Tab 5

Ozarks Technical Community College and St. Louis Community College Proposals to Offer a Bachelor's Degree in Respiratory Therapy

Coordinating Board for Higher Education
March 3, 2021

BACKGROUND

The Coordinating Board for Higher Education discharges its responsibility for coordinating, reviewing, and approving proposed new degree programs by the authority given in §§ 173.005 and 173.030, RSMo. The process for reviewing new degree program proposals is codified in administrative rule 6 CSR 10-4.010 Submission of Academic Information, Data and New Programs. While most programs are reviewed at the routine level (program meets requirements for mission, duplication, location, financial and institutional resources), the rule also provides an opportunity for institutions to propose programs outside of these parameters if certain qualifications are met, as part of the comprehensive review process.

For community colleges proposing to offer a bachelor's degree, the following additional criteria is required, as outlined in §163.191(1), RSMo:

> *Community college course offerings shall generally lead to the granting of certificates, diplomas, or associate degrees, and may include baccalaureate degrees only when authorized by the coordinating board for higher education in circumstances where the level of education required in a field for accreditation or licensure increases to the baccalaureate degree level or, in the case of applied bachelor's degrees, the level of education required for employment in a field increases to that level, and when doing so would not unnecessarily duplicate an existing program, collaboration with a university is not feasible or the approach is not a viable means of meeting the needs of students and employers, and the institution has the academic and financial capacity to offer the program in a high-quality manner.*

The review of proposals for Comprehensive Review is divided into two phases. In Phase I, institutions submit a proposal for consideration by the CBHE, which then decides whether to move forward with a full comprehensive review (Phase II). The CBHE, at its September 16, 2020, meeting, voted to move the OTC and STLCC proposals to Phase II review. The Phase II proposals and supporting documentation [Attachments A-B] were posted for public comment for 20 working days, and comments were received from the University of Missouri System [Attachment C]. Responses were received from both institutions [Attachments D-E]. The Council on Public Higher Education in Missouri (COPHE) raised a question following the December 2020 Coordinating Board meeting regarding STLCC's collaboration outreach. To address this question, STLCC discussed the feasibility of collaboration with Harris-Stowe State University; it was determined that collaboration is not feasible [Attachment F].

CURRENT STATUS

Ozarks Technical Community College

Ozarks Technical Community College's proposal to offer a Bachelor of Science degree in Respiratory Therapy arose from the demand for more respiratory therapists in southwest Missouri and the Commission for Accreditation of Respiratory Care (CoARC) decision to only accept new applications for accreditation for bachelors of respiratory therapy, effective January 1, 2018. Although OTC already has an associate of respiratory therapy program, CoARC will not allow an institution to expand or create satellite associate-level respiratory therapy programs. This proposal seeks to offer a bachelor of respiratory therapy at the Springfield campus, and establish a satellite program at the OTC Waynesville Education Center. OTC received one comment regarding its proposed program during the posted public comment period from the UM System, generally in favor of the proposal, but highlighted the need for OTC to consider program costs and to refine its budget.

St. Louis Community College

St. Louis Community College's proposal to offer a Bachelor of Science degree in Respiratory Care at the Florissant Valley campus is a response to current workforce need in the St. Louis area. The Commission for Accreditation of Respiratory Care (CoARC) made the decision to only accept applications for accreditation for bachelors of respiratory therapy, effective January 1, 2018. Although STLCC already has an associate of respiratory therapy program, CoARC will not allow an institution to expand or create satellite associate-level respiratory therapy programs. STLCC has proposed to offer a bachelor degree in respiratory care to expand its program to a satellite campus. STLCC received one comment regarding its proposed program during the posted public comment period from the UM System, generally in favor of the proposal, but highlighted the need for STLCC to consider program costs.

External Review Team Report

An external review team, made up of four faculty and program coordinators at University of Missouri-Columbia, Missouri Southern State University, Ozarks Technical Community College, and St. Louis Community College, and two industry experts in respiratory care from Phelps Health in Rolla and Ranken Jordan Pediatric Bridge Hospital in Maryland Heights, met during the month of December to review both proposals.

The team report [Attachment G] reflects a thorough review of the criterion to meet in both proposals. The external review team unanimously supports approval of both Ozarks Technical Community College's and St. Louis Community College's proposals.

Based upon the proposals submitted by the institutions and further review of the comprehensive review criteria from both the external review team and the department, DHEWD staff have concluded that both institutions have provided sufficient evidence to support the requirements as outlined in the administrative rule. The criteria and staff observations about each is included in the attached checklist [Attachments H-I].

RECOMMENDATION

Staff recommend the Coordinating Board provisionally approve Ozarks Technical Community College's proposal for a Bachelor of Science in Respiratory Therapy and St. Louis Community College's proposal for a Bachelor of Science in Respiratory Care for a period of five years.

ATTACHMENTS

A. Ozarks Technical Community College Phase II Proposal
B. St. Louis Community College Phase II Proposal
C. Public Comments
D. OTC Response to Public Comments
E. STLCC Response to Public Comments
F. STLCC Feasibility of Collaboration with HSSU
G. External Review Team Report
H. DHEWD Evaluation OTC Phase II Proposal
I. DHEWD Evaluation STLCC Phase II Proposal

Proposed Program:

Bachelor of Science Degree – Respiratory Therapy

Phase II Proposal

Submitted by:

Ozarks Technical Community College

December 2020

Executive Summary

Southwest Missouri needs more respiratory therapists. By the year 2026, the demand for respiratory therapists is expected to increase 38.5% in the south central and southwest region of the state. The recent coronavirus pandemic has highlighted respiratory therapists' importance to the health, and often survival, of southwest Missourians. In the midst of our current health crisis, respiratory therapists have gained more attention and respect as these professionals have battled on the frontlines of this disease.

Accreditation standards for respiratory care education programs, as established by the Commission on Accreditation for Respiratory Care (CoARC), have changed. Beginning January 1, 2018, community colleges who seek to establish new or satellite respiratory therapy programs must now offer baccalaureate degrees. Ozarks Technical Community College (OTC) wishes to establish a satellite of its existing respiratory therapy program to better serve our region; however, under these accreditation requirements, the college is unable to do so, and therefore, unable to adequately respond to hospitals and health systems experiencing a serious shortage of qualified respiratory therapists.

Fortunately, in 2018, the Missouri State Legislature passed Senate Bill 807, which establishes that Missouri's community colleges may offer bachelor's degrees "in circumstances where the level of education required in a field for accreditation or licensure increases to the baccalaureate degree level..." The changes to the respiratory therapy profession present the exact set of conditions that illustrate why this legislation passed. OTC would not be seeking approval to offer a bachelor's degree in respiratory therapy were it not for these changes by the accrediting body.

OTC has been a long-trusted partner in developing the state's workforce by offering high quality, affordable educational opportunities. The college is vital to the economic health of our service area and is relied upon to provide a pipeline of skilled workers.

OTC is grateful to have the support of our four-year institutions, as evidenced by letters of support in Appendix A.

Ozarks Technical Community College respectfully seeks approval to offer a bachelor's degree in respiratory therapy.

Rationale for the Proposal

State of Respiratory Therapy Education in the United States

Across the nation today, the respiratory education model is in a state of transition. Respiratory therapy education functions under the oversight of three different bodies:

- The **American Association for Respiratory Care** (AARC) is the leading national and international professional association for respiratory care.
- The **Commission on Accreditation for Respiratory Care** (CoARC) accredits programs in respiratory care at the associate, baccalaureate, and master's degree level. The mission of the CoARC is to ensure that high quality educational programs prepare competent respiratory therapists for practice, education, research, and service.
- The **National Board for Respiratory Care** (NBRC) is the credentialing arm of the profession and provides the licensure examination and awards the certified respiratory therapist (CRT) and the registered respiratory therapist (RRT) credentials. These credentials are required to work as a respiratory therapist.

Two of these organizations have recently issued position statements or changed standards related to the goal of baccalaureate entry to the profession:

- In 2019, the AARC issued a position statement that sets a goal for a baccalaureate degree to be required for entry to the profession in the year 2030 and thereafter.[1]
- In 2016, the CoARC announced a change to accreditation standards for new respiratory care programs. This change to Standard 1.01 went into effect January 1, 2018. It states:

  "Except as provided in the following sentence, an educational sponsor must be a post-secondary academic institution accredited by a regional or national accrediting agency that is recognized by the U.S. Department of Education (USDE) and must award graduates of the program a baccalaureate or graduate degree upon completion of the program. For associate degree programs that applied for accreditation or were accredited prior to January 1, 2018, an educational sponsor must be a post-secondary academic institution accredited by a regional or national accrediting agency that is recognized by the USDE. These programs may continue to award graduates of the program an associate degree as long as they remain in compliance with the CoARC Standards." [2]

While the CoARC states that existing associate degree programs will be supported and may

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[1] "Entry Requirements to Respiratory Practice: 2030 and Thereafter" American Association for Respiratory Care. 1 May 2019. https://www.aarc.org/wp-content/uploads/2019/09/statement-entry-requirements-to-respiratory-therapy-practice-2030-and-therafter.pdf

[2] "CoARC Communication to Our Communities of Interest: Response to AARC Position Statement on Respiratory Therapist Education" Commission on Accreditation for Respiratory Care. 1 December 2017. https://coarc.com/CoARC/media/Documents/CoARC-Communication-Min-Degree-Requirements-1-28-16-rev-12-1-17.pdf

remain accredited, it will no longer offer accreditation to any newly-established associate degree program. *A satellite program is considered a new program by CoARC because it requires a separate CoARC number that leads to separate accreditation status.* Because satellite programs have been considered in this manner, CoARC has not allowed accreditation of satellite programs unless the base program was a bachelor's program since the standard changed in 2018. Given this restriction, OTC cannot establish new, or expand existing, programs - even within its own service area. Any program "expansion" or opening of a satellite program is considered a new program under current CoARC accreditation standards.

If this proposal is approved, OTC will offer a bachelor's degree in respiratory therapy at the OTC Springfield campus, and establish a satellite program at the OTC Waynesville Education Center. This will allow OTC to better serve the health care facilities in the existing service region.

Legislation Regarding Missouri Community Colleges Offering Bachelor's Degrees

In 2018, Missouri passed a law that allows Missouri's community colleges to offer baccalaureate degrees under the following conditions:

- the level of education required in a field for accreditation or licensure increases to the baccalaureate level or,
- in the case of applied bachelor's degrees, the level of education required for employment in a field increases to that level, and
- when doing so would not unnecessarily duplicate an existing program, collaboration with a university is not feasible or the approach is not a viable means of meeting the needs of students and employers.[3]

Based upon changes of the CoARC accreditation standards to only accredit new programs which offer a baccalaureate degree or higher, Ozarks Technical Community College seeks to offer a bachelor of science in respiratory therapy. This condition meets the letter of Senate Bill 807.

Phase II Proposal

Ozarks Technical Community College seeks to offer a bachelor of science in Respiratory Therapy. If approved, OTC will open a satellite location at the Waynesville Education Center, which will serve an additional 10 students each year. The bachelor's degree will be available at both the Springfield campus and the Waynesville Education Center location. The Springfield campus anticipates serving an additional 10-20 students each year.

This document is organized according to the outline provided in **6 CSR 10-4.010 (C) Comprehensive Review.**

[3] Senate Bills Nos 807 and 577. 2018. https://www.senate.mo.gov/18info/pdf-bill/tat/SB807.pdf

A. Evidence that the proposing institution has explored the feasibility of collaboration with other institutions.

Ozarks Technical Community college has made outreach to several colleges and universities in its service region:

- Drury University
- Evangel University
- Southwest Baptist University
- Missouri State University

OTC also contacted the only entry-to-practice bachelor's degree program in the state, the University of Missouri - Columbia. Documentation of these conversations is offered in Appendix A.

With the exception of Missouri State University, none were interested in engaging in a collaborative arrangement. After several productive meetings with MSU's provost, dean of health and human services and associate dean of health and human services, it was determined that a collaboration would not be feasible. This is documented in the letter from MSU in Appendix A.

OTC continues its close and highly-valued relationship with MSU. OTC's bachelor's degree will have a clinical and research focus and will not duplicate MSU's degree-advancement bachelor's degree, which focuses on education, leadership, and management. OTC will continue to refer students who seek career advancement in those areas to MSU's program, as it has done for many years.

B. Alignment with Blueprint for Higher Education goals.

OTC has been an important partner in Missouri's Big Goal that 60 percent of adults have a two- or four-year degree or certificate by 2025. This proposal aligns with the goals set forth in the *Blueprint for Higher Education.*

Attainment

OTC already contributes significantly to Missouri's Big Goal through its service to citizens within its service region. According to Fall 2020 data from the Missouri Department of Higher Education and Workforce Development for OTC's 12-county service region, OTC serves:

- 63% of all students attending a higher education institution in Missouri
- 94% of all students attending a two-year institution in Missouri.

This proposal will allow OTC to expand its capacity to train more respiratory therapists, thus

helping more Missouri citizens earn a college degree. However, without approval to offer the respiratory therapy degree at the baccalaureate level, this increased capacity will not be achieved. We anticipate serving an additional 20-30 students annually once approved to offer the bachelor's degree. This moves Missouri closer to its goal, and fills an important workforce need.

Affordability

OTC offers affordable educational opportunities to students. OTC has a three-tiered system for tuition, with the highest cost programs offered at the Tier III per-credit-hour rate. All OTC healthcare programs fall into Tier III, and the bachelor's degree in Respiratory Therapy will be no exception. Currently, this rate is **$130 per credit hour (in-district) or $179 per credit hour (out-of-district)**.[4]

Even at OTC's highest tuition tier, this is still lower than the average per credit hour rate for Missouri. According to the Missouri Comprehensive Fee Survey for Public Institutions of Higher Education (FY 2020), the **average per credit hour tuition rate among Missouri's four-year institutions is $258**.[5]

Quality

OTC has become known as a strong driver of southwest Missouri's economy. The college has a consistent track record of offering high-quality education and training opportunities. A 2017 economic impact study found that OTC generated $234 million in added income to the OTC Service Area economy. The same study noted that an average annual return on investment for students is 18.5%; for local taxpayers, 13.4%; and for state and local taxpayers, 15.8%.[6]

OTC is recognized for quality, not only regionally and statewide, but nationally as well. In addition to being fully accredited by the Higher Learning Commission, the college has been named among the top 150 community colleges in the United States in multiple years by the prestigious Aspen Institute, most recently in 2019.[7]

OTC is known for helping educate and support a qualified and highly skilled workforce. The existing Respiratory Therapy program at OTC is no exception. As evidence of this, **OTC's respiratory therapy program is the only associate-level program in the United States to receive the CoARC Distinguished RRT Credentialing Success Award for the last nine years in a row**. Below is data from the 2019 and 2020 *Report on Current Status*[8] as evidence of OTC's

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[4] "Required Tuition and Fees." https://services.otc.edu/finance/tuition-fees/

[5] Missouri Comprehensive Fee Survey for Public Institutions of Higher Education (2021). https://dhewd.mo.gov/data/documents/CompFee_FY2021_summary.pdf

[6] "Ozarks Technical Community College Fact Sheet: The Economic Value of Ozarks Technical Community College (August 2017). https://research.otc.edu/media/uploads/2017/10/OTC-Economic-Impact-Study-Fact-Sheet.pdf

[7] "OTC Named Finalist for Aspen Prize for Community College Excellence." (2019) https://news.otc.edu/otc-named-finalist-aspen-prize/

[8] Report of Current Status (RCS) https://coarc.com/Students/Programmatic-Outcome-Data.aspx

program quality:

	Retention	Job Placement	RRT Credentialing	TMC High Cut Score Pass Rate	Employer Satisfaction	Graduate Satisfaction
2019	91%	100%	100%	100%	100%	100%
2020	93%	98%	94%	96%	100%	100%

(These data reflect a rolling three-year average.)

