic enrollment along with the pertinent official transcript(s) of records.

<b>Contact Info (Program Coordinator)</b>	
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<b>Cell phone</b>	09173140076
<b>E-mail Address</b>	torabinami@sums.ac.ir
<b>Address</b>	Behavioral Sleep Disorders Unit (BSDU), Department of Neuroscience, School of Advanced Medical Sciences and Technologies, SUMS, Shiraz, Iran Zip Code: 71348-14336
<b>Contact Person</b>	Mohammad Nami, M.D., Ph.D.

## **Glossary**

### **<sup>1</sup>Program Type**

- To apply for B.Sc., M.D., Pharm.D., D.D.S., M.Sc., Ph.D., Specialty, and Sub-Specialty programs, please check our website at [www.gsia.sums.ac.ir](http://www.gsia.sums.ac.ir).
- The applicants should check non-degree programs at [www.gsia.sums.ac.ir](http://www.gsia.sums.ac.ir) if they are intended to apply for SUMS Fellowship, Post-Doctorate, Short-Term Training, Medical Elective, and Summer Programs.

### **<sup>2</sup>Level of study**

- Bachelor of Science (B.Sc.) is a four-year undergraduate program.
- Doctor of Medicine (M.D.) is a seven-year undergraduate program on general Medicine.
- Doctor of Dental Medicine (D.M.D.) is a six-year undergraduate program on Dentistry.
- Doctor of Pharmacy (Pharm.D) is a six-year undergraduate program on Pharmacy.
- Master of Science (M.Sc.) is a two- to three-year graduate program.
- Doctor of Philosophy (Ph.D.) is a three- to five-year graduate program. Including:
  - ✓ Doctor of Philosophy Ph.D. by coursework & research includes two years of Ph.D. courses, a comprehensive exam, and then 2 to 2.5 years of Ph.D. research.
  - ✓ Ph.D. by Research includes 12 credits of Ph.D. courses and then the rest of Ph.D. program would be research oriented.
- Specialty (Residency) is a three- to five-year graduate program offered to MD/MBBS degree holders.
- Subspecialty is a two- to three-year graduate program offered to specialty degree holders.
- Fellowship is a graduate program offered to specialty or subspecialty degree holders.

### **<sup>3</sup>Language Requirements**

- SUMS minimal requirements for English language proficiency for undergraduate admission is a band score of 5.5 on IELTS, or a score of 69 on the TOEFL iBT or 525 on the TOEFL PBT. The following individuals are exempted from providing a certificate of English proficiency:
  - Applicants who are natives of English speaking countries
  - Applicants whose language of instruction in their previous degrees was English.
- SUMS minimal requirements for English language proficiency for graduate admission is a band score of 5.5 on IELTS, or a score of 72 on the TOEFL iBT or 533 on the TOEFL PBT (or its equivalent in TOEFL). The following individuals are exempted from providing a certificate of English proficiency:
  - Applicants who are natives of English speaking countries
  - Applicants whose language of instruction in their previous degrees has been English.

**NOTE 1:** Please note that applicants from/educated in Persian Speaking countries (They shall both speak and write in Persian) who have applied for Degree-based programs may be exempted, based on the decision of the department, from submitting any certificates regarding their English Language Proficiency. Nevertheless, they are required to hand in their English Language Certificate which shall meet SUMS minimal language proficiency requirements, within one year from commencing their studies at SUMS.

**NOTE 2:** Language proficiency level for non-degree program applicants can be determined through online or in-person interviews at the respective department's discretion.

## **4 Admission Requirements**

### **Degree Based Programs**

**Undergraduate** applicants are required to provide us with Secondary School Certificate (SSC) and Higher Secondary School Certificate (HSSC), or their equals.

**Graduate** applicants who are applying for **M.Sc. level** should provide us with B.Sc. degree, SSC, and HSSC (Higher Secondary School Certificate) along with their official transcripts of records.

**Graduate** applicants who are applying for **Ph.D. level** should provide us with M.Sc. and B.Sc. degrees along with their official transcripts of records.

**Graduate** applicants who are applying for **Specialty level** should provide us with M.B.B.S./M.D. degree or its equivalent along with its official transcript of records. They should also submit their Certificate of Practice (COP)/Certificate of Internship.

