2017-18 Respiratory Care Annual Assessment Report
Bachelor of Science Program (On Campus)

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, /3 app2 2 (h)-4 (f)   [(O4)-5 (o)oTc 0.004 TwoTc 0.-1 (i)-6

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

Core Theme 2:

Student and Graduate Success Oregon Tech foster 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 for Program Alignment to Oregon Tech Mission and Core Themes.
The Respiratory Care Program aligns with the Oregon Institute of Technology Mission
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didactic and lab courses that improves interfacing equipment and technologies each year. In line with Oregon Techs offering with statewide educational opportunities for the emerging needs of Oregonians health care, the Respiratory Care Program has been highly regarded by Oregon State Medical Centers and Hospitals by filling high employment needs that keep significantly growing with quality graduates.

Accreditation:

This is further evidenced by 100% employer and student satisfaction surveys mandated by the Commission Accreditation for Respiratory Care (CoARC) for several years in a row. What have slipped are the RRT and CRT exams that are administered by the National Board of Respiratory Care (NBRC) first time pass rates, where both were previously 100%. We now find the RRT exam currently at 83.3% and the CRT at 97.6% first time pass rates. We are actively pursuing actions to return to previous exam outcome levels.

We further meet the Core Themes of Applied Degree Programs by being one of two programs in the Northwest regions that offepons(O)2 oN9hpiepons(O)2 o (are (i   /P <</MCID 2 >>BDC   /TT2 1 Tf   -0

the advisory board annually remains the current charter. Our next site visit

2. Knowledge of the respiratory care code of ethics and ethical and professional conduct.	●		
3. The ability to function effectively in the health care setting as a member of the healthcare team.	●		
4. Knowledge and application of mechanical ventilation and therapeutics.			●
5. Knowledge and application of cardiopulmonary diagnosis and monitoring.			●
6. Knowledge and application of cardiopulmonary pharmacology and pathophysiology.			●
7. Management of respiratory care plans for adult, neonatal and pediatric patients.		●	

Table 1. Respiratory Therapy Education Assessment Cycle.

IV. **Summary of 2017-18 Assessment Activities**

The respiratory care faculty met in Fall 2018, to discuss assessment for the academic year 2018-19 on Ethics. The Program Student Learning Outcomes (PSLO) for the year were discussed and multiple places where these are taught and measured in the curriculum were identified, as shown in Appendix A.

PSLO #4. Knowledge and application of mechanical ventilation and therapeutics.

procedures and					

Figure 1. Students demonstrated knowledge and application of mechanical ventilation and therapeutics through laboratory practicum with both motor skills anbrac po

		airways	airways	airways		airways
The student shows knowledge of FEF 25 to 75 lower airways	No response/task not attempted	Demonstrates no understanding of FEF 25 to 75 and how it relates to lower airways	Demonstrates little understanding of FEF 25 to 75 and how it relates to lower airways	Demonstrates partial understanding of FEF 25 to 75 and how it relates to lower airways	Demonstrates considerable understanding of FEF 25 to 75 and how it relates to lower airways.	Demonstrates complete understanding of running a FEF 25 to 75 test and how it relates to lower airways

Student knows
FEV1/FVC %
yes or no

Comments are precise and understandable	No comment response not attempted	Demonstrates no understanding of how to put in a comment	Demonstrates little understanding of including a comment. Many requirements of task are missing.	Demonstrates partiETBTql understanding of including a comment. Most requirements of the comment are included	Demonstrates considerable understanding of the comments. All requirements of the comments are included.	Demonstrates complete understanding of the included comment. All requirements of the comments are included

Table 2. Rubric scoring for a variety, yet thorough analysis of a patients lung mechanics that detects pulmonary diseases, or absence of.

Measurement Scale

0= Absent	1= Harmful, Safety Issues	2= Low Proficiency	3= Proficient/Novice	4= Competent
Either not present or failure to run any of the thirteen systems listed	Does not pass exam but makes attempts with multiple flaws. Needs remediation and retesting.	With marginal results with some on-going mistakes. Student shows earnest approaches with little coaching.	An average performance in both psychomotor and cognitive function. Demonstrates novice use of equipment and diagnostics.	The student has knowledge in all methods of pulmonary testing. Student is able to perform each with confidence.

standards. All zeros on test	Rate Expectation	1 = 0 2 = 1 or 3 = 1 or 4 = 0 5 = 8 or	9/11 % Pass Rate
The student Knows FEV1 is upper airways	3 numerically represent 80% Pass Rate Expectation	0 =1 or 1 = 0 2 = 0 3 = 1 or 4 = 1 or 5 = 8 or	Total Students 10/11 % Pass Rate
The student shows knowledge of FEF 25 to 75 lower airways	3 numerically represent 80% Pass Rate Expectation	0 =1 or 9% 1 = 0 2 = 0 3 = 0 4 = 2 or 18% 5 = 8 or 73%	Total Students 10/11 % Pass Rate
Student knows FEV1/FVC % yes or no question	3 numerically represent 80% Pass Rate Expectation	0 =1 or 9% 1 = 0 2 = 0 3 = 0 4 = 3 or 27% 5 = 7 or 64%	Total Students 10/11 % Pass Rate
Student use TLC to prove air trapping patient case.	3 numerically represent 80% Pass Rate Expectation	0 =1 or 95 1 = 0 2 = 0 3 = 1 or 27% 4 = 2 or 18% 5 = 7 or 64%	Total Students 10/11 % Pass Rate
Student use RV to prove air trapping patient case.	3 numerically represent 80% Pass Rate Expectation	0 =1 or 9% 1 = 0 2 = 0 3 = 0 4 = 2 or 18% 5 = 8 or 73%	Total Students 10/11 % Pass Rate
Student states DLCO results	3 numerically represent 80% Pass Rate Expectation	0 =1 or 9% 1 = 0 2 = 1 or 9%	Total Students 9/11