The CoARC Entry-to-Practice Accreditation Standards state the following in regards to the qualifications of faculty in a bachelor's or master's respiratory care program:[9]

> **Standards 2.02/2.08**: The Program Director (PD) and Director of Clinical Education (DCE) of a bachelor's or master's program must have earned at least a master's degree from an academic institution accredited by a regional or national accrediting agency recognized by the U.S. Department of Education (USDE).

OTC employs two full-time faculty in the Respiratory Therapy program who **meet or exceed** these standards:

Dr. Aaron Light, DHSc., RRT-ACCS, serves as program director. Dr. Light's credentials include:

Doctorate of Health Science
Nova Southeastern University
Master of Science - Respiratory Care Leadership
Northeastern University
Bachelor of Science - Respiratory Therapy
Missouri State University
Bachelor of Science - Management
Missouri State University
Associate of Applied Science - Respiratory Therapy
Ozarks Technical Community College

[9] "Accreditation Standards for Entry into Respiratory Care Professional Practice" Commission on Accreditation for Respiratory Care. 2020. https://www.coarc.com/News-and-Events/CoARC-Entry-Standards-7-1-2020.aspx

Brandon Burk, MS, RRT-ACCS, serves as Director of Clinical Education. Mr. Burk's credentials include:

Master of Science - Respiratory Care Leadership
Northeastern University
Bachelor of Science - Respiratory Therapy
Missouri State University
Associate of Applied Science - Respiratory Therapy
Ozarks Technical Community College

OTC also currently employs five part-time faculty in the respiratory therapy program. **All meet or exceed** the requirements for teaching at the associate-degree level.

Standards 2.03/2.09: The PD and DCE must hold a valid Registered Respiratory Therapist (RRT) credential and current state license; have a minimum of four (4) years' experience as a Registered Respiratory Therapist with at least two (2) years in clinical respiratory care; have a minimum of two (2) years' experience teaching either as an appointed faculty member in a CoARC accredited respiratory care program or as a clinical instructor/preceptor for students of such programs; complete the CoARC key personnel training program.

OTC's current respiratory therapy program faculty **meet or exceed** the required levels of education and experience to teach at the baccalaureate level:

Dr. Light holds credentials as a Registered Respiratory Therapist and Adult Critical Care Specialist. He worked as a respiratory therapist for nearly 14 years in adult ICUs, neonatal intensive care, and pediatric intensive care. He has taught at OTC since 2003.

Mr. Burk holds credentials as a Registered Respiratory Therapist and Adult Critical Care Specialist. He worked as a respiratory therapist for three years and served as the Educational Coordinator for the Respiratory Care at Mercy-Springfield before joining OTC as an educator in 2015.

Both Dr. Light and Mr. Burk are published researchers and regularly present at professional conferences. Both hold memberships in several professional organizations, including the Missouri Society of Respiratory Care (MSRC) and the American Association of Respiratory Care (AARC). Dr. Light serves on the board of the AARC.

Faculty added to the respiratory therapy program will also meet or exceed the CoARC standards for teaching in a baccalaureate degree program.

Research and Innovation

Research is an important component of existing respiratory therapy programs. According to the AARC *Issue Paper - Entry to Practice in Respiratory Therapy*,

> "Advances in technology, disease management, telemedicine, patient navigation, disease protocols, evidence-based medicine, palliative care, and clinical research now are mainstays in medicine and clinical practice. The future demands respiratory therapists to be well versed in these areas of patient care in order to remain relevant members of the interprofessional health care team." [10]

The AARC organized a series of conferences (2015 and Beyond Conferences) to address many issues including the roles and responsibilities of respiratory therapists in the future as well as the competencies required for RTs to succeed. In the article related to competencies that would be required of RTs, the following is stated:

> "The information age of the future will be replete with changes in the scope of practice. The science of respiratory care will continue to expand at the same pace as medicine. Projections regarding the profession must incorporate new technology, new therapeutic approaches, and data management skills, which the future RT will need to be successful in the workplace. Clinical decisions will be increasingly data driven; with evidence-based medicine guiding the activities of the therapist. The need for therapists to be actively involved in research will continue to grow. The use of protocols to guide respiratory care within and outside the intensive care unit (ICU) will continue to expand."[11]

One of the major competency areas determined essential was Competency Area III: Evidence-Based Medicine and Respiratory Care Protocols, which includes the ability of respiratory therapists to review and critique published research, explain the meaning of general statistical tests, and apply evidence-based medicine to clinical practice.

Though OTC's existing respiratory therapy program integrates research opportunities for students, current restrictions on credit hours in an associate-level respiratory care program make it difficult to provide students the necessary time to learn and practice these critical research skills. OTC's bachelor's program will include dedicated research coursework to advance research in the field of respiratory care. The proposed curriculum is detailed in Appendix C.

Investment, Advocacy and Partnerships

Healthcare providers across southwest Missouri are enthusiastic supporters of this proposal. They are in the difficult position of trying to provide the best level of care to their patients, yet they are hurting due to the shortage of qualified respiratory therapists. Health care organizations and hospitals - from large to small – are seeking help to develop a pipeline of

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[10] "Issue Paper: Entry to Respiratory Therapy Practice 2030" American Association for Respiratory Care. September 2019. https://www.aarc.org/wp-content/uploads/2019/09/issue-paper-executive-summary-entry-to-respiratory-therapy-practice-2030.pdf

[11] Barnes, Thomas; Gale, David; Kacmarek, Robert, Kageler, Woody. "Competencies Needed by Graduate Respiratory Therapists 2015 and Beyond" Respiratory Care. May 2010. American Association for Respiratory Care. https://www.aarc.org/wp-content/uploads/2013/07/2015_competencies_needed.pdf

skilled professionals but OTC is, at the present time, unable to respond to that need. Letters of support in Appendix B are evidence of their need and their support.

Evidence of Institutional Capacity

(I). Assessment of the institution's capacity to offer the new program in terms of general, academic, and student service support, including faculty resources that are appropriate for the program being proposed (e.g., faculty credentials, use of adjunct faculty, and faculty teaching workloads):

General

OTC is accredited by the Higher Learning Commission (HLC), which establishes standards for academic and student support services, as well as faculty credentials. The HLC requires accredited institutions to provide regular evidence to indicate compliance with its Assumed Practices and Criteria for Accreditation. Institutions must demonstrate that they have the resources, structures, and processes sufficient to fulfill their missions, improve the quality of their educational offerings, and respond to future challenges and opportunities (Criteria for Accreditation 5). They must also ensure that they have sufficient numbers and continuity of faculty members to carry out both the classroom and the non- classroom roles of faculty, including oversight of the curriculum and expectations for student performance, assessment of student learning, and establishment of academic credentials for instructional staff (Criteria for Accreditation 3.C.1) and that all instructors and student services staff are appropriately qualified (Criteria for Accreditation 3.C.3/3.C.7). All institutions must demonstrate responsibility for the quality of their educational programs, learning environments, and support services, and evaluate their effectiveness for student learning through processes designed to promote continuous improvement (Criteria for Accreditation 4).[12]

OTC has already been in contact with the HLC about submission of a New Program Substantive Change application, which would grant approval for OTC to offer a baccalaureate degree. If OTC obtains CBHE approval of this proposal, the college is ready to engage in this process with the HLC.

In addition, **OTC's Respiratory Therapy program is accredited by the Commission on Accreditation for Respiratory Care (CoARC)**. CoARC accreditation standards require accredited institutions to demonstrate their capacity to meet academic and student support needs. The CoARC standard 2.01 Institutional Resources Interpretive Guideline states that sponsor institutions "should have the financial resources required to develop and sustain the program on a continuing basis" and that this includes academic support resources, in addition to qualified faculty.[13]

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[12] "HLC Policy: Current Criteria for Accreditation" Higher Learning Commission. June 2014. https://www.hlcommission.org/Policies/criteria-through-august-31-2020.html

[13]"Entry into Practice Standards" https://www.coarc.com/getattachment/Accreditation/Entry-into-Practice-Standards/CoARC-Entry-Standards-7-1-2020-(1).pdf.aspx?lang=en-US

Academic and Student Support Services

OTC has approached academic and student support in a holistic manner. The college is in the process of implementing a Student Success model which assigns a designated navigator to each student upon application to the institution. Navigators serve as the central point of contact for the student from application through graduation. These individuals guide the student to success by pointing the student to college services that will benefit them and their unique circumstances. Some of the comprehensive academic and student supports in place include:

- Free academic tutoring in nearly every general education course offered at the college, as well as some Allied Health and Technical Education offerings. This includes a dedicated Writing Center. All academic tutoring is offered in-person and virtually through Zoom.
- A comprehensive library featuring diverse collections, interlibrary loan services, MOBIUS access, and research databases that are discipline-specific, such as Allied Health Search, CINAHL, and Nursing Reference Center Plus.
- Dedicated disability support services staff that foster an environment in which individuals are viewed on the basis of ability, not disability.

Faculty Resources

All faculty teaching at OTC, part-time or full-time, meet the credentialing requirements set forth by the HLC for their discipline. All general education faculty possess a minimum of a master's degree with at least 18 graduate credit hours in the discipline they teach. The Respiratory Therapy program employs two full-time faculty and five part-time faculty. To support a bachelor's level program, OTC plans to add two full-time Respiratory Therapy faculty who will possess the required credentials. One will serve as the program site coordinator at the Waynesville Education Center.

Full-time faculty at OTC teach a base load of 15 credit hours per semester. In Allied Health programs, full-time faculty teach between 15-25 contact hours weekly. Program directors teach 10-15 contact hours each week, and the director of clinical education in Respiratory Therapy is responsible for 10-15 contact hours of instruction per week. The site coordinator will have a teaching load of 15-20 contact hours each week.

All faculty members at OTC are supported by the Center for Academic Innovation (CAI). The CAI exists to provide faculty development, including curriculum development support and strategies for teaching improvement. New faculty are supported through a year-long assimilation and support program, the New Faculty Institute. Each new faculty member is assigned a seasoned faculty mentor during the first year of their employment.

(II). Comprehensive cost/revenue analysis summarizing the actual costs for the program and information about how the institution intends to fund and sustain the program

It is important to note that most healthcare training programs are costly to implement and sustain, and they are not offered as profit centers for the college. They are offered to serve the

region's need for a skilled healthcare workforce, consistent with OTC's mission. As the need exists for a credentialed respiratory therapy workforce in our region, the college understands and commits the resources necessary to supplement and support all academic program costs, both directly and indirectly.

Respiratory Therapy Instructional Program – 3-Year Revenue/Expense Analysis

RESPIRATORY THERAPY INSTRUCTIONAL PROGRAM - 3-Year Revenue/Expense Analysis				
	BS - YEAR 1 PROJECTION	(AAS only) FY20	(AAS only) FY19	(Incremental Costs of the 30-New Student Cohort only)
Tuition & Fees	**456,300**	**143,520**	**138,000**	**312,780**
Salaries & Benefits	471,995	215,595	198,913	256,400
Professional Development	10,975	4,878	3,123	6,097
Accreditations	5,650	2,100	2,100	3,550
Supplies & Services	15,500	6,881	6,408	8,619
Equipment *	72,750	0	23,564	72,750
Program Expenses	**576,870**	**229,454**	**234,108**	**347,416**
NET	(120,570)	(85,934)	(96,108)	(34,636)

Budget Narrative

Tuition and Fees: For FY20, OTC capacity in respiratory therapy is 24 students. These students are enrolled in approximately 46 credit hours (excluding general education courses) at $130 per credit hour.

Adding an estimated 30-student cohort for the BS degree, will bring the total students served to 54 enrolled in 65 respiratory therapy credit hours. At $130 per credit hour, this equals $456,300.

Program fees are not included on this budget since they go directly to pay for student supplies. These fees are adjusted as needed.

Salaries and Benefits: Currently, two full-time faculty support the existing AAS program. Current salary and fringe benefits expenses is $190,000 (approximately 36% fringe benefits). Additional part-time faculty are employed at an annual cost of $26,000.

For the BS cohort, three additional full-time Respiratory Therapy faculty will be added. This equals $224,400 in added personnel expenses (approximately $55,000 plus fringes for each). It is anticipated that additional part-time faculty will need to be employed as well at an annual cost of $32,000 (2.25 times existing expense). This totals $471,995.

Other Direct Program Costs: *(projected costs were determined by calculating 2.25 times existing expenses)*

Professional Development: OTC budgets allow for faculty to engage in important professional development opportunities to maintain currency with the profession.

Accreditations: Costs associated with accreditation fees. The CoARC accreditation of the satellite location will be added.

Supplies and Services: Necessary supplies needed for support of instructional activities. This includes office supply costs for faculty.

Equipment: Necessary equipment needed for support of instructional activities. Equipment costs needed for the new cohort total $291,000. Equipment purchases are reimbursed through state grant funding up to 75% of cost, or $72,750. This is a first-year cost only.

The existing classroom and lab space at the Springfield campus is adequate to accommodate the additional BS student cohort. At the Waynesville Education Center, one classroom will be remodeled as a respiratory therapy lab space, creating an educational environment for Waynesville students that is equitable in space and equipment to the Springfield lab. This is an additional one-time cost of approximately $11,000 that the college has adequate funds to cover and is not a program expense.

Other direct costs, such as administrative, academic and student services, and marketing costs can be absorbed into existing budgets with no increase.

(III). Evidence indicating there is sufficient student interest and capacity to support the program, and, where applicable, sufficient capacity for students to participate in clinical or other external learning requirements, including library resources, physical facilities and instruction equipment;

The following data are specific to the state of Missouri and can be found in CoARC's *2019 Report on Accreditation in Respiratory Care Education* and the *2020 Report of Current Status* attached as Appendix D.

APPLICATIONS

Respiratory Care Applications in Missouri:

	2018	**2017**	**2016**	**2015**
Associate's	170	103	132	164
Bachelor's	25	25	19	28

Respiratory Care Applications at OTC:

	2020	2019	2018	2017	2016	2015
Associate's	35	30	45	35	20	25
Bachelor's	NA	NA	NA	NA	NA	NA

ENROLLMENTS

New Enrollments in Missouri:

	2018 Max Capacity	2018	2017	2016	2015
Associate's	243	126	78	86	120
Bachelor's	24	19	22	10	21

New Enrollments at OTC:

	2020 Max Capacity	2020	2019	2018	2017	2016	2015
Associate's	24	20	15	22	18	14	19
Bachelor's	NA	NA	NA	NA	NA	NA	NA

GRADUATES

Total Graduates of Respiratory Therapy programs in Missouri:

	2018	2017	2016	2015
Associate's	98	92	96	118
Bachelor's	8	20	15	11

Total Graduates of Respiratory Therapy at OTC:

	2020	2019	2018	2017	2016	2015
Associate's	0	12	18	14	13	15
Bachelor's	NA	NA	NA	NA	NA	NA

These applicant, enrollment, and graduate numbers are instructive in the following ways:

- Missouri's community colleges have historically been the primary producers of qualified respiratory therapists in the state.
- The total number of graduates from respiratory therapy programs in Missouri the estimated 220 annual vacancies. The number of graduates from OTC is not enough to fill the estimated 40 vacancies in our service region.
- As the profession moves to a bachelor's for entry requirement, those who aspire to become respiratory therapists will be required to obtain a baccalaureate degree.
- Respiratory therapy program applicants and enrollments are on the uptick again after a periodic lull. *Note:* The pandemic and COVID-related concerns caused some students who were admitted to OTC's program to decline enrollment in 2020.
- Increased applicant numbers indicate increasing interest in the field of respiratory care. However, a more concerted effort to increase awareness of the respiratory care profession is needed. The recent global pandemic has brought greater awareness of the profession where little may have previously existed.