**Graduate** applicants who are applying for **Subspecialty** should provide us with M.B.B.S./M.D. or its equivalent, and Specialty degree along with their official transcripts of records. They should also provide their Certificate of Practice (COP)/Certificate of Internship.

### **Non-Degree Based Programs**

Academic Degrees and their Transcripts of Records for the applicants of Non-Degree Programs (Post-Doctorate, Fellowship, Short-Term Training, Medical Elective, and Summer Programs, etc.):

The applicants of Non-Degree Programs should submit their prior academic degree(s) along with the pertinent official transcript(s) of records.

Please note that applicants who are applying for Fellowship level should provide us with M.B.B.S./M.D. or its equivalent, and Specialty degree along with their official transcripts of records. They should also provide their Certificate of Practice (COP)/Certificate of Internship.



# Course Schedule and Course Content

# International Course for Sleep Technologists ICST-Shiraz (2020)



*Shiraz University  
of  
Medical Sciences*

*School of Advanced Medical Sciences and Technologies*



Department of Internal Medicine, Division of Pulmonology and Critical Care  
Medicine/Department of Neuroscience, School of Advanced Medical  
Sciences and Technologies, Shiraz University of Medical Sciences

## **In collaboration with:**

- Baylor College of Medicine, Houston TX, USA
- Neuroscience Center, INDICASAT-AIP, Panama City, Republic of Panama
- DBHI/Iranian Neuroscience Society-Fars Chapter, Shiraz, Iran



# International Course for Sleep Technologists ICST-Shiraz (2020)

**A-STEP Class Schedule: A 12-week certificate course designed to train Certified Polysomnography-PSG-Technologists (CPSGT)**

## **A: Course Format:**

Webinar/Seminar and Onsite Hands-on Practice

## **B: Course Venue:**

- Nemazee Hospital Sleep Laboratory, Shiraz University of Medical Sciences, Shiraz, Iran
- Behavioral Sleep Disorders Unit, School of Advanced Medical Sciences and Technologies, Shiraz University of Medical Sciences, Shiraz, Iran
- Sleep Disorders Center, Ordibehesht Hospital, Shiraz, Iran
- Sleep Health Unit, DBHI, Iranian Neuroscience Society, Fars Chapter, Shiraz, Iran

## **C: Course Co-directors:**

### **Prof. Amir Sharafkhaneh,**

Sleep Disorders Fellowship, Prof. of Pulmonology and Critical Care Medicine, Baylor College of Medicine, Houston, TX, USA

### **Dr. Samrad Mehrabi**

Sleep Disorders Fellowship, Assistant Prof. of Pulmonology and Critical Care Medicine, Shiraz University of Medical Sciences, Shiraz, Iran

### **Dr. Mohammad Nami**

Sleep Disorders Fellowship, Assistant Prof. of Neuroscience, Shiraz University of Medical Sciences, Shiraz, Iran

## **D: Contributing Moderators/Faculty:**

### **Dr. Azita Tavallaie**

Anesthesiologist, Sleep Disorders Center, Ordibehesht Specialty Hospital, Shiraz, Iran

### **Prof. Asadollah Zarifkar**

Professor of Medical Physiology, Shiraz University of Medical Sciences, Shiraz, Iran

### **Dr. Hadi Aligholi**

Assistant Prof. of Neuroscience, Shiraz University of Medical Sciences, Shiraz, Iran

### **Dr. Ali Davarpanah**

Assistant Prof. of Infectious Diseases and Tropical Medicine, Shiraz University of Medical Sciences, Shiraz, Iran

### **Prof. KSJ Rao**

Prof. of Neuroscience, Neuroscience Center, INDICASAT-AIP, Panama City, Republic of Panama