		3 = 0 4 = 0 5 = 9 or 82%	% Pass Rate
Student reads general overview of PFT	3 numerically represent 80% Pass Rate Expectation	0 =1 or 9% 1 = 0 2 = 0 3 = 1 or 9% 4 = 4 or 36% 5 = 5 or 46%	Total Students 10/11

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Final Exam Sample Questions

1. Please list the three major components of asthma: (3pts.)

   a.

   b.

   c.

2. Relenza is used for the treatment of _____ infection, but needs to be started within _____ days to be effective. (2pts.)

3. What is the mode of action with Pentamidine in combating PCP, How does this disease process present in the lungs? (3pts.)

4. **Mucomyst:** Please list device with the respective dose delivered. What will it innervate, and what are the desired therapeutic outcomes? How often is this drug administered and list at least one <u>frequent</u> side effect: (6pts.)

Figure 3. This exam was designed for the student to express their findings from the study material and text that recognize indications restraints of delivered medication through memorization and entrenching certain medications that are frequently used in the job arena. Another portion of the test was to complete the thoughts on more difficult, yet important material. The final exam results were distributed throughout the students in this course as follows:

Results Review

Students	Results	Passing Criteria	Grade
Student 1	102.5/120	70% Passing Requirement	85%
Student 2	98/120	70% Passing Requirement	82%
Student 3	96.5/120	70% Passing Requirement	80%
Student 4	118/120	70% Passing Requirement	98%
Student 4	101/120	70% Passing Requirement	84%

Student 6	72.5/120	70% Passing Requirement	60
Student 7	87/120	70% Passing Requirement	73%
Student 8	101/120	70% Passing Requirement	84%
Student 9	93/120	70% Passing Requirement	78%
Student 10	89.5/120	70% Passing Requirement	75%
Student 11	82.5/120	70% Passing Requirement	69%

Student 12	86.5/120	70% Passing Requirement	72%

Table 3. Course Observation: Is that out of 12 students, 83.3% of student passed this cumulative exam. for pulmonary pharmacology.

Strengths: The majority of students passed this challenging exam for the knowledge of pharmokinetics in respiratory care that is essential for job level entry success. Pharmacology medications is essential for treating the underlying cause to return a patient to baseline, and these students were able to exhibit understanding of these medications as well as the impact and side effects to look for as well and action needing to be taken to care for the patient appropriately.

Weaknesses: We had two students who failed this exam, one who has dropped the program, while the other continues with the current cohort. Other than the expectant challenge that this exam has to offer, it is lengthy with some highly weighted points in certain areas but realizing how important they are in the context of therapy demands a rigid point system.

Actions: Change the exam to multiple choice as it will be in-line with their National Board Exams in the near future. Give better points distribution.

Student Learning Summary: This outcome was based on a cumulative exam involving pharmacology knowledge as well as implementation. The average score was 78.3% among the class as a whole. 70% was the passing mark in which two students failed, one marginally at 69%. The outcomes had a fair result for program expectations though we would like to see this average at least at 83% or better in the future.

Appendix A-1
Student Learning Outcomes-Course Matrix
2017-2018

PSLO #4: Knowledge and application of mechanical ventilation and therapeutics.
Courses that are shaded below indicate that the PSLO above is taught in the course, students demonstrate skills or knowledge in the PSLO, and students receive feedback on their performance on the SLO.

I = Introduced   R = Reinforced   E = Emphasized

	Freshman		Sophomore		Junior		Senior		
FALL	BIO 231	Human A&P I	BIO 336	Essent Pathol	RCP 337	Pulm Path	RCP 441	Case Cred II	E
	CHE 101/4	Elem Chem	CHE 360	Clinical Pharm	RCP 351	MV I	RCP 450	Clin Care I	E

SPE	Public	RCP	CP	E	RCP	CP	R
111	Speaking	252	Pharm		345	Diagnosis	

PSLO#6. Knowledge and application of cardiopulmonary pharmacology and pathophysiology. Courses that are shaded below indicate that the PSLO above is taught in the course, students demonstrate skills or knowledge in the PSLO, and students receive feedback on their performance on the PSLO.

I = Introduced   R = Reinforced   E = Emphasized

| Freshman | Sophomore | Junior | Senior |

WRI   Technical
227   Writing