As respiratory care pushes further toward the requirement of a bachelor's degree for entry to the profession, there is indication that the number of therapists who have or desire to attain a bachelor's degree is increasing. The most recent AARC Human Resource Survey of 19,281 therapists reported these key findings:

- The percentage of respondents reporting a bachelor's degree or higher went from 40.5% in 2014 to 43.2% in 2017.
- 11.9% of respondents in the associate's degree category in the 2017 survey said they were working on a higher academic degree.
- The percentage of respondents who reported that they were pursuing a higher degree to advance their career in respiratory care increased from 2014 to 2017.
- Further analysis of the results led the authors to conclude that 55–56% of respondents either had or may have been working toward a bachelor's degree in 2017.[14]

(IV). Description of accreditation requirements.

In order to practice as a respiratory therapist in 49 out of 50 states (except Alaska), a state license is required. To become licensed, respiratory therapy graduates must pass the National Board for Respiratory Care (NBRC) board exams. Admission requirements for the NBRC board exams state that applicants must be graduates of a program accredited by the Commission on Accreditation for Respiratory Care (CoARC).[15] As stated previously, the mission of the CoARC is to ensure that high quality educational programs prepare competent respiratory therapists for practice, education, research, and service.

Beginning January 1, 2018, the CoARC updated its Standard 1.01, which is still current in its

[14] AARC Respiratory Therapist Human Resource Study. 2017. https://www.aarc.org/resources/tools-software/aarc-respiratory-therapist-human-resource-study-2014/

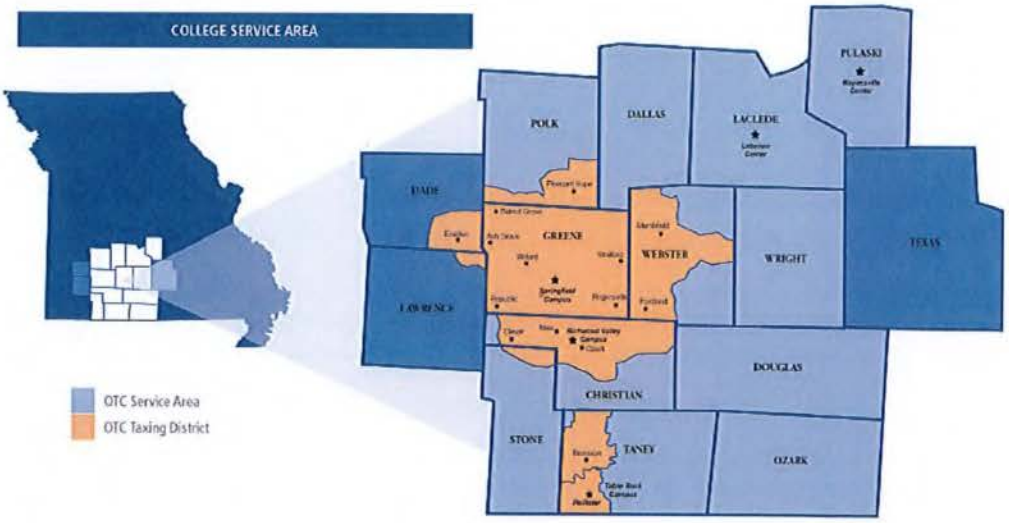
[15] Examinations. The National Board for Respiratory Care. June 2020. https://www.nbrc.org/examinations/

most recent update in the 2020 Entry to Respiratory Care Practice Standards:

> **Standard 1.01**: Except as provided in the following paragraphs, an educational sponsor must be a post-secondary academic institution accredited by a regional or national accrediting agency recognized by the U.S. Department of Education (USDE) and must award program graduates a baccalaureate or graduate degree.
>
> Associate degree programs that were accredited prior to January 1, 2018, or that applied for accreditation prior to January 1, 2018 and have subsequently received accreditation, may continue to award program graduates an associate degree as long as they remain accredited by the CoARC. Sponsors of these programs must be post-secondary academic institutions accredited by a regional or national accrediting agency recognized by the USDE and must award program graduates an associate degree.[16]

C. Evidence that the Proposed Program is Needed

(I). Documentation demonstrating that the program does not unnecessarily duplicate other programs in the applicable geographic area.



OTC offers the only CoARC-accredited respiratory therapy program in its 12-county service region. Missouri State University in Springfield offers a degree advancement bachelor's degree in Respiratory Therapy for those who already hold a Registered Respiratory Therapist credential; however, the program is not CoARC accredited.

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[16] "Accreditation Standards for Entry into Respiratory Care Professional Practice" Commission on Accreditation for Respiratory Care. 2020. https://www.coarc.com/News-and-Events/CoARC-Entry-Standards-7-1-2020.aspx

The OTC service region encompasses approximately 140 miles and serves a large rural student population. Internal research indicates that nearly half of OTC students reside in a rural area. Many of these students are place-bound due to family or financial obligations, so access to educational opportunities is limited. Sixty-five percent of OTC students receive some form of financial aid.[17] OTC's strategic placement of campuses and education centers throughout our service region, as well as the low cost of attendance, provide greater access for education and job training.

The capacity to delivery respiratory therapy curriculum online is limited due to the required hands-on, skills-based lab and clinical component. Also, accreditation requirements and the parameters placed upon satellite programs are limiting in terms of distance between sites and personnel required at each location. There is no unnecessary duplication of other programs within the geographic area of OTC's service region.

(II) Rigorous analysis demonstrating strong and compelling workforce need;

The U.S. Bureau of Labor Statistics estimates that the demand for respiratory therapists will grow 21% from 2018 to 2028, much faster than the average for all occupations. The aging population will lead to an increased demand for respiratory therapy services and treatments. The most need for respiratory therapists will be in rural areas.[18]

The Missouri Economic Research and Information Center (MERIC) reports that healthcare is the top industry in the state; unfortunately, the demand for qualified healthcare providers outpaces supply. This is true for respiratory therapists as well. MERIC data indicate that the demand in Missouri for skilled respiratory therapists will grow nearly 28% by 2026, with annual vacancies numbering 220 statewide.[19] The Ozark Region anticipates a 38.5% growth.[20] In fact, MERIC identifies Respiratory Therapy as a "Top Grade Career" in the Ozark Region of the state.

However, for the last three years of IPEDS completion data, Missouri institutions have produced an average of only 163 respiratory therapy graduates annually. If OTC is approved to offer a bachelor's in respiratory therapy, there is potential to help narrow the workforce pipeline gap in this industry.

Additionally, respiratory therapy is a well-paying occupation. According to MERIC, the average entry-level salary for Respiratory Therapists is $45,020 with an average annual wage of $56,340.

It is important to note that these data were compiled before the recent novel coronavirus

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[17] Fall 2019 Fact Sheet. https://research.otc.edu/media/uploads/2020/02/2019-Fast-Facts.pdf
[18] Occupational Outlook Handbook: Respiratory Therapists. Bureau of Labor Statistics. June 2020. https://www.bls.gov/ooh/healthcare/respiratory-therapists.htm
[19] Real Time Labor Market Data. Missouri Economic Research and Information Center. June 2020. https://meric.mo.gov/media/pdf/real-time-labor-market-summary
[20] Regional Profiles. Missouri Economic Research and Information Center. June 2020. https://meric.mo.gov/regional-profiles

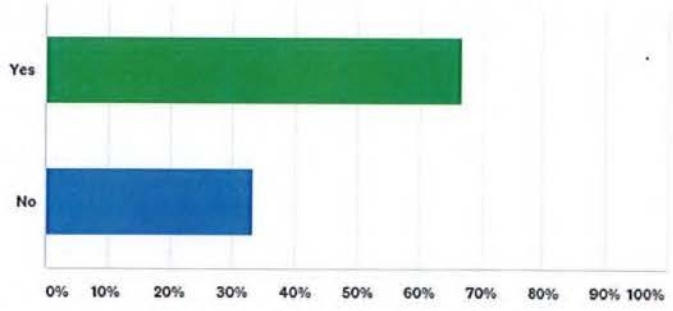
pandemic, which has highlighted the need for skilled and highly-trained respiratory therapists who work on the frontlines of the fight against this illness. Burnout is reported to be extremely high in the profession due to the stress of long hours, shortage of ventilators, and lack of adequate personal protective equipment.[21]

Statewide, the demand for respiratory therapists is outpacing supply. This is especially true in the Ozark Region of Missouri, which anticipates a nearly 40% increase in the need for respiratory therapists by 2026.[22] A survey of currently-posted job openings at hospitals within OTC's service region shows nearly 40 respiratory care vacancies; at the present time, OTC is approved to serve only 24 students.

An external market analysis was conducted by BKD, which confirms that job posting and employment metrics show growth and score at the 77th percentile of all academic programs in the OTC service area; job postings show a 90th percentile score over the last 12 months in the aggregate of southwest Missouri counties. The market analysis also shows that student demand reported in the 86th percentile of all academic programs in OTC's service area counties, and in the 81st percentile of all academic programs in southwest Missouri. BKD's full market analysis can be found in Appendix E.

In 2018, the Missouri Society for Respiratory Care (MSRC) sent out a survey to all members asking therapists in the state if a BS degree should be the entry to the profession. This was a statewide survey conducted in response to the AARC's position statement. It was sent to AARC members via an email link placed on the MSRC social media pages and promoted by MSRC board members. As demonstrated by the chart below, subjects were asked, "Do you feel that the move to BS entry is the correct move for Respiratory Therapy?" The survey received 135 responses from across the state; 68.89% (93) stated "Yes," and 31.11% (42) stated "No."

Q2 Do you feel that the move to BS entry is the correct move for Respiratory Therapy?



An expansion to the northern part of our service area in Waynesville will help supply that

[21] "Even After the Coronavirus Pandemic, America Can't Breathe Easy." US News and World Report. 1 April 2020.https://www.usnews.com/news/healthiest-communities/articles/2020-04-01/coronavirus-pandemic- exposes-need-for-respiratory-therapists

[22] Regional Profiles. Missouri Economic Research and Information Center. June 2020. https://meric.mo.gov/regional-profiles

region with a pipeline of skilled therapists. OTC also has an established presence on-site at Fort Leonard Wood, and there has been an indication of interest in this program among service members and their families. The OTC Waynesville location's close proximity to Fort Leonard Wood will benefit our military student population who wish to pursue this degree.

(III) Clear plan to meet the articulated workforce need

(a) Aligned curriculum with specific knowledge and competencies needed to work in the field

Due to the quality of OTC's program as documented earlier in this proposal, the OTC Respiratory Therapy program boasts a 100% placement rate for its graduates. The CoARC standards for respiratory therapy curriculum are consistently followed and the curriculum will be adapted for offering at the bachelor's level.

The CoARC addresses its program goals in Standard 3.01:

> "The program must have the following goal defining minimum expectations: "To prepare graduates with demonstrated competence in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains of respiratory care practice as performed by registered respiratory therapists (RRTs)."[23]

It further stipulates additional requirements for bachelor's degrees or higher:

> "For programs offering a bachelor's or master's degree, the program must have the following additional goal defining minimum expectations: "To prepare leaders for the field of respiratory care by including curricular content that includes objectives related to acquisition of skills in one or more of the following: management, education, research, advanced clinical practice (which may include an area of clinical specialization)."[24]

Standard 4.01 more specifically defines minimum course content:

> "The curriculum must include content in the following areas: oral and written communication skills, social/behavioral sciences, biomedical/natural sciences, and respiratory care. This content must be integrated in a manner that promotes achievement of the curriculum's defined competencies."[25]

Standard 4.02 further explains the requirements, specifically for bachelor's programs or higher:

> "The curriculum must include preparation for practice as a respiratory therapist with

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[23] "Statement of Program Goals, 3.01." https://www.coarc.com/CoARC/media/Documents/CoARC-Entry-Standards-1-1-18.pdf
[24] "Statement of Program Goals, 3.01." https://www.coarc.com/CoARC/media/Documents/CoARC-Entry-Standards-1-1-18.pdf
[25] "Curriculum: Minimum Course Content, 4.01." https://www.coarc.com/CoARC/media/Documents/CoARC-Entry-Standards-1-1-18.pdf

exposure to a broad variety of practice settings (e.g., hospital, long-term care, home care, clinic/physician office).

For programs offering a bachelor's or master's degree, the program must include content related to leadership development in management, education, research AND/OR advanced clinical practice (which may include an area of clinical specialization)."[26]

Standards 4.04 through 4.07 further define the competencies required of a Registered Respiratory Therapist, including diagnostic and therapeutic procedures, team and interpersonal communication skills, critical thinking and problem-solving, and ethical decision-making.[27]

OTC's proposed bachelor's degree in respiratory therapy has been developed with alignment to these standards in mind. A draft of the proposed program is included in Appendix C, which incorporates all the elements required by the CoARC standards. The program is designed to have a heavy clinical focus and includes five semesters with a clinical component. It is also designed with a focus on research. These emphases serve to provide students with the necessary knowledge and skills to be exceptional clinicians, but also provides them with a solid educational foundation should they desire to progress to a master's degree.

Further, AARC respiratory care competencies include collection of diagnostic information, disease management, evidence-based medicine and respiratory care protocols, patient assessment, leadership, emergency and critical care, assessment of therapeutics, application of therapeutics, and post-acute care.[28]

Student learning outcomes will be based upon the necessary skills, knowledge, and professional behaviors required of a Registered Respiratory Therapist with a bachelor's degree as stipulated by the CoARC and the AARC. The credentialing organization, the National Board for Respiratory Care (NBRC) has created a matrix of the two required board exams for the RRT credential that align with a nationwide job analysis performed every five years. The last update was in January 2020. The proposed curriculum in Appendix C has been aligned with the NBRC matrix in Appendix F.

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[26] "Curriculum: Minimum Course Content, 4.02." https://www.coarc.com/CoARC/media/Documents/CoARC-Entry-Standards-1-1-18.pdf

[27] "Curriculum: Minimum Course Content, 4.04-4.07." https://www.coarc.com/CoARC/media/Documents/CoARC-Entry-Standards-1-1-18.pdf

[28] "Respiratory Care Competencies." https://www.aarc.org/wp-content/uploads/2017/02/respiratory-care-competencies.pdf

(b) Providing students with external learning experiences to increase probability they will remain in the southwest Missouri region after graduation

It is common for students pursuing a career in health care to go to work in settings in which they have had a good clinical experience. OTC's Respiratory Therapy program has several established clinical sites in the OTC service region:

- CoxHealth – Springfield
- CoxHealth Home Support – Springfield
- CoxHealth – Branson
- Mercy – Springfield
- Select Specialty Hospital – Springfield
- Citizen's Memorial Hospital – Bolivar

In addition, Phelps County Regional Medical Center in Rolla has pledged to support clinical placements, as well as Lake Regional Hospital in Osage Beach. Other sites are being considered for expansion, including Capitol Regional Medical Center in Jefferson City, CoxHealth in Monett, and Mercy Hospital in Lebanon.

While OTC cannot ensure that graduates will stay within the service region, it has been our experience that supporting students with quality clinical opportunities increases that likelihood. Most of OTC's students stay in Missouri post-graduation, and this is true of Respiratory Therapy graduates as well.

(c) A plan for assessing the extent to which the new program meets workforce need when implemented

Each year, Respiratory Therapy programs provide the CoARC a report of their assessment surveys and outcomes data for their program. The assessment piece includes surveys from employers of graduates, graduates, current students and program faculty (including the Advisory Committee). Last year, the OTC associate degree program received passing marks in all areas of the survey assessment except for one low rating (one respondent) that mentioned the temperature of the classroom. The full report and survey questions in the included 2020 annual report are submitted as Appendix D. Some key outcomes of the 2017-2019 cohorts:

- The OTC associate degree program received a **100% overall graduate satisfaction** rating from the 2017, 2018, and 2019 graduates.
- During those same years, **employers reported a 100% overall satisfaction** with the graduates.
- The outcome data for OTC associate degree program includes a **94% pass rate on the RRT (Registered Respiratory Therapist)** for program graduates, with 96% of them passing the Therapist Multiple Choice exam at the high cut score.
- Even though the program is a rigorous one with high demands of excellence, the program **maintained a 93% retention rate**.
- During that time frame, graduates reported **a 98% job placement rate** with only one

- During that time frame, graduates reported **a 98% job placement rate** with only one graduate not working in the field.