# Course Schedule

Week 1: Thursday, April 16 – Friday, April 17, 2020	
Topic	Presenter
Introduction to Course Content/ Orientation	Prof A. Sharafkhaneh
Syllabus Review	Dr. M. Nami
Introduction to Polysomnography	Dr. M. Nami
The Sleep Technologist's Role	Dr. S. Mehrabi
Patient Nursing Care and Safety	Dr. A. Tavallaie
Medical Ethics, Professional Behavior, Dress code	Dr. M. Nami
HIPAA	Dr. S. Mehrabi
Infection Control	Dr. Ali Davarpanah
Emergency Protocols	Dr. A. Tavallaie
History of Sleep Medicine & Sleep Architecture	Prof A. Sharafkhaneh
EEG Pattern Recognitions	Dr. M. Nami
Medical Terminology in Polysomnography	Dr. S. Mehrabi
Documentation & Chart Review	Prof A. Sharafkhaneh
Summarizing the PSG & Introduction to Calculation	Prof A. Sharafkhaneh

Week 2: Thursday, April 23 - Friday, April 24, 2020	
Topic	Presenter
Review of PSG Calculations	Prof A. Sharafkhaneh
Overview of Sleep Disorders	Dr. S. Mehrabi
Neurobiology of Sleep	Prof. KSJ Rao
Effects of Sleep Deprivation	Dr. H. Aligholi
Anatomy and Physiology of Breathing /Mechanics of Breathing	Prof A. Sharafkhaneh
Anatomy & Physiology of the Central Nervous System	Dr. M. Nami
Anatomy & Physiology of the Musculoskeletal System	Prof. A. Zarifkar
The Cardiovascular System	Dr. S. Mehrabi
Somnopharmacology	Dr. M. Nami

Week 3: Thursday, April 30 – Friday, May 1, 2020	
Topic	Presenter
Instrumentation, Sensitivity, Filters, Time Constant	Prof. A. Sharafkhaneh
Ancillary Equipment	Dr. M. Nami
Theory of Operation of Oximeters	Dr. M. Nami
Polygraph Calibration	Dr. S. Mehrabi
Introduction to PAP Titrations	Dr. S. Mehrabi
Introduction to Non-invasive Ventilation	Dr. S. Mehrabi
Introduction to Oxygen Titration	Dr. A. Tavallaie

Week 4: Thursday, May 7 - Friday, May 8, 2020	
Topic	Presenter
Hardware and Software Calibration	Prof. A. Sharafkhaneh
Aliasing, Screen Resolution, Sampling Rate	Prof. A. Sharafkhaneh
Data Acquisition & Equipment Interface	Prof. A. Sharafkhaneh
Montage Development	Dr. M. Nami
Artifact Recognition and Response	Dr. M. Nami
Patient Interaction during Recording	Dr. S. Mehrabi
Responding to Critical Events	Dr. S. Mehrabi
Responding to Sleep Disorders (e.g. Parasomnias)	Dr. M. Nami
Pediatric Polysomnography	Dr. M. Nami
Recording Montages (Baseline, CPAP, Split)	Dr. S. Mehrabi
Ancillary Equipment & Placement of Ancillary Monitors	Dr. S. Mehrabi
10-20 System of Electrode Placement	Dr. M. Nami
Documentation during Recording	Prof. A. Sharafkhaneh

Week 5: Clinical Observation (May 9 - May 15, 2020)		
Cluster	Time	Activity
A	7:00 p.m. – 11:00 p.m. (two nights)	Practical Observation in the Nemazee Hospital Sleep Lab., SUMS
B	7:00 p.m. – 11:00 p.m. (two nights)	Practical Observation in BSDU-SUMS Sleep Lab./DBHI
C	7:00 p.m. – 11:00 p.m. (two nights)	Practical Observation in Ordibehest Hosp. Sleep Center

Week 6: Thursday, May 21 - Friday, May 22, 2020	
Topic	Presenter
PSG Record Scoring (Sleep Staging, Arousal, Respiratory, Cardiac and Movement Scoring)	Dr. M. Nami
10-20 System of Electrode Placement	Dr. M. Nami
Abnormal EEG and Seizure Recognition	Dr. M. Nami
Movement Disorders	Dr. M. Nami
Circadian Rhythm Disorders	Dr. S. Mehrabi
Seizure Disorders and Interventions	Dr. M. Nami
Recognition of Cardiac Arrhythmias	Dr. S. Mehrabi
Quality Assurance	Prof. A. Sarafkhaneh
Data Storage	Prof. A. Sarafkhaneh
Intra-scorer Reliability	Prof. A. Sarafkhaneh
MSLT & MWT	Prof. A. Sharafkhaneh
Review PAP Titrations	Dr. S. Mehrabi

