

2020-2021 Program Assessment Report

Sleep Health A.A.S. Polysomnographic Technology Option

1. Mission, Objectives & Learning Outcomes

Oregon Tech Mission

Oregon Institute of Technology, an Oregon public university, offers innovative and rigorous applied degree programs in the areas of engineering, engineering technologies, health technologies, management, and the arts and sciences. To foster student and graduate success, the university provides an intimate, hands-on learning environment, focusing on application of theory to practice. Oregon Tech offers statewide educational opportunities for the emerging needs of Oregonians and provides information and technical expertise to state, national and international constituents.

Core Theme 1: Applied Degree Programs

Oregon Tech offers innovative and rigorous applied degree programs. The teaching and learning model at Oregon Tech prepare students to apply the knowledge gained in the classroom to the workplace.

Core Theme 2: Student and Graduate Success

Oregon Tech fosters student and graduate success by providing an intimate, hands-on learning environment, which focuses on application of theory to practice. The teaching and support services facilitate students' personal and academic development.

Core Theme 3: Statewide Educational Opportunities

Oregon Tech offers statewide educational opportunities for the emerging needs of Oregon's citizens. To accomplish this, Oregon Tech provides innovative and rigorous applied degree programs to students across the state of Oregon, including high-school programs, online degree programs, and partnership agreements with community colleges and universities.

Core Theme 4: Public Service

Oregon Tech will share information and technical expertise to state, national, and international constituents.

Program Mission

The Sleep Health - Polysomnography option, an Associate of Applied Science degree program, provides instruction and clinical practice in a distance learning format. The vocational Certificate program, typically completed the first year of the 2-year PSG A.A.S., prepares students to achieve professional proficiency in sleep health and technology and to acquire the professional credentials in needed to work as a Sleep Technologist (RPSGT) immediately upon completion of the Certificate. Typically, a newly registered RPSGT works as a staff sleep technologist on night shift, performing overnight sleep studies. Often after 3 to 5 years, an RPSGT is offered a daytime position in the sleep lab, performing narcolepsy testing, helping sleep apnea patients with their treatments, and analyzing data recorded by the night technologists. Usually after 5 years as a sleep technologist, a graduate with the A.A.S. degree would be considered for a management position in a sleep center.

Program Alignment to Oregon Tech Mission and Core Themes

The A.A.S. Sleep Health – Polysomnography program is designed to meet the needs of new sleep technicians working in sleep centers across the country. The program meets one of the pathways for technicians sitting for the national registry exam in sleep technology: “completion of a program accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP)”. This distance education program is designed to meet the CAAHEP Committee on Accreditation for Polysomnographic Technology (CoA PSG) standards and the needs of place-bound technicians. The entire program is delivered online with local clinical facilities, near where the students are located, providing the clinical practicum.

Core Theme 1: Applied Degree Programs: We are dedicated to providing the highest quality education in the EMS industry as demonstrated through the caliber of our faculty, the tremendous success of our alumni, and the enthusiastic support of our EMS employers.

Core Theme 2: Student and Graduate Success: Our aim is to continue to partner with high potential students, from diverse backgrounds and perspectives, and assist them in becoming national EMS clinical and organizational leaders.

Core Theme 3: Statewide Educational Opportunities: We will continue supporting bold intellectual pursuits that advance and expand the EMS industry’s comfort zone in order to improve and innovate both the quality of individual patient care as well as the systems of EMS care.

Core Theme 4: Public Service: We strive to partner with communities, industry, other colleges and universities, and private citizens to develop community-based solutions to community problems.

2. Program Description and History

***The focus of this assessment report will be on the PSG Certificate portion of the PSG AAS as nearly all PSG students enter the program to first earn the Certificate which allows sitting for the national board exam in sleep technology.**

History

The program began in 2007 as the first national fully-online CAAHEP accredited program for polysomnography.

Description

For the PSG Certificate, students take online didactic courses along with completing a part-time clinical rotation in an AASM- accredited sleep lab in their local area. Students must complete a total of 540 clinical sleep lab hours during the program per our CAAHEP accreditation, with 360 of the hours being completed during night shift. Students are eligible to sit for the national registry exam in Polysomnography Technology (RPSGT) offered by the Board of Registered Polysomnographic Technology (BRPT) upon completion of the first-year certificate courses and clinical rotation.

A legal affiliation agreement is completed between the clinical site and Oregon Tech and the student typically completes some on-boarding requirements of the clinical site. OIT requires students to have current BLS/CPR, updated immunization record, and complete a national criminal background check.