The success of the program on outcome measurements has led the program to receive the CoARC Distinguished RRT Credentialing Success Award nine times and receive the CoARC Excellence in Respiratory Care Education Award in 2009 (CoARC only awarded this award in 2009). Only three programs in the United States have received the CoARC Distinguished Credentialing Success Award nine times, and OTC is the only associate-level program in that group.

In addition to the annual report that assesses the respiratory therapy program, program faculty review the results of student exit exams and the current NBRC matrix every year. Students in the spring semester of the program must take and pass mock board exams that are purchased from the NBRC for school testing purposes. The results of these exams are broken down into categories associated with the NBRC matrix and faculty will assess where students need more work in the program. Additionally, the graduates' actual NBRC board examinations are assessed for the same areas of improvement for the program.

In addition to these outcomes metrics, the Respiratory Therapy program relies heavily upon its advisory committee for feedback. This group is comprised of regional respiratory therapy industry professionals, college faculty, the program's medical director, and students. Their input guides the revision and development of curriculum and instruction to ensure that graduates are highly competent and valuable employees for area health care providers.

Once the bachelor's-level program is started, OTC will use the same methods of assessment to ensure that workforce needs are being met.

Appendix A

Correspondence Regarding Collaborations with Four-Year Institutions in Missouri

June 25, 2020

Commissioner Zora Mulligan
Missouri Department of Higher Education and Workforce Development
P.O. Box 1469
Jefferson City, MO 65101

Dear Commissioner Mulligan:

In May 2020, the University of Missouri System (UM) was notified by Ozark Technical College (OTC) and St. Louis Community College (STLCC) of their intent to submit a preliminary proposal to offer a baccalaureate degree in respiratory care. Both institutions expressed interest in exploring the feasibility of a collaboration with UM. MU currently offers an accredited bachelor's degree program in respiratory therapy. Following internal discussions and a conversation with the vice chancellors for academic affairs at OTC and STLCC, UM has concluded that at this point we are not interested in developing a collaborative bachelor's program with either institution.

Policy changes initiated by the Commission on Accreditation for Respiratory Care (CoARC) were amended and OTC and STLCC would require the authorization to offer the baccalaureate-level program to start a new or expand an existing respiratory care program. The developing COVID-19 pandemic makes the value of further investments in respiratory therapists obvious, and it is likely there will be workforce demand in both Springfield and St. Louis.

OTC and SLCC are unique from the other community colleges currently expressing interest in starting bachelor's programs. Both OTC and SLCC have existing accredited RT programs at the associate degree level and likely have the necessary equipment and faculty who could offer the program. However, we have significant concerns about other community colleges who do not have existing RT programs related to the actual market need and the necessary resources. We also have reservations about the conditions required for a collaborative partner in the original inquiries. Some of the "terms" outlined in the original inquiry were not reasonable and not in the spirit of the legislation or the DHEWD administrative rules (e.g., maximum of 30 hours of coursework from the four-year institutions and the four-year university coursework offered at community college rates).

We appreciate that OTC and STLCC reached out and engaged with us from the beginning. This is an integral part of the process as outlined by statute and, just as importantly, an important way to foster productive relationships between two- and four-year institutions. Even though MU is not interested in a collaboration at this point, OTC and STLCC may want to seek opportunities with other four-institutions to see if they are interested in creating a collaborative partnership.

Steve Graham

Steve Graham
Senior Associate Vice President for Academic Affairs
University of Missouri System
grahams@umsystem.edu | (573) 882-3119

Missouri State.
UNIVERSITY

November 12, 2020

Tracy McGrady, Provost
Ozark Technical Community College
Springfield, MO 65807

CONCERNING: OTC Proposal to develop a bachelor's degree in Respiratory Care

Dear Dr. McGrady:

The background for this letter is that over the last six months Missouri State University (MSU) and Ozark Technical Community College (OTC) have been in active discussions focused on developing a joint program between our institutions to deliver a B.S. in Respiratory Care. However, since at this point we have not been able to reach an agreement that provides for MSU to offer a reasonable amount of the course work for the proposed bachelor's degree, we do not object to you submitting a program proposal that OTC intends to offer this degree without MSU as a collaborating partner.

We remain committed to working with OTC in the many other collaborative efforts that have been successful and efficient for both of our institutions. I trust that as in prior years some students from MSU will desire to enter the clinical curriculum at OTC that is required for licensure to work in the field of Respiratory Therapy. Likewise, we anticipate and welcome OTC Respiratory Therapy students enrolling at MSU when they wish to take advantage of specialized health-care, business, leadership and other upper division courses or graduate programs that they may see as advantageous to them in their career pathway.

Sincerely,

Frank Einhellig

Frank Einhellig
Provost

C: Clif Smart, President
Missouri State University

Office of the Provost
901 S National Ave • Springfield, Missouri 65897
417-836-4589 • Fax 417-836-8432
missouristate.edu/provost • provost@missouristate.edu

MCGRADY, TRACY M.

From: Beth Harville <bharville@drury.edu>
Sent: Wednesday, April 29, 2020 10:55 AM
To: MCGRADY, TRACY M.
Subject: Re: Respiratory Therapy - Collaboration Opportunity

Tracy,

Thank you for reaching out about a collaboration to offer a bachelor's degree in respiratory care. We greatly value the articulation agreements we have with OTC and want to continue to partner with you in the future. I have talked with Dr. Cloyd and unfortunately we will not be able to partner with OTC on this degree at this time.

I hope you and your faculty are doing well.

Beth

Beth Harville, PhD
Provost
Drury University

From: MCGRADY, TRACY M. <mcgradyt@otc.edu>
Sent: Tuesday, April 28, 2020 11:29 AM
To: Beth Harville <bharville@drury.edu>
Subject: Respiratory Therapy - Collaboration Opportunity

Good morning, Beth –

You may be aware that some of Missouri's community colleges will be submitting a preliminary proposal to MDHEWD seeking permission to offer a bachelor's degree in respiratory care. This is the result of the Commission on Accreditation for Respiratory Care (CoARC) standards changing to offer accreditation to new programs *only* if they offer the bachelor's degree or higher. CoARC has affirmed their commitment to support currently-accredited associate-level programs, but any expansion we seek to do, even within our own service area, is considered a "new" program by CoARC standards. While legislation passed in Missouri a few years ago opens the door for community colleges to offer bachelor's degree when accreditation or licensure changes mandate it, it also requires attempted collaboration with four-year institutions.

If COVID-19 has taught us anything, it's the importance of a robust number of highly-skilled and qualified health care workers – especially respiratory therapists. Missouri hospitals have suffered from a shortage for several years now. While OTC (and other colleges) would like to assist in creating a strong talent pool, it is impossible to do that with our current capacity. Expansion (or creation of new programs) will be required.

The community colleges are approaching their transfer partner institutions to assess who might be interested in collaboration. Terms are: 1) up to 30 hours of coursework can be completed at the partner university; 2) the coursework is offered according to the partner community college tuition and fee structure; and 3) the degree is conferred by the community college, though a joint conferral will be considered.

Please let me know if you are interested in discussing a collaboration with OTC. Because time is of the essence, I'd request to know your interest level no later than **May 8**.

Thank you! I hope you are well.

Tracy M. McGrady, Ed.D.
Provost and Vice Chancellor for Academic Affairs
Ozarks Technical Community College
1001 E. Chestnut Expressway
Springfield, MO 65802
417.447.8152
mcgradyt@otc.edu

MCGRADY, TRACY M.

From: MCGRADY, TRACY M.
Sent: Wednesday, May 6, 2020 2:11 PM
To: McCorcleM@evangel.edu
Subject: FW: Respiratory Therapy - Collaboration Opportunity

Hi Mike,

Just following up on my email from last week. I know you're busy, so if I haven't heard from you by the end of the week, I'll just assume that Evangel is not interested in this type of collaboration at this time. But if you are interested in discussing it, please let me know by then.

Thank you!

Tracy M. McGrady, Ed.D.
Provost and Vice Chancellor for Academic Affairs
Ozarks Technical Community College
1001 E. Chestnut Expressway
Springfield, MO 65802
417.447.8152
mcgradyt@otc.edu

From: MCGRADY, TRACY M.
Sent: Tuesday, April 28, 2020 11:33 AM
To: McCorcleM@evangel.edu
Subject: Respiratory Therapy - Collaboration Opportunity

Good morning, Mike -

You may be aware that some of Missouri's community colleges will be submitting a preliminary proposal to MDHEWD seeking permission to offer a bachelor's degree in respiratory care. This is the result of the Commission on Accreditation for Respiratory Care (CoARC) standards changing to offer accreditation to new programs *only* if they offer the bachelor's degree or higher. CoARC has affirmed their commitment to support currently-accredited associate-level programs, but any expansion we seek to do, even within our own service area, is considered a "new" program by CoARC standards. While legislation passed in Missouri a few years ago opens the door for community colleges to offer bachelor's degree when accreditation or licensure changes mandate it, it also requires attempted collaboration with four-year institutions.

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Thank you! Hope you are well.

Tracy M. McGrady, Ed.D.
Provost and Vice Chancellor for Academic Affairs
Ozarks Technical Community College
1001 E. Chestnut Expressway
Springfield, MO 65802
417.447.8152
mcgradyt@otc.edu

Southwest Baptist University

Office of the Provost

June 23, 2020

Dr. Tracy M. McGrady:

It was a privilege speaking with you about the Respiratory Therapy program at OTC. As I understand the discipline is making a push to the bachelor level. In our discussion we looked at what a partnership might look like. We are willing to explore this further but would have many obstacles to look at to accomplish this task: how are faculty resources split, how is revenue collected and distributed, how are faculty selected (we have different hiring criteria as a faith based institution), etc. It seems that OTC is well equipped to handle the transition and has faculty resources that would be capable of accomplishing this level change. For this particular degree program given the resources that are in place and the fact that partnership could prove problematic, we would lend support to your offering the Respiratory Therapy degree at the bachelor level.

Sincerely,

Dr. J. Lee Skinkle
Provost

Appendix B

Letters of Support
from
Southwest Missouri Hospitals and
the Commission on Accreditation for Respiratory Care

CoxHealth

April 21, 2020

Hal Higdon, Ph.D.
Chancellor
Ozarks Technical Community College
1001 E Chestnut Expressway
Springfield, MO 65802

Dear Dr. Higdon:

CoxHealth is pleased to support Ozarks Technical Community College's (OTC) proposal for the expansion of respiratory therapy program to the bachelor's degree through the Missouri Department of Higher Education. The College's proposed expansion of its health professions workforce programs is a timely and practical way to address the critical shortage of health care professionals in the Southwest Missouri area.

CoxHealth is a not-for-profit, community hospital and the largest employer in Springfield MO, an area leader in healthcare and community involvement, with six hospitals, more than 80 clinics and five ERs throughout twenty-five counties in Southwest MO. As an employer of more than 12,000 health care professionals, we can attest to the dire need for qualified registered respiratory therapists.

CoxHealth will actively support OTC in this endeavor by offering clinical locations, and interviewing qualified candidates who complete.

The discernment and ability to be nimble to adequately meet the needs of the healthcare workforce, is something that OTC has been at the forefront of in our community and truly in our state. With healthcare and education noted to be the two most important drivers of our local economy we look forward to supporting this program, and working with OTC as they continue to address our region's health sciences workforce pipeline issues.

Sincerely,

Steven D. Edwards
President and CEO

Phelps Health

June 29, 2020

Tracy M. McGrady, Ed.D.
Provost & Vice Chancellor for Academic Affairs
Ozarks Technical Community College
1001 E. Chestnut Expressway
Springfield, MO 65802

Dear Dr. McGrady

It is my pleasure to write a letter in support of community colleges being able to provide baccalaureate degrees in respiratory therapy. This ability will enable new RT programs to open throughout the state of Missouri.

As a respiratory therapist, I have always made it a priority to collaborate with area respiratory therapy programs by offering my skills as a specialty lecturer and by providing clinical rotations to students. As a respiratory care manager, I was interested in the evidence showing baccalaureate degree educational programs provide improved opportunities for development of the psychosocial, critical thinking, and critical decision-making skills that are essential for RTs to improve the quality and effectiveness of the care they provide to patients. Finally, as a board member for the American Association for Respiratory Care (AARC), I collaborated with my colleagues to recommend that respiratory therapists entering into practice beginning in 2030 must obtain a minimum of a baccalaureate degree in respiratory therapy or health sciences with a concentration in respiratory therapy.

There are 8 accredited programs in Missouri, only 2 of which offer a Baccalaureate degree. Missouri H.B. 1465 allows the Missouri Coordinating Board for Higher Education to authorize community colleges to offer bachelor's programs when such degrees are necessary to meet accreditation, licensure, or employment requirements. With the AARC leadership calling for baccalaureate prepared therapists and the Commission on Accreditation of Respiratory Care (CoARC) mandating that all new respiratory care programs must offer baccalaureate degrees, now is the ideal time for Missouri to authorize community colleges to award baccalaureate degrees in respiratory care.

I fully support Ozarks Technical College in the development and implementation of a baccalaureate degree program for respiratory care. In today's uncertain health care environment the need for the specialized care provided by respiratory therapists is critical. Baccalaureate degree programs that can prepare respiratory therapists to become better leaders and make better care decisions will benefit our patients and our communities at large.

Cheryl A. Hoerr MBA, BSRT, FAARC
Vice President – Internal Affairs, American Association for Respiratory Care
Director, Respiratory & Sleep Services
Phelps Health
1000 W. 10th Street
Rolla, Missouri 65401

Mercy
Springfield
1235 E. Cherokee
Springfield, MO 65804
phone 417-820-2000
www.mercy.net

June 19, 2020

Hal Higdon, Ph.D.
Chancellor
Ozarks Technical Community College
1001 E Chestnut Expressway
Springfield, MO 65802

Dear Dr. Higdon:

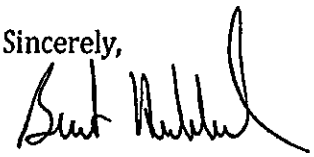
Mercy Hospital Springfield is pleased to support Ozarks Technical Community College's (OTC) proposal for the expansion of the respiratory therapy program to the bachelor's degree through the Missouri Department of Higher Education. This is a timely and practical way to address the critical shortage of health care professionals in the Southwest Missouri area.

Mercy Springfield Communities is comprised of Mercy Hospital Springfield, an 866-bed referral center; an orthopedic hospital; a rehab hospital; a children's hospital; four regional hospitals in Lebanon, Aurora, Cassville, and Mountain View, Missouri; and Mercy Clinic, a physician clinic with nearly 700 doctors and locations throughout the region. It is part of Mercy, named one of the top five large U.S. health systems for four consecutive years (2016 to 2019) by IBM Watson Health, which serves millions annually. Mercy includes more than 40 acute care, managed and specialty (heart, children's, orthopedic and rehab) hospitals, 900 physician practices and outpatient facilities, 45,000 co-workers and 2,400 Mercy Clinic physicians in Arkansas, Kansas, Missouri and Oklahoma. Mercy also has clinics, outpatient services and outreach ministries in Arkansas, Louisiana, Mississippi and Texas. In addition, Mercy's IT division, Mercy Technology Services, and Mercy Virtual commercially serve providers and patients from coast to coast.