Week 7: Night shifts – 9:00 p.m. – 7:00 a.m. (May 23 - May 29, 2020)			
Cluster	Time	Activity	Course Content
A	9:00p.m. – 7:00 a.m. (two nights)	Practical Observation, BSDU-SUMS Sleep Lab./DBHI	<ul style="list-style-type: none"> <li>◆ EEG Pattern Recognition</li> <li>◆ Vital Signs</li> <li>◆ Clinical Observation &amp; 10-20 System of Electrode Placement</li> <li>◆ Polysomnography in the Laboratory</li> <li>◆ PAP Titration Polysomnography</li> <li>◆ Electrode Placement &amp; Ancillary Equipment Placement</li> <li>◆ Polygraph Calibration</li> <li>◆ Clinical Observation &amp; Documentation</li> <li>◆ Equipment Cleaning &amp; Sterilization</li> </ul>
B	9:00p.m. – 7:00 a.m. (two nights)	Practical Observation, Ordibehest Hosp. Sleep Center	
C	9:00p.m. – 7:00 a.m. (two nights)	Practical Observation, Nemazee Hosp. Sleep Lab.	

Week 8: Night shifts – 9:00 p.m. – 7:00 a.m. (May 30 - Jun 5, 2020)			
Cluster	Time	Activity	Course Content
A	9:00p.m. – 7:00 a.m. (two nights)	Practical Observation in Ordibehest Hosp. Sleep Center	<ul style="list-style-type: none"> <li>◆ 10-20 System of Electrode Placement</li> <li>◆ PSG Monitoring Techniques</li> <li>◆ CPAP/BPAP Titrations</li> </ul>
B	9:00p.m. – 7:00 a.m. (two nights)	Practical Laboratory Observation in Nemazee Hospital Sleep Lab., SUMS	
C	9:00p.m. – 7:00 a.m. (two nights)	Practical Laboratory Observation in BSDU- SUMS Sleep Lab./ DBHI	

Week 9: Clinical Observation – 3:00 p.m. – 9:00 p.m. (Jun. 6 – Jun. 12, 2020)			
Cluster	Time	Activity	Course Content
A	3:00 p.m. – 9:00 p.m.	Practical Observation, Ordibehest Hosp. Sleep Center	<ul style="list-style-type: none"> <li>◆ PSG Record Scoring (Sleep Staging, Arousal, Respiratory, Cardiac and Movement Scoring)</li> <li>◆ Record Review</li> <li>◆ Patient Monitoring</li> </ul>
B	3:00 p.m. – 9:00 p.m.	Practical Observation, Nemazee Hosp. Sleep Lab., SUMS	
C	3:00 p.m. – 9:00 p.m.	Practical Observation, BSDU-SUMS sleep Lab./DBHI	

Week 10: Clinical Observation – 3:00 p.m. – 9:00 p.m. (Jun. 13 – Jun. 19, 2020)			
Cluster	Time	Activity	Course Content
A	3:00 p.m.– 9:00 p.m.	Practical Observation in BSDU-SUMS sleep Lab. /DBHI	<ul style="list-style-type: none"> <li>◆ Cardio-Respiratory Polysomnography</li> <li>◆ Movement Disorders and Parasomnia</li> <li>◆ Patient Monitoring</li> </ul>
B	3:00 p.m.– 9:00 p.m.	Practical Observation in Ordibehest Hosp. Sleep Center	
C	3:00 p.m.– 9:00 p.m.	Practical Observation in Nemazee Hosp. Sleep Lab., SUMS	

Week 11: Thursday, Jun. 25 - Friday, Jun. 26, 2020	
Topic	Presenter
How to Do Teamwork	Dr. S.Mehrabi/ Dr. M. Nami
How to Manage a Sleep Center	Prof. A. Sharafkhaneh/ Dr. M. Nami

Week12: Thursday, Jul 2- Friday, Jul 3, 2020	
Topic	Presenter
Course Review	The Panel
Miscellaneous Instruction	The Panel
Final Examination	The Examination Board