In 2020-2021, students from the following states were admitted: OR, WA, SC, MS, IN, ID, VA, NC, and KY.

Enrollment and Attrition (PSG Certificate)

	2018-2019	2019-2020	2020-2021
Admitted	12	5	10
Graduated	10	3	9
Passed National Exam	9	2	5
Employed	9	2	5

Industry Relationships:

40% of 2020-2021 admitted students were set up for clinical rotation at a site with an existing affiliation agreement with Oregon Tech. This is down from 100% in 2019-2020.

Success Stories:

All students complete a 540 hour clinical sleep lab rotation to earn a PSG Certificate, ensuring that all students have a robust hands-on learning experience. All rotations are conducted under the guidance of

Oregon Tech online faculty and on-site RPSGT working professionals. The clinical rotation provides student with real-world sleep lab experiences and is always the most highly-rated component of the PSG program.

Program Review:

Program Student Learning Outcomes and Objectives were reviewed by program faculty via phone call in Fall 2020. Faculty review is an on-going process with frequent phone/email communication between the Program Director and main faculty member (Jane Peri, PhD, former Program Director), as well as periodic communication with the Medical Director (David Panossian, M.D.) and the Department Chair (Jeff Pardy, RRT, MBA)

The annual Program Advisor meeting took place on Nov 3, 2020 (Zoom call). In attendance were:

- Program Director
- Medical Director
- Key faculty member/current instructor, former Sleep Health Program Director
- 3 Key industry leaders/clinical site managers

Annual Program Review Notes:

The discussion in the Annual Program Review focused primarily on navigating Covid restrictions for students, as well as adjusting teaching/WLUs for current program faculty. Covid has produced various site-related changes that affect all staff, including students in rotation. Examples are increased PPE, pre-testing Covid testing, and negative pressure rooms for CPAP studies. As for changes in WLUs, PSG students will now all start in one Fall term cohort, which is seen as a positive as it creates more student interaction and comradery.

3. Program Educational Objectives

The education objectives of the Sleep Health - Polysomnographic Technology option are twofold:

1. Prepare students for immediate employment anywhere in the United States in sleep technology
2. Provide students with the skills to move into supervisory and patient education roles in sleep centers

Program Student Learning Objectives (PSLOs)

PSLO #1: Demonstrate the ability to review patient information and prepare for a polysomnogram.

PSLO #2: Demonstrate ability to apply sensors correctly with acceptable impedances for data collection.

PSLO #3: Demonstrates ability to calibrate signals, document, and troubleshoot recording artifact.

PSLO #4: Demonstrates ability to accurately analyze and summarize adult PSG data.

PSLO #5: Demonstrates understanding of PAP and O2 theory, application and contraindications.

PSLO #6: Demonstrates knowledge of PAP therapy adherence, management, and patient education.

PSLOs are reviewed each year during the annual advisory board meeting.

4. Curriculum Map

COURSE	PSLO 1	PSLO 2	PSLO 3	PSLO 4	PSLO 5	PSLO 6
Bio 200	F					
Echo 227				F		
RCP 120				F		
PSG 211	F	F				
PSG 221		P	P			
PSG 231				F	F	
PSH 246	F					
PSG 264	F					
PSG 271A	P	F	F	P		
PSG 271B		P	P	P	P	P
PSG 271C	C	C	C	C	C	C
PSG 291						F

F = Foundational, P = Practice, C = Capstone

5. Assessment Cycle

Last year, mainly due to Covid-related disruptions in student rotations, student experiences with accurately analyzing and summarizing (“scoring”) adult PSG data were sub-optimal. Therefore, this year, PSLO #4 will be assessed: Demonstrates ability to accurately analyze and summarize adult PSG data.

Scoring adult PSG data is a key function of a well-trained sleep technologist (RPSGT). In our PSG program, students score PSG samples online using the AASM’s Interscorer Reliability System, the industry standard for scoring training and feedback.