OTC has actively worked to meet the needs of our healthcare workforce in our community and state. With healthcare and education as primary industries in our

area, we look to continue our collaboration and support of this and other health science programs offered through OTC.

Sincerely,



Brent Hubbard
President/COO
Mercy Hospital Springfield Communities

November 17, 2020

Tracy M. McGrady, Ed.D.
Provost & Vice Chancellor for Academic Affairs
Ozarks Technical Community College
1001 E. Chestnut Expressway
Springfield, MO 65802

Dear Dr. McGrady

It is my pleasure to write a letter in support of community colleges being able to provide baccalaureate degrees in respiratory therapy. This ability will enable new RT programs to open throughout the state of Missouri.

Citizens Memorial Hospital collaborates with area Respiratory programs to provide a place for the students to learn from seasoned Respiratory Therapists in a clinical setting.

Additionally, we support the evidence showing baccalaureate degree educational programs provide improved opportunities for critical thinking, and critical decision-making skills that are essential for RTs to improve the quality and effectiveness of the care they provide to patients.

There are 8 accredited programs in Missouri, only 2 of which offer a Baccalaureate degree. Missouri H.B. 1465 allows the Missouri Coordinating Board for Higher Education to authorize community colleges to offer bachelor's programs when such degrees are necessary to meet accreditation, licensure, or employment requirements. With the AARC leadership calling for baccalaureate prepared therapists and the Commission on Accreditation of Respiratory Care (CoARC) mandating that all new respiratory care programs must offer baccalaureate degrees, now is the ideal time for Missouri to authorize community colleges to award baccalaureate degrees in respiratory care.

We fully support Ozarks Technical College in the development and implementation of a baccalaureate degree program for respiratory care. In today's uncertain health care environment the need for the specialized care provided by respiratory therapists is critical. Baccalaureate degree programs that can prepare respiratory therapists to become better leaders and make better care decisions will benefit our patients and our communities at large.

Cristy Hiser, BSRT, RRT, RCP
Director of Respiratory Services
Citizens Memorial Hospital

Sarah Hanak, RN, MSN, SCRN
Chief Nursing Officer
Citizens Memorial Hospital

Texas County
Memorial Hospital

To Whom It May Concern,

Respiratory therapy is a unique profession. A profession that is filled with joy and pain, wins and losses and many emergent moments. Respiratory therapists are heroes. They possess an amazing care set of abilities. Often called to intervene and save. And what a time to be saving lives! Covid-19 has brought the once quiet and unknown profession to the forefront. Respiratory therapists are the frontline for Covid-19 and quite honestly, many other life-threatening diseases and situations with the potential for other respiratory viruses to emerge on the forefront.

As a respiratory therapy director, the concern is palpable. In the middle of a pandemic there is a massive shortage for respiratory therapists. The problem? The profession needs schools to provide these highly skilled professionals. This has been an ever-evolving problem as development of new programs has been needed. And the demand of respiratory therapists has not been accommodated by an increase in educational programs.

Ozarks Technical Center provides those highly skilled professionals. The school has an honored tradition of developing outstanding professionals. These individuals are known for their professionalism and knowledge. The director of the program insists on excellence while providing the support to these students to build an amazing professional.

A Bachelor's of Respiratory Therapy Program at the Waynesville campus will provide those professionals to an area in Missouri that is desperate for respiratory therapists. The values of Ozarks Technical Center and Aaron Light will be represented in the program. Hospitals in the Mid-Missouri region are at terrifying critical shortages for respiratory therapists. The program would be an asset to individuals looking for an amazing and rewarding career and an asset to the sustainability of respiratory therapists for Mid-Missouri hospitals.

Regards,

Lauren Toman, MAOM, RRT
Director of Respiratory, Sleep, Pulmonary Rehab and the STEMI Coordinator
Texas County Memorial Hospital
ltoman@tcmh.org
417.967.1397 Work
573.247.1219 Cell

COMMISSION ON ACCREDITATION FOR RESPIRATORY CARE

April 21, 2020

Aaron Light DHSc, RRT-ACCS, FAARC
Program Director – Respiratory Care
Ozarks Technical Community College
Springfield, MO 65802
417-447-8824

Dear Dr. Light,

In reference to the tri-partite statement (available at www.aarc.org) from the Commission on Accreditation for Respiratory Care (CoARC), the American Association for Respiratory Care (AARC), and the National Board for Respiratory Care (NBRC), the CoARC reaffirms its support of the development of baccalaureate and graduate education in respiratory care and encourages respiratory therapists to pursue advanced levels of education.

The CoARC currently accredits your associate degree program and will consider your application for substantive change to a baccalaureate degree, after the college has been approved by the state agency and/or institutional accrediting agency to award the BS degree.

Best wishes with your program development and please feel free to contact me if I can be of any assistance.

Sincerely,

Tom Smalling, PhD, RRT, RRT-SDS, RPFT, RPSGT, FAARC
Chief Executive Officer

264 Precision Rd • Telford • Tennessee • 37690
www.coarc.com (817) 283-2835 Office (817) 354-8519 Fax

Appendix C

Draft of OTC's Proposed
Bachelor of Science in Respiratory Therapy

DRAFT - **Proposed Bachelor of Science in Respiratory Therapy**

(Note: Courses in blue are existing OTC courses. Courses in blue in years 3 and 4 are existing but will be adapted for junior- and senior-level coursework.)

1st semester	Credit Hrs	2nd semester	Credit Hrs
BCS 132 Nutrition	3	BCS 165 Anatomy	4
CHM 101 Intro to Chem	3	BCS 200 Microbiology	4
PLS 101 Political Science	3	ENG 101 English I	3
MTH 128 Contemporary Math	3	HSC 120 Medical Terminology	3
PSY 110 Psychology	3		
Total	15		14

3rd semester	Credit Hrs	4th semester	Credit Hrs
BCS 205 Physiology	4	RST 105 Cardiopulmonary	3
ENG 102 English II	3	BCS 210 Pathophysiology	4
MTH 210 Stat Methods	3	PHL 105 Ethics	3
BIO 100 Life Science	4	Humanities elective	3
COM 100 Communication	3	Elective	3
Total	17		15

Student will have earned the Associate of Applied Science in Bioclinical Sciences

Respiratory Therapy Program			
Fall Semester Year 3	**Credit Hrs**	**Spring Semester Year 3**	**Credit Hrs**
Pharmacology	3	Diagnostic I	3
Equipment	3	Mechanical Ventilation	4
Equipment Lab	1	Research Evaluation	2
Pulmonary Disease	3	Clinical	6
Clinical	3		
Total	13		15

Summer Semester Year 3	Credit Hrs
Neonatal	2
Pediatrics	2
Research Methods	2
Clinical	3
Total	9

Fall Semester Year 4	Credit Hrs	Spring Semester Year 4	Credit Hrs
Diagnostic II	3	Exam Prep Course	2
Critical Care Concepts	4	Communication & Patient Education	1
Clinical	6	Leadership & Management	3
Research Capstone	1	Clinical	6
		Externship	2
Total	14		14
		Program total:	**126 credit hours**

Appendix D

CoARC 2020 Report of Current Status

2020 Report of Current Status
Community College or Junior College
Base Entry
200351

Annual Report Submitted by Aaron Light - 7/2/2020

Ozarks Technical Community College - Base Entry

Address 1	1001 E Chestnut Expressway
Address 2	-
City	Springfield
Zip Code	65802
State/Territory	Missouri
Phone	4174477500
Program URL	https://academics.otc.edu/alliedhealth/respiratory-therapy/
Outcomes URL	https://academics.otc.edu/alliedhealth/respiratory-therapy/about-the-program/
CoARC Program ID	200351
Program Status	Accreditation
Degree Offered	AAS Degree
Degree Name	-
Institution Control	Public/Not-For-Profit
Institution Type	Community College or Junior College
Max Annual Enrollment	24
Curriculum Delivery	Traditional/Blended
Show CRT/RRT Exams on Outcomes	Yes
Baccalaureate Degree Eligible	No

Personnel

-

Full Name	Dr. Aaron Light
Credentials	RRT-ACCS
Highest Degree Earned	DHSc
Email	lighta@otc.edu
Phone	(417) 447-8824

Director of Clinical Ed.

Full Name	Mr. Brandon Burk
Credentials	RRT-ACCS
Highest Degree Earned	MS
Email	Burkb@otc.edu
Phone	(417) 447-8823

Medical Director

Full Name	Dr. Brent Bergen
Credentials	-
Highest Degree Earned	MD
Email	Brent.bergen@coxhealth.com
Phone	(417) 875-3160

Clinical Affiliates

Mercy Hospital	Springfield	Missouri	65804
CoxHealth - Cox South	Springfield	Missouri	65804
CoxHealth - Branson	Branson	Missouri	65616
Citizen's Memorial Hospital	Bolivar	Missouri	65613

Current Program Statistics

Enrollment Year	Enrollment Date	On-Time Graduation Date	Estimated Number of Applicants	Maximum Number of Students	Number Initially Enrolled	Number Enrolled After Class Start	Total Enrollment Number	"In Progress" to-date	Number of Students that Dropped Out	Percent Retention	# Grads to Date
2006	6/5/2006	5/20/2007	16	20	16	0	16	0	1	94%	15
2007	6/4/2007	5/18/2008	19	20	16	0	16	0	2	88%	14
2008	6/2/2008	5/14/2009	38	22	20	0	20	0	4	80%	16
2009	6/1/2009	5/13/2010	40	24	23	0	23	0	2	92%	19
2010	6/7/2010	5/19/2011	40	20	18	0	18	0	3	84%	10
2011	6/6/2011	5/17/2012	35	20	20	0	20	0	2	90%	18
2012	6/4/2012	5/16/2013	40	20	20	0	20	0	2	90%	17
2013	6/3/2013	5/15/2014	40	20	16	0	16	0	4	75%	12
2014	6/2/2014	5/20/2015	30	20	18	0	18	0	2	89%	16
2015	6/1/2015	5/12/2016	25	20	19	0	19	0	4	79%	15
2016	6/6/2016	5/18/2017	20	20	14	0	14	0	1	93%	13
2017	6/5/2017	5/17/2018	35	22	18	0	18	0	2	89%	14
2018	6/4/2018	5/16/2019	45	24	22	0	22	0	2	91%	18
2019	6/3/2019	5/14/2020	30	20	15	0	15	2	0	100%	12
2020	6/8/2020	5/13/2021	35	24	20	0	20	20	0	100%	0

Graduates by Enrollment Cohort

Enrollment Year	Enrollment Date	On-time Graduation Date	2020	2019	2018	2017	2016	2015	# Graduates to Date
2006	6/5/2006	5/20/2007							15
2007	6/4/2007	5/18/2008							14
2008	6/2/2008	5/14/2009							16
2009	6/1/2009	5/13/2010							19
2010	6/7/2010	5/19/2011							10
2011	6/6/2011	5/17/2012							18
2012	6/4/2012	5/16/2013							17
2013	6/3/2013	5/15/2014						1	12
2014	6/2/2014	5/20/2015						16	16
2015	6/1/2015	5/12/2016				2	13		15
2016	6/6/2016	5/18/2017			4	9			13
2017	6/5/2017	5/17/2018		2	12				14
2018	6/4/2018	5/16/2019		18					18
2019	6/3/2019	5/14/2020	12						12
2020	6/8/2020	5/13/2021							0

Outcomes

RRT

	2019	2018	2017
Graduates	20	16	11
Passed RRT	17	16	11
% Passed RRT	85%	100%	100%
Threshold	0 %	0 %	0 %

2017 - 2019 Avg: 94 %

Comments

TMC High Cut Score

	2019	2018	2017
Graduates	20	16	11
Passed High Cut Score	18	16	11
% Passed	90%	100%	100%
Threshold	60 %	60 %	60 %

2017 - 2019 Avg: 96 %

Comments

TMC Sub Scores by Content Category

Completion of this section provides documentation towards demonstrating compliance with CoARC Standards 3.05 and 4.03.

Analysis

Only category that was less than 85% of the mean was 2B and we scored a 1.2 with mean being 1.5 on new candidates.

Action Plan

This ensuring infection prevention will be addressed with the additional training on infection prevention via in program education and use of AARC NBRC prep materials focused on this section.

CSE Sub Scores by Content Category

Completion of this section provides documentation towards demonstrating compliance with CoARC Standards 3.05 and 4.03.

Analysis

No section was below 85% of the national mean

Action Plan

Retention

	2019	2018	2017
Students Enrolled	15	22	18
Dropped Out	0	2	2
% Retention	100%	91%	89%
Threshold	70 %	70 %	70 %

2017 - 2019 Avg: 93 %

Analysis

Action Plan

Job Placement

	2019	2018	2017
Graduates	20	16	11
Employed	19	16	11
% Placement	95%	100%	100%
Threshold	0 %	0 %	0 %

2017 - 2019 Avg: 98 %

Comments

Employer Satisfaction

	2019	2018	2017
Graduates	20	16	11
Employed	19	16	11
Surveys Returned	12	13	10
Positive Survey Items	10	10	10
% Positive Items	100%	100%	100%
Threshold	80 %	80 %	80 %

2017 - 2019 Avg: 100 %

Analysis

Action Plan

Graduate Satisfaction

	2019	2018	2017
Graduates	20	16	11
Employed	19	16	11
Surveys Returned	14	10	10
Positive Survey Items	10	9	9
% Positive Items	100%	100%	100%
Threshold	80 %	80 %	80 %

2017 - 2019 Avg: 100 %

Analysis

Action Plan

Outcome Summary

	2019	2018	2017	2016	2015	2014	2013	2012	Threshold	Current Period 3 year average 2019-2017	Previous Period 3 year average 2018-2016
Retention	100%	91%	89%	93%	79%	89%	75%	90%	70%	93%	91%
Job Placement	95%	100%	100%	100%	100%	100%	100%	100%	0 %	98%	100%
RRT Credentialing Success	85%	100%	100%	100%	100%	92%	93%	94%	0 %	94%	100%
TMC High Cut Score Pass Rate	90%	100%	100%	100%	94%	N/A	N/A	N/A	60 %	96%	100%
Overall Employer Satisfaction	100%	100%	100%	100%	100%	100%	100%	100%	80 %	100%	100%
Overall Graduate Satisfaction	100%	100%	100%	100%	100%	100%	100%	100%	80 %	100%	100%

	2019	2018	2017	2016	2015	2014	2013	2012	Total
Graduates	20	16	11	13	17	13	15	18	135
Enrollment	15	22	18	14	19	18	16	20	162

RAM Resources

Annual Report Year : 2020

The total number of enrolled students that were sent the Student Resource Survey	12	**The total number of paid program faculty (FT, PT, and Per-Diem), medical director(s) and Advisory Committee members that were sent the Program Resource Survey**	14

	Total Surveys Sent	Total Surveys Returned	Return Rate
Student	12	12	100 %
Personnel	14	11	78 %

Resource
Personnel

Purpose
To ensure the program has sufficient number of effective laboratory, classroom, and clinical instructors. (2.06/2.10/2.11/2.13)

Measurement System
1) Student resource surveys *
2) Personnel resource surveys *
3) Other

Date of Measurement
1) Jun-15-2020
2) Jun-15-2020
3)

Results & Analyses
All were 3 or higher

All were 3 or higher

Action Plan & Follow-up
NA

Resource
Facilities

Purpose
To provide adequate classroom, laboratory and accommodations to ensure effective instruction.(2.01)

Measurement System
1) Student resource surveys *
2) Personnel resource surveys *
3) Other

Date of Measurement
1) Jun-15-2020
2) Jun-15-2020
3)

Results & Analyses
All received 3 or higher, except light/ventilation received one 2 rating for classroom

All were 3 or higher

Action Plan & Follow-up
Cold room is a reported problem in the classroom and has been shared with administration.

Resource
Laboratory

Purpose
To provide students with the equipment and exercises that will adequately prepare them for clinical practice.(2.01 / 4.08)

Measurement System
1) Student resource surveys *
2) Personnel resource surveys *
3) Other

Date of Measurement
1) Jun-15-2020
2) Jun-15-2020
3)

Results & Analyses
All received 3 or higher, except light/ventilation received one 2 rating for classroom

All were 3 or higher

Action Plan & Follow-up
Cold room is a reported problem in the classroom and has been shared with administration.

Resource
Academic Support

Purpose
To support student needs for supplemental reading, electronic and print reference materials, and research and computer resources. (2.01/2.15/5.11)

Measurement System
1) Student resource surveys *
2) Personnel resource surveys *
3) Other

Date of Measurement
1) Jun-15-2020
2) Jun-15-2020
3)

Results & Analyses
All were 3 or higher

All were 3 or higher

Action Plan & Follow-up
NA

Resource
Clinical

Purpose
To provide a sufficient variety of tasks and procedures for instruction to allow for student mastery of the program's required clinical competencies.(2.13 / 3.12 / 4.08 / 4.09)

Measurement System
1) Student resource surveys *
2) Personnel resource surveys *
3) Other

Date of Measurement
1) Jun-15-2020
2) Jun-15-2020
3)

Results & Analyses
All were 3 or higher

All were 3 or higher

Action Plan & Follow-up
NA

Resource
Financial

Purpose
To provide adequate fiscal support for the retention of personnel and the acquisition and maintenance of equipment and supplies.(2.01)

Measurement System
1) Program Budget Review *
2) Personnel resource surveys *
3) Other

Date of Measurement
1) Jun-15-2020
2) Jun-15-2020
3)

Results & Analyses
All were 3 or higher

All were 3 or higher

Action Plan & Follow-up
NA

Resource
Program Satellites Only

Purpose
To ensure that resources, services, and faculty at the satellite campus(es) are adequate and equivalent to those on the main campus. (1.05/2.14)

Measurement System
1) Student resource surveys *
2) Personnel resource surveys
3) Other

Date of Measurement
1)
2)
3)

Results & Analyses
NA

NA

Action Plan & Follow-up
NA

Appendix E

BKD Market Analysis:
Respiratory Therapy Program Report

Respiratory Therapy Program Report

As of December 1, 2020

Ozarks Technical Community College

BKD
CPAs & Advisors

bkd.com

Table of Contents

Ozarks Technical Community College

Respiratory Therapy Program Report

December 1, 2020

BKD
CPAs & Advisors

200 E. Main Street, Suite 700 I Fort Wayne, IN 46802-1900
260.460.4000 I Fax 260.426.2235 I bkd.com

Report Letter

Mr. Matthew Simpson
Ozarks Technical Community College
Springfield, MO

We have performed the procedures enumerated in Section II Scope and Methodology of this report, which were agreed to by Ozarks Technical Community College (College) pursuant to our engagement letter, dated October 13, 2020, solely to assist you with respect to your analysis of a Respiratory Therapy Program. The management of the College is responsible for any decisions regarding its academic portfolio and should be based on all relevant facts and information available. Had we performed additional procedures, other findings of significance may have been reported to you. The sufficiency of the procedures is solely the responsibility of the parties specified in this report. Consequently, we make no representation regarding the sufficiency of the procedures described in Section II of this report for the purpose for which this report has been requested or for any other purpose.

The findings and observations in connection with the procedures performed, are located in Sections V and VI.

We were not engaged to, and did not, conduct an examination, the objective of which would be the expression of an opinion on the viability of the Respiratory Therapy program. Accordingly, we do not express such an opinion. Our report is intended for use only by management solely for reporting findings with respect to the procedures performed by us. This report is not intended to be, and should not be, used by anyone other than these specified parties.

We wish to take this opportunity to thank the College's management and staff members who contributed positively to our efforts. We would be pleased to further discuss any of the items in this report at your convenience.

BKD, LLP

Fort Wayne, Indiana
December 1, 2020

II. Scope and Methodology

The College engaged BKD to provide a workforce assessment of the Respiratory Therapy program at the bachelor's degree level. The assessment also includes student demand and competitive intensity metrics to create an overall program score and ranking among all available academic programs. Workforce and other demand metrics were based upon defined geographic markets to provide timely and relevant data. The methodology is described through the remainder of this section.

The Respiratory Therapy program (CIP 51.0908), is defined by the US Department of Education's National Center for Education Statistics (NCES) as follows:

> A program that prepares individuals, under the supervision of physicians, to assist in developing respiratory care plans, administer respiratory care procedures, supervise personnel and equipment operation, maintain records and consult with other health care team members. Includes instruction in the applied basic biomedical sciences; anatomy, physiology, and pathology of the respiratory system; clinical medicine; therapeutic procedures; clinical expressions; data collection and record-keeping; patient communication; equipment operation and maintenance; personnel supervision; and procedures for special population groups.

This program report is designed to provide supporting data and analysis for making data-informed decisions on academic programs by gathering data on student demand, employment demand and competitive intensity. The database scores a variety of metrics to create an overall program score. Scoring is based on a scoring rubric and weighted strength factor to evaluate academic programs by geographic markets.

Based on the three data categories, the College has weighted the scoring rubric with the following strength factors:

Student Demand	30%
Employment	50%
Competitive Intensity	20%

The scoring rubric uses these strength factors to place emphasis on which category of data is more significant for the institution. The College's strength factors fall within a reasonable range for a community college.

Scoring for the employment segment follows a crosswalk between the program CIP code and the Standard Occupation Code (SOC) used by the Bureau of Labor Statistics (BLS). The CIP to SOC crosswalk matches job posting data and BLS employment and wage data to the academic program. There are two indicators of how closely the CIP is linked with an associated SOC: 1) CIP Share of SOC employees and 2) SOC Share of CIP graduates. The first indicates how important a program is as a contributor of graduates to the occupation. The latter indicates how important the occupation is as a destination for graduates of the program.

II. Scope and Methodology

The Program aligns at the highest level with the 29-1126 SOC Code (figure 1). Based on this relationship, employment data linked to SOC 29-1126 is reviewed for the Program study. Job postings metrics, job growth metrics, wage data and employment outlook are aligned between the CIP and the SOC codes.

Figure 1. CIP to SOC Crosswalk

CIP-SOC Crosswalk

CIP	CIP Title	SOC Code	SOC Title	SOC Share of CIP Graduates	CIP share of SOC employees
51.0908	Respiratory Care Therapy	29-1126	Respiratory Therapists	1-High	1-High
51.0908	Respiratory Care Therapy	29-1199	Health Diagnosing and Treating Practitioners, All Other	3-Low	3-Low

Scoring on each of the data components is aggregated into a single program score and ranked among all available programs within the CIP database. Scores are unique for each market defined by the institution as described in Section III of this report. Additionally, scoring is measured with both the raw data, and the percentile ranking of the weighted scores to provide an overview of the entire academic portfolio.

Recent respiratory therapy job postings in the state of Missouri (as aligned with the CIP-SOC crosswalk) have increased over the past three months from 11 in August to 67 during October. A majority of job postings do not specify educational qualifications, however, the bachelor degree is the preferred qualification followed by the associate degree.

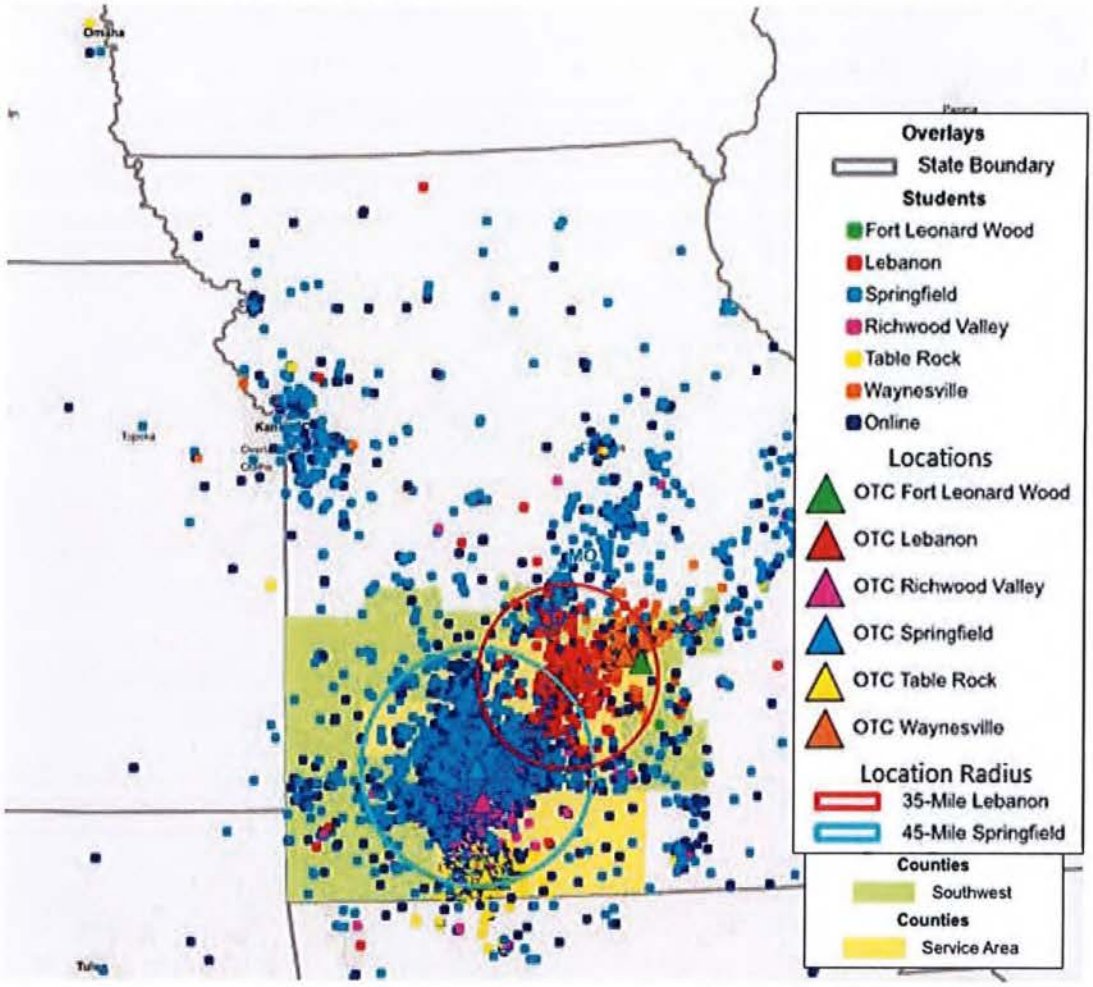
The top skills and abilities required for respiratory therapy jobs according to Skills Engine include: problem sensitivity, deductive reasoning, complex problem solving, critical thinking and a service orientation. Based on these requirements, the top occupational skills fit with the Respiratory Therapy, Registered Nursing and Medical Assistants professions.

Lastly, it is relevant to note that the Respiratory Therapy program has strong workforce demand. Employment demand at the national level, scored in the 94th percentile of all bachelor's degrees. This national trend may help continue a growth in the local Missouri region.

III. Market Definitions

Scoring for each data component is presented based on a geographic market definition. The analysis focuses on two markets defined by management as "Service Area" counties and "Southwest Missouri" counties as illustrated in Figure 2. The yellow area represents the Service Area counties and the green area represents the Southwest Missouri counties.

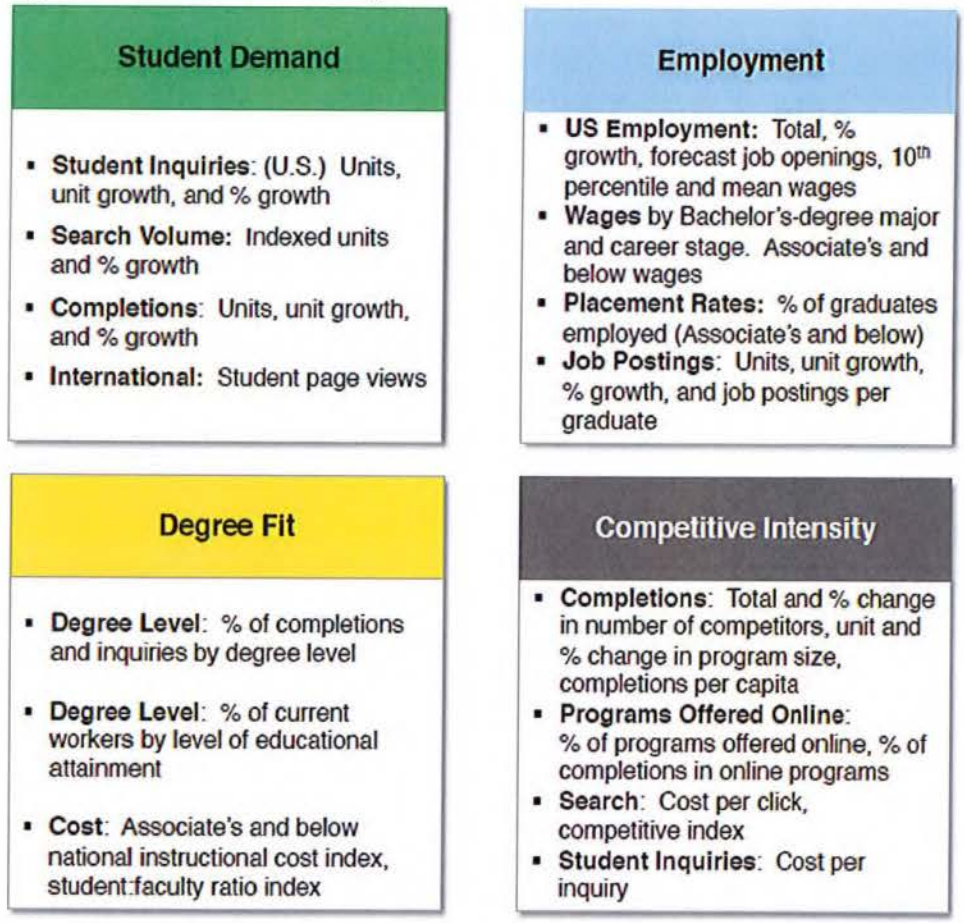
Figure 2. Ozarks Market Definition Map



IV. Data Definitions

The College's program scoring is derived from student demand, employment demand and competitive intensity. Degree fit is also used to validate the proper level of study based on workforce needs and student completion data. Figure 4 provides a brief overview of data sources for each measurement category.

Figure 4 – Measurement Categories



Data on each of these categories was pulled from multiple data sources and compiled into a single scorecard per market. Section V and VI of this report detail the scoring and data by each market definition at the bachelor's level. The program scoring considers student demand, employment demand, and competitive intensity.

Student demand. The Student Demand metrics included in the Program quantify student interest in academic programs by location, degree level, and modality. The study includes several data sources to triangulate on total volume and trends in student demand. The most authoritative and complete source is Integrated Postsecondary Education Data System (IPEDS), which includes data on completions by program for all Title IV institutions. It tracks completion data by program and degree level and indicates how big a program is and whether it has been growing.

IV. Data Definitions

In addition to IPEDS data, the study incorporates a dataset of over 70 million inquiries that includes information on the student's location, degree level sought, program of interest and whether they want to take it online or on-campus. The study also tracks Google search volumes for the largest 200 programs to identify student interest in programs that are not captured by aggregator channels.

The system includes all current data for these metrics, as well as year-over-year changes, so you can see if demand is trending up or down in each category.