	2018-2019	2019-2020	2020-2021
PSLO 1	Comp Exam	Comp Exam	-----

	Direct Practical	Direct Practical	-----
	Student Survey	Student Survey	-----
PSLO 2	Comp Exam	Comp Exam	-----
	10/20 Diagram	10/20 Diagram	-----
	Practical Exam	Direct Practical	-----
	Student Survey	Student Survey	-----
PSLO 3	Comp Exam	Comp Exam	-----
	Practical Exam	Direct Practical	-----
	Student Survey	Student Survey	-----
PSLO 4	Comp Exam	Comp Exam	-----
	Summary Graphs	Summary Graphs	-----
	EKG Recognition	EKG Recognition	-----
	ISR	ISR	ISR
	Practical Exam	Direct Practical	-----
	Student Survey	Student Survey	-----
PSLO 5	Comp Exam	Comp Exam	-----
	Practical Exam	Direct Practical	-----
	Student Survey	Student Survey	-----
PSLO 6	Comp Exam	Comp Exam	-----
	Practical	Direct Practical	-----
	Student Survey	Student Survey	-----

6. Assessment Activity

PSLO #4:

Demonstrates ability to accurately analyze and summarize adult PSG data.

Student data for ISR scoring is tracked each term. ISR scoring data from the capstone course PSG 271C was assessed.

ISR scoring includes three categories of PSG scoring:

1. Sleep Stages
2. Respiratory Events
3. Periodic Limb Movements

In the field of Sleep Technology, the industry standard is 85% agreement with expert scorers. For assessment, the following scoring rubric was used:

- >85%=5, 70-84%=4, 55-69%=3, 40-54%=2, <40%=1

*In this 2020-2021 assessment of PSLO #4: Demonstrates ability to accurately analyze and summarize adult PSG data, students performed at a very high level, with **all students scoring above 85%** (rubric score of 5) in the three clinical ISR cases in the areas of sleep staging, respiratory events, and periodic limb movements in PSG 271C.*

Results Trend History (compared to 2019-2020):

Students continue to do well as focus on ISR scoring increases in various PSG courses such as PSG 221, PSG 231 and all PSG clinical courses in the 271 series. Students find they are increasingly asked to score sleep studies soon after starting to work as RPSGTs in clinical sleep labs.

Faculty Analysis:

Key faculty (Jane Perri, PhD, RPSGT, and Michael Schwartz, MA, RPSGT) discuss student progress periodically during the academic year. Scoring ability is also discussed in the annual program advisor meeting (CAAHEP requirement). Student PSG scoring with the ISR system provides an efficient platform for student assessment in sleep scoring, which allows key faculty to identify areas needing more focus.

Faculty Discussion:

2019-2020 assessment data were shared with key faculty via cell calls during the month of October 2020. Sampled students in PSG 271C, the capstone course, overall did fairly. All measures across all six PSLOs met the performance criteria of a rubric score of 3 or higher. This was impressive due to the small sample size, the impact of Covid pandemic restricting/preventing lab access of students in rotations, and that the Practical Exam is now reported as a global score (not included in the rubric that is based on didactic material). As seen in table above, students overall did well in their clinical rotations.

2020-2021 assessment data (PSLO #4 *Demonstrates ability to accurately analyze and summarize adult PSG data*) will be shared/discussed in this year's annual program advisor meeting. Key faculty and program advisors will investigate ways to increase focus and content in areas identified as most challenging in all PSG Certificate courses.

7. Data-driven Action Plans: Changes Resulting from Assessment

Scoring adult PSG studies will always be a critical skill for an RPSGT (sleep technologist), and will always be a focus of our PSG program. The online ISR program is an excellent platform to assist in our focus. No changes will need to be made in this area of student learning.

8. Closing the Loop: Evidence of Improvement in Student Learning

The educational objectives of the Sleep Health - Polysomnographic Technology option are to:

1. prepare students for immediate employment anywhere in the United States in sleep technology
2. provide students with the skills to move into supervisor and patient education roles in sleep centers

As students continue to pass the national registry exam at above-national rates, the Sleep Health – Polysomnography Option program is meeting expectations. Additionally:

- Key program faculty are active in the field professionally
- Students provide mostly positive experiences on exit surveys
- OIT is a nationally-recognized institution of excellence and a draw for students wanting to excel in the field with an AAS or BS degree. Increasingly, sleep labs (and some state licensing boards) are requiring an AAS degree or higher in sleep technology

Closing the Loop

Last year, much of the program assessment focus was on bi-level PAP/advanced PAP modalities. Assessment data showed criteria was met by students in this area. We will continue to monitor this important area of polysomnography. It was observed last year that Covid-related disruptions in student rotations may have been problematic. Therefore, this year's assessment focus was on PSLO #4 (PSG scoring). We are pleased to show solid performance by students in this area, evidenced by all students performing above national standards in adult PSG scoring.

Final Thoughts

At this time, no significant modifications are required in the delivery of the program to students. This assessment report will be shared later this year in the annual program advisor meeting. Discussion will occur about program assessment activity for next year.