Employment. The employment opportunities data in the scorecard quantifies labor market data for all academic programs in a geographic market. The study compiles data from several sources, including a proprietary job postings database, BLS employment and wage data, American Community Survey (ACS) wages and Gainful Employment wages. Data is categorized by current jobs, job growth, and job market saturation. We also analyze future job growth using BLS' estimated compound annual growth rate for employment. Employment wages for those under 30-years of age and between 30 and 60 to track both short and long-term employment outcomes.

Data also incorporates metrics such as Job Postings per Graduate and job posting data by the count of annual job postings. The data is current (to the most recent quarter) and tracks actual postings, rather than survey data.

Competitive intensity. The study includes several sources of data on competitors. The study tracks completions in all markets and average and median program size. Metrics assess market saturation and competitive intensity using data from IPEDS, Google, inquiries and the Census.

The data also tracks national online completions for the program, including the number of institutions nationally that offer the program online and the number of institutions with in-market graduates. The study provides the name, degree level, and number of completions for every competitor for the last five years (including online). Institutional and demographic data is also available, such as sector, tuition rates, selectivity metrics, graduation rates, student body composition and school rankings.

Degree fit. The degree fit data set is used in the scoring as a 'knock-out' score to highlight a mismatch between the degree level and workforce educational attainment. The Program is heavily weighted toward the associate's level with a 55 percent representation of the national workforce educational attainment. The Program has a 27 percent representation at the bachelor's level.

At a national level, the Program is represented by 75 percent of associate degrees and 23% of bachelor degrees.

V. Program Dashboard – Service Area Counties

CIP: 51.0908 Respiratory Care Therapy | Market: Service Area | Modality: All | Award Level: Bachelors | Current Programs | Export to PNG

79 Percentile — 51.0908 Respiratory Care Therapy [2 Score]

Student Demand [5 Score]

86 Pctl

Category	Pctl	Criterion	Value	Score
Size	0	Inquiry Volume (12 Months)	0	0
	0	Int'l Page Views (12 Months)	0	NS
	22	Google Search Volume (3 Months)*	92	1
	90	On-ground Completions at In-Market Institutions	2	2
	95	Online Completions by In-Market Students	1	3
	90	Sum of On-ground and Online Completions	3	2
Growth	95	Inquiry Volume YoY Change (Units)	0	0
	3	Google Search YoY Change (Units)*	-82	-1
	3	Completion Volume YoY Change (Units)	-1	-1
		Inquiry Volume YoY Change (%)	NA	NS
	0	Google Search YoY Change (%)*	-47%	-1
	22	Completion Volume YoY Change (%)	-33%	0

Competitive Intensity [-9 Score]

2 Pctl

Category	Pctl	Criterion	Value	Score
Volume of Competition	95	Campuses with Graduates**	1	-2
	96	National Online Institutions (Units)**	25	NS
	96	Institutions with Online In-Market Students**	15	NS
	99	Institutions YoY Change (Units)**	1	-3
	15	Average Completions by Local Institution	2	-2
	24	Median Completions by Local Institution	2	-2
	29	YoY Median Program Change (Units)	-2	0
	17	YoY Median Program Change (%)	-50%	-2
	94	Natl Online % of Institutions	25%	NS
	89	Natl Online % of Completions	26%	NS
Market Saturation		Average Cost per Inquiry**	NA	NS
	0	Google Search * Cost per Click**	0	1
	4	Google Competition Index**	0.06	1

Percentile	0	20+	40+	70+	90+	95+	98+	100
Overall Score	-42	-19	-12	1	10	14	21	43

Employment* [6 Score]

77 Pctl

Category	Pctl	Criterion	Value	Score
Size (Direct Prep)	90	Job Postings Total (12 Months)*	32	4
	88	BLS Current Employment*	354	2
	87	BLS Annual Job Openings*	29	0
Size (Generalist)	83	BLS Share of Generalist Employment*	9	0
	83	BLS Share of Generalist Openings*	1	NS
Growth (Direct Prep)	76	BLS 1-Year Historical Growth*	14%	1
	23	BLS 3-Year Historic Growth (CAGR)*	-7%	-1
	97	BLS 10-Year Future Growth (CAGR)*	2.0%	NS
Saturation (Direct Prep)	43	Job Postings per Graduate*	1.4	-1
	39	BLS Job Openings per Graduate*	1.4	-1
Wages (Direct Prep)	69	BLS 10th-Percentile Wages*	$36,615	2
	59	BLS Mean Wages*	$49,210	0
National American Community Survey Bachelor's Degree Outcomes	65	Natl ACS Wages (Age < 30)	$45,432	NS
	47	Natl ACS Wages (Age 30-60)	$84,200	NS
	27	Natl ACS % with Any Graduate Degree	25%	NS
	11	Natl ACS % with Masters	15%	NS
	58	Natl ACS % with Doct/Prof Degree	10%	NS
	21	Natl ACS % Unemp. (Age <30)**	2%	NS
	17	Natl ACS % Unemp. (Age 30-60)**	2%	NS
	61	Natl ACS % in Direct Prep Jobs	5%	NS

CIP Description

A program that prepares individuals, under the supervision of physicians, to assist in developing respiratory care plans, administer respiratory care procedures, supervise personnel and equipment operation, maintain records, and consult with other health care team members. Includes instruction in the applied basic biomedical sciences; anatomy, physiology, and pathology of the respiratory system; clinical medicine; therapeutic procedures; clinical expressions; data collection and record-keeping; patient communication; equipment operation and maintenance; personnel supervision; and procedures for special population groups.

** Color Scale in Reverse

Percentile (Reverse)	<40	40+	70+	90+	95+	98+

Degree Fit [0 Score]

Category	Pctl	Criterion	Value	Score
NHEBI Natl 2 Year	99	Cost Index**	2.24	NS
	29	Student: Faculty Index	0.81	NS

National Completions by Level [0 Score]

Award Level	Completions (National)	Completions (Market)	Inquiries (Market)
Certificate	0%	0%	NA
Associates	75%	87%	NA
Bachelors	23%	13%	NA
Postbaccalaureate Certificate	0%	0%	NA
Masters	1%	0%	NA
Post-masters Certificate	0%	0%	NA
Doctoral	0%	0%	NA
Unknown	0%	0%	NA

National Workforce Ed. Attainment [0 Score]

Award Level	BLS Educational Attainment
No College	1%
Some College	13%
Associates	55%
Bachelors	27%
Masters	3%
Doctoral	1%

* - Google search, employment data and Jobs Per Grad Ratio do not filter by award level.
** - Color scale in reverse.
NA - No data available/not currently tracked.
NS - Not Scored in Rubrics (values = 0).
2-Yr - Associates & certificate programs only.
PCTL - Percentile

V. Program Dashboard – Service Area Counties

The Program places in the top quartile of all programs within the Service Area counties. Student demand and employment demand both place in the top quartile of demand with an 86th and a 77th percentile ranking respectively.

Student demand reported in the 86th percentile of all academic programs. Google search volume over the past three months (August, September and October 2020) was 92 searches with an overall decline from the previous year by 47 percent. Completion volume has declined by 33%. Completion data at the Associate level increased by 23 percent.

Workforce demand scored at the 77th percentile of all academic programs for this market. Job posting and employment metrics are showing growth and score in the top quartile of all programs. The BLS 1-year growth and the 10-year future growth show a 14 and 2 percent annualized growth respectively. While still below the median program ranking, the Program has a 1.4 job posting to graduate metric. Wage data is above the median for those under 30 years of age. Unemployment is shown at 2% placing the program in the lowest quartile for this category.

Direct preparation scores are most relevant for a community college (compared with a four-year liberal arts institution). It is significant to note that job postings and the 10-year BLS outlook are positive along with the one-year historical growth rate.

Direct preparation scores are most relevant for a community college (compared with a four-year liberal arts institution). The data indicates a strong job market and growth capacity for the defined market area. All three of the direct preparation size metrics and two of the three growth metrics score in the top quartile of all programs. Direct saturation (job postings per graduate) and wages indicate a difficult market for recent graduates. However, data indicates future growth for the Program based on other BLS and National ACS data points. For this market, direct preparation scores indicate a strong workforce demand with positive growth.

Competitive intensity scored low with one competitor in the market offering a bachelor's degree – Missouri State University. Over the past five years, Missouri State University has 15 graduates at the bachelor degree level. Missouri Southern State University and Ozarks Technical Community College have produced 178 graduates at the associate degree level.

The Program remains primarily an associate degree level program with 87% of the completions within this market area. The BLS workforce educational attainment, at a national level, indicates 55% of all jobs held by associate degrees and 27% holding bachelor degrees. It is relevant to note that the Respiratory Therapy program has strong workforce demand at the national level. Employment demand at the national level, scored in the 94th percentile of all bachelor's degrees. This national trend may help continue a growth in the local Service Area.

CIP: 51.0908 Respiratory Care Therapy ▼ | Market: Southwest Mis... ▼ | Modality: All ▼ | Award Level: Bachelors ▼ | Current Programs | Export to PNG

60 Percentile — 51.0908 Respiratory Care Therapy [0 Score]

Student Demand [3 Score]

81 Pctl

Category	Pctl	Criterion	Value	Score
Size	0	Inquiry Volume (12 Months)	0	0
	0	Int'l Page Views (12 Months)	0	NS
	22	Google Search Volume (3 Months)*	154	1
	89	On-ground Completions at In-Market Institutions	2	1
	95	Online Completions by In-Market Students	2	3
	88	Sum of On-ground and Online Completions	4	1
Growth	94	Inquiry Volume YoY Change (Units)	0	0
	3	Google Search YoY Change (Units)*	-137	-1
	4	Completion Volume YoY Change (Units)	-1	-1
		Inquiry Volume YoY Change (%)	NA	NS
	0	Google Search YoY Change (%)*	-47%	-1
	27	Completion Volume YoY Change (%)	-25%	0

Competitive Intensity [-7 Score]

2 Pctl

Category	Pctl	Criterion	Value	Score
Volume of Competition	94	Campuses with Graduates**	1	0
	96	National Online Institutions (Units)**	25	NS
	96	Institutions with Online In-Market Students**	15	NS
	99	Institutions YoY Change (Units)**	1	-3
	15	Average Completions by Local Institution	2	-2
	21	Median Completions by Local Institution	2	-2
	31	YoY Median Program Change (Units)	-2	0
	17	YoY Median Program Change (%)	-50%	-2
	94	Nat'l Online % of Institutions	25%	NS
	89	Nat'l Online % of Completions	26%	NS
Market Saturation		Average Cost per Inquiry**	NA	NS
	0	Google Search * Cost per Click**	0	1
	4	Google Competition Index**	0.06	1

Percentile	0	20+	40+	70+	90+	95+	98+	100
Overall Score	-46	-18	-12	2	10	15	22	45

Employment* [4 Score]

70 Pctl

Category	Pctl	Criterion	Value	Score
Size (Direct Prep)	90	Job Postings Total (12 Months)*	43	4
	86	BLS Current Employment*	366	2
	84	BLS Annual Job Openings*	29	0
Size (Generalist)	83	BLS Share of Generalist Employment*	14	0
	83	BLS Share of Generalist Openings*	1	NS
Growth (Direct Prep)	18	BLS 1-Year Historical Growth*	-27%	-1
	16	BLS 3-Year Historic Growth (CAGR)*	-10%	-1
	97	BLS 10-Year Future Growth (CAGR)*	2.0%	NS
Saturation (Direct Prep)	42	Job Postings per Graduate*	1.0	-1
	34	BLS Job Openings per Graduate*	0.8	-1
Wages (Direct Prep)	68	BLS 10th-Percentile Wages*	$37,537	2
	53	BLS Mean Wages*	$50,107	0
National American Community Survey Bachelor's Degree Outcomes	65	Nat'l ACS Wages (Age < 30)	$45,432	NS
	47	Nat'l ACS Wages (Age 30-60)	$84,280	NS
	27	Nat'l ACS % with Any Graduate Degree	25%	NS
	11	Nat'l ACS % with Masters	15%	NS
	58	Nat'l ACS % with Doct/Prof Degree	10%	NS
	21	Nat'l ACS % Unemp. (Age <30)**	2%	NS
	17	Nat'l ACS % Unemp. (Age 30-60)**	2%	NS
	61	Nat'l ACS % in Direct Prep Jobs	5%	NS

CIP Description

A program that prepares individuals, under the supervision of physicians, to assist in developing respiratory care plans, administer respiratory care procedures, supervise personnel and equipment operation, maintain records, and consult with other health care team members. Includes instruction in the applied basic biomedical sciences; anatomy, physiology, and pathology of the respiratory system; clinical medicine; therapeutic procedures; clinical expressions; data collection and record-keeping; patient communication; equipment operation and maintenance; personnel supervision; and procedures for special population groups.

** Color Scale in Reverse

Percentile (Reverse)	<40	40+	70+	90+	95+	98+

Degree Fit [0 Score]

Category	Pctl	Criterion	Value	Score
NHEBI Nat'l 2 Year	99	Cost Index**	2.24	NS
	29	Student: Faculty Index	0.81	NS

National Completions by Level [0 Score]

Award Level	Completions (National)	Completions (Market)	Inquiries (Market)
Certificate	0%	0%	NA
Associates	75%	92%	NA
Bachelors	23%	8%	NA
Postbaccalaureate Certificate	0%	0%	NA
Masters	1%	0%	NA
Post-masters Certificate	0%	0%	NA
Doctoral	0%	0%	NA
Unknown	0%	0%	NA

National Workforce Ed. Attainment [0 Score]

Award Level	BLS Educational Attainment
No College	1%
Some College	13%
Associates	55%
Bachelors	27%
Masters	3%
Doctoral	1%

* - Google search, employment data and Jobs Per Grad Ratio do not filter by award level.
** - Color scale in reverse.
NA - No data available/not currently tracked.
NS - Not Scored in Rubrics (values = 0).
2-Yr - Associates & certificate programs only.
PCTL - Percentile

VI. Program Dashboard – Southwest Missouri Counties

The Program places in the third quartile of all programs within the Southwest Missouri counties with an overall 60th percentile ranking. Student demand remains relatively strong with an 81st percentile ranking and employment demand scored softer at the 70th percentile.

Student demand reported in the 81st percentile of all academic programs. Google search volume over the past three months (August, September and October 2020) was 154 searches with an overall decline from the previous year by 47%. Completion volume has declined by 25%. However, completion volume increased at the associate degree level by 20 percent.

Workforce demand scored at the 70th percentile of all academic programs for this market. Job postings show positive signs with a 90th percentile score with 43 job postings over the past 12 months. Current employment and annual job openings, according to BLS, both scored in the 86th and 84th percentile. Direct saturation (job postings per graduate) and wages indicate a difficult market for recent graduates. However, data indicates future growth for the Program based on other BLS and National ACS data points. Short term growth measurements did not score well and job posting per graduate is under the median.

Direct preparation data is a key component for the Program. These scores reflect a strong job market for the area for both current employment and job openings. However, this market definition shows a weaker 1 and 3-year annualized growth rate. The long-term projection is positive and scores in the 97th percentile of all programs. The direct preparation scores indicate a strong workforce demand with softer short-term growth.

Competitive intensity scored low with one competitor in the market offering a bachelor's degree – Missouri State University. Over the past five years, Missouri State University has 15 graduates at the bachelor degree level. Missouri Southern State University and Ozarks Technical Community College have produced 178 graduates at the associate degree level.

The Program remains primarily an associate degree level program with 87% of the completions within this market area. The BLS workforce educational attainment, at a national level, indicates 55% of all jobs held by associate degrees and 27% holding bachelor degrees. It is relevant to note that the Respiratory Therapy program has strong workforce demand at the national level. Employment demand at the national level, scored in the 94th percentile of all bachelor's degrees. This national trend may help continue a growth in the local Southwest Missouri region.

Appendix F

Proposed BS in Respiratory Therapy Alignment with NBRC Matrix

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program # _____)	List Course Number(s)
I. PATIENT DATA	
A. Evaluate Data in the Patient Record	
1. Patient history , for example, • history of present illness (HPI) • orders • medication reconciliation • progress notes • DNR status / advance directives • social, family, and medical history	Pharmacology Pulmonary Disease
2. Physical examination relative to the cardiopulmonary system	Pharmacology Pulmonary Disease
3. Lines, drains, and airways, for example, • chest tube • artificial airway •vascular lines	Critical Care Concepts
4. Laboratory results, for example, • CBC • electrolytes • coagulation studies •sputum culture and sensitivities • cardiac biomarkers	Diagnostic II Pulmonary Disease
5. Blood gas analysis and/or hemoximetry (CO-oximetry) results	Diagnostic I
6. Pulmonary function testing results, for example •spirometry •lung volumes •DLCO	Diagnostic II
7. 6-minute walk test results	Pulmonary Disease
8. Imaging study results, for example, • chest radiograph • CT scan • ultrasonography and/or echocardiography • PET scan • ventilation / perfusion scan	Diagnostic II Pulmonary Disease
9. Maternal and perinatal / neonatal history, for example, • APGAR scores • gestational age • L / S ratio	Neo/Peds
10. Sleep study results. for example, •apnea-hypopnea index (AHI)	Pulmonary Disease
11. Trends in monitoring results	
a. fluid balance	Pulmonary Disease Critical Care Concep
b. vital signs	Pharmacology Pulmonary Disease
c. intracranial pressure	Mechanical Vent.
d. ventilator liberation parameters	Mechanical Vent.
e. pulmonary mechanics	Diagnostic II Pulmonary Disease
f. noninvasive, for example, • pulse oximetry • capnography • transcutaneous	Mechanical Vent. Critical Care Concep

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program # _____)	List Course Number(s)
g. cardiac evaluation/monitoring results, for •ECG •hemodynamic parameters	Diagnostic II Critical Care Concep.
12. Determination of patient's pathophysiological state	
B. Perform Clinical Assessment	
1. Interviewing a patient to assess	
a. level of consciousness and orientation, emotional state, and ability to cooperate	Pharmacology Pulmonary Disease
b. level of pain	Pharmacology Pulmonary Disease
c. shortness of breath, sputum production, and exercise tolerance	Pharmacology Pulmonary Disease
d. smoking history	Pharmacology Pulmonary Disease
e. environmental exposures	Pulmonary Disease
f. activities of daily living	Pulmonary Disease
g. learning needs, for example, • literacy • social/culture • preferred learning style	Comm &Pt Education
2. Performing inspection to assess	
a. general appearance	Pharmacology Pulmonary Disease
b. characteristics of the airway, for example, • patency • Mallampati classification • tracheal shift	Critical Care Concepts
c. cough, sputum amount and character	Pharmacology Pulmonary Disease
d. status of a neonate, for example • Apgar score • gestational age	Neo/Peds
e. skin integrity, for example, •pressure ulcers •stoma site	Critical Care Concepts
3. Palpating to assess	
a. pulse, rhythm, intensity	Pharmacology Pulmonary Disease
b. accessory muscle activity	Pharmacology Pulmonary Disease

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program # _____)	List Course Number(s)
c. asymmetrical chest movements, tactile fremitus, crepitus, tenderness, tactile rhonchi, and/or tracheal deviation	Diagnostic II Pulmonary Disease
4. Performing diagnostic chest percussion	Diagnostic II Pulmonary Disease
5. Auscultating to assess	
a. breath sounds	Pharmacology Pulmonary Disease
b. heart sounds and rhythm	Pharmacology Pulmonary Disease
c. blood pressure	Pharmacology Pulmonary Disease
6. Reviewing a chest radiograph to assess	
a. quality of imaging, for example, • patient positioning • penetration •lung inflation	Diagnostic II Pulmonary Disease
b. presence and position of airways, lines, and drains	Diagnostic II Pulmonary Disease
c. presence of foreign bodies	Diagnostic II Pulmonary Disease
d. heart size and position	Diagnostic II Pulmonary Disease
e. presence of, or change in,	
(i) cardiopulmonary abnormalities for example, • pneumothorax • pleural effusion •pulmonary edema • consolidation • pulmonary edema •pulmonary artery size	Diagnostic II Pulmonary Disease
(ii) diaphragm, mediastinum, and/or trachea	Diagnostic II Pulmonary Disease
C. Perform Procedures to Gather Clinical Information	
1. 12-lead ECG	Diagnostic II Critical Care Concep.
2. Noninvasive monitoring, for example, • pulse oximetry • capnography • transcutaneous	Mechanical Vent.
3. Peak flow	Pharmacology Pulmonary Disease
4. Mechanics of spontaneous ventilation linked to tidal volume, minute volume, and maximal inspiratory pressure, and vital capacity	Mechanical Vent.
5. Blood gas sample collection	Diagnostic I

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program # _____)	List Course Number(s)
6. Blood gas analysis and/or hemoximetry (CO-oximetry)	Diagnostic I
7. Oxygen titration with exercise	Diagnostic I
8. Cardiopulmonary calculations, for example, • $P(A\text{-}a)O_2$ • V_D / V_T • P / F • OI	Diagnostic II Mechanical Vent.
9. Hemodynamic monitoring	Critical Care Concepts
10. Pulmonary compliance and airways resistance	Mechanical Vent.
11. Plateau pressure	Mechanical Vent.
12. Auto-PEEP determination	Mechanical Vent.
13. Spontaneous breathing trial (SBT)	Mechanical Vent.
14. Apnea monitoring	Mechanical Vent.
15. Apnea test (brain death determination)	Critical Care Concepts
16. Overnight pulse oximetry	Pulmonary Disease
17. CPAP / NPPV titration during sleep	Pulmonary Disease
18. Cuff management, for example, •tracheal •laryngeal	Mechanical Vent.
19. Sputum induction	Pharmacology Pulmonary Disease
20. Cardiopulmonary stress testing	Critical Care Concepts
21. 6-minute walk test	Pulmonary Disease
22. Spirometry outside or inside a pulmonary function laboratory	Diagnostic II
23. DLCO inside a pulmonary function laboratory	Diagnostic II
24. Lung volumes inside a pulmonary function laboratory	Diagnostic II
25. Tests of respiratory muscle strength- MIP and MEP	Mechanical Vent.
26. Therapeutic bronchoscopy	Critical Care Concepts

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program # _____)	List Course Number(s)
D. Evaluate Procedure Results	
1. 12-lead ECG	Diagnostic II
2. Noninvasive monitoring, for example, • pulse oximetry • capnography • transcutaneous	Mechanical Vent.
3. Peak flow	Pharmacology Pulmonary Disease
4. Mechanics of spontaneous ventilation linked to tidal volume, minute volume, maximal inspiratory pressure, and vital capacity	Mechanical Vent.
5. Blood gas analysis and/or hemoximetry (CO-oximetry)	Diagnostic I
6. Oxygen titration with exercise	Diagnostic I
7. Cardiopulmonary calculations, for example, • $P(A\text{-}a)O_2$ • V_D / V_T • P / F • OI	Diagnostic I Mechanical Vent
8. Hemodynamic monitoring	Critical Care Concepts
9. Pulmonary compliance and airways resistance	Mechanical Vent.
10. Plateau pressure	Mechanical Vent.
11. Auto-PEEP	Mechanical Vent.
12. Spontaneous breathing trial (SBT)	Mechanical Vent.
13. Apnea monitoring	Mechanical Vent.
14. Apnea test (brain death determination)	Mechanical Vent.
15. Overnight pulse oximetry	Pulmonary Disease
16. CPAP / NPPV titration during sleep	Pulmonary Disease
17. Cuff status, for example, •laryngeal •tracheal	Mechanical Vent.
18. Cardiopulmonary stress testing	Critical Care Concepts
19. 6-minute walk stress testing	Critical Care Concepts
20. Spirometry outside or inside a pulmonary function laboratory	Diagnostic II

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program # _____)	List Course Number(s)
22. DLCO inside a pulmonary function laboratory	Diagnostic II
23.Tests of respiratory muscle strength-MIP and MEP	Mechanical Vent.
E. Recommend Diagnostic Procedures	
1. Testing for tuberculosis	Pulmonary Disease
2. Laboratory tests, for example, • electrolytes • CBC •coagulation studies •sputum culture and sensitives •cardiac biomarkers	Diagnostic II Pulmonary Disease
3. Imaging studies	Diagnostic II Pulmonary Disease
4. Bronchoscopy	Diagnostic II Pulmonary Disease
a. diagnostic	
b. therapeutic	
5. Bronchoalveolar lavage (BAL)	Critical Care Concepts
6. Pulmonary function testing	Diagnostic II Pulmonary Disease
7. Noninvasive monitoring, for example, • pulse oximetry • capnography • transcutaneous	Pharmacology Pulmonary Disease Mechanical Vent
8. Blood gas and/or hemoximetry (CO-oximetry)	Diagnostic I Mechanical Vent
9. ECG	Diagnostic II
10. Exhaled gas analysis, for example, • CO_2 • CO • FENO	Diagnostic II Pulmonary Disease
11. Hemodynamic monitoring	Critical Care Concepts
12. Sleep studies	Pulmonary Disease
13. Thoracentesis	Critical Care Concepts
II. TROUBLESHOOTING AND QUALITY CONTROL OF DEVICES, AND INFECTION CONTROL	
A. Assemble and Troubleshoot Equipment	
1. Medical gas delivery interfaces, for example, •mask •cannula •heated high-flow nasal cannula	Equipment

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program # _____)	List Course Number(s)
2. Long-term oxygen therapy	Equipment
3. Medical gas delivery, metering, and/or clinical analyzing devices, for example, •concentrator •liquid system •flowmeter •regulator •gas cylinder •blender •air compressor •gas analyzers	Equipment
4. CPAP/NPPV with patient interfaces	Equipment Mechanical Vent
5. Humidifiers	Equipment Mechanical Vent
6. Nebulizers	Equipment Pharmacology
7. Metered-dose inhalers, spacers, and valved holding chambers	Equipment Pharmacology
8. Dry powder inhalers (DPI)	Equipment Pharmacology
9. Resuscitation equipment, for example, •self-inflating resuscitator •flow-inflating resuscitator •AED	Equipment
10. Mechanical ventilators	Mechanical Vent.
11. Intubation equipment	Mechanical Vent.
10. Artificial airways	Equipment Mechanical Vent
12. Suctioning equipment, for example, • regulator • canister • tubing • catheter	Equipment Mechanical Vent
14. Blood analyzer. for example, • hemoximetry (CO-oximetry) • point-of-care • blood gas	Diagnostic I
15. Patient breathing circuits	Mechanical Vent.
16. Hyperinflation devices	Equipment
17. Secretion clearance devices	Equipment
18. Heliox delivery device	Equipment
19. Portable spirometer	Diagnostic II Pulmonary Disease
20. Testing equipment in a pulmonary function laboratory	Diagnostic II
21. Pleural drainage	Critical Care Concepts

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program # _____)	List Course Number(s)
22.. Noninvasive monitoring, for example, • pulse oximeter • capnometer • transcutaneous	Equipment Mechanical Vent
23. Bronchoscopes and light sources	Critical Care Concepts
24. Hemodynamic monitoring devices	
a. pressure transducers	Critical Care Concepts
b. catheters, for example, • arterial • pulmonary artery	Critical Care Concepts
B. Ensure Infection Prevention	
1. Adhering to infection prevention policies and procedures, for example, • Standard Precautions • isolation •donning/doffing	Equipment
2. Adhering to disinfection policies and procedures	Equipment
3. Proper handling of biohazardous materials	Equipment
C. Perform Quality Control Procedures	
1. Blood analyzers	Diagnostic I
2. Gas analyzers	Equipment
3. Pulmonary function equipment for testing	Diagnostic II
a. spirometry results	
b. lung volumes	
c. diffusing capacity (DLCO)	
4. Mechanical ventilators	Mechanical Vent.
5. Noninvasive monitors	Equipment
III. INITIATION AND MODIFICATION OF INTERVENTIONS	
A. Maintain a Patient Airway Including the Care of Artificial Airways	
1. Proper positioning of a patient	Mechanical Vent. Critical Care Concep.

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program # _____)	List Course Number(s)
2. Recognition of a difficult airway	Mechanical Vent. Critical Care Concep.
3. Establishing and managing a patient's airway	
a. nasopharyngeal airway	Mechanical Vent. Critical Care Concep.
b. oropharyngeal airway	Mechanical Vent. Critical Care Concep.
c. esophagealtracheal tubes / supraglottic airways	Mechanical Vent. Critical Care Concep.
d. endotracheal tube	Mechanical Vent. Critical Care Concep.
e. tracheostomy tube	Mechanical Vent. Critical Care Concep.
f. laryngectomy tube	Mechanical Vent. Critical Care Concep.
g. speaking valves	Mechanical Vent. Critical Care Concep.
h. devices that assist with intubation, for example, •endotracheal tube exchanger •video laryngoscopy	Mechanical Vent. Critical Care Concep.
4. Performing tracheostomy care	Critical Care Concepts
5. Exchanging artificial airways	Critical Care Concepts
6. Maintaining adequate humidification	Mechanical Vent.
7. Initiating protocols to prevent ventilator-associated infections	Mechanical Vent.
8. Performing extubation	Mechanical Vent.
B. Perform Airway Clearance and Lung Expansion Techniques	
1. Postural drainage, percussion, or vibration	Clinical
2. Suctioning, for example, • nasotracheal • oropharyngeal	Clinical
3. Mechanical devices, for example, • high-frequency chest wall oscillation • vibratory PEP • intrapulmonary percussive ventilation • insufflation / exsufflation	Clinical
4. Assisted cough, for example, • huff • abdominal thrust	Clinical

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program # _____)	List Course Number(s)
5. Hyperinflation therapy	Clinical
6. Inspiratory muscle training	Clinical
C. Support Oxygenation and Ventilation	
1. Initiating and adjusting oxygen therapy	Pharmacology Pulmonary Disease Mechanical Vent
2. Minimizing hypoxemia, for example, • patient positioning • secretion removal	Pharmacology Pulmonary Disease Mechanical Vent
3. Initiating and adjusting mask or nasal CPAP	Mechanical Vent.
4. Initiating and adjusting mechanical ventilation settings	
a. continuous mechanical ventilation	Mechanical Vent.
b. noninvasive ventilation	Mechanical Vent.
c. high-frequency ventilation	Mechanical Vent. Neo/Peds
d. alarms	Mechanical Vent.
5. Recognizing and correcting patient-ventilator dyssynchrony	Mechanical Vent. Critical Care Concep.
6. Utilizing ventilator graphics	Mechanical Vent. Critical Care Concep.
7. Performing lung recruitment maneuvers	Mechanical Vent. Critical Care Concep.
8. Liberating patient from mechanical ventilation	Mechanical Vent. Critical Care Concep.
D. Administer Medications and Specialty Gases	
1. Aerosolized preparations	
a. antimicrobials	Pharmacology Pulmonary Disease
b. pulmonary vasodilators	Pharmacology Pulmonary Disease
c. brochodilators	Pharmacology Pulmonary Disease
d. mucolytics/proteolytics	Pharmacology Pulmonary Disease

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program # _____)	List Course Number(s)
e. steroids	Pharmacology Pulmonary Disease
2.. Endotracheal instillation	Pharmacology Pulmonary Disease Mechanical Vent
3. Specialty gases, for example, • heliox • inhaled NO	Pharmacology Mechanical Vent Critical Care Concepts
E. Ensure Modifications are Made to the Respiratory Care Plan	
h. Treatment termination, for example, • life-threatening adverse event	Pharmacology Pulmonary Disease
2. Recommendations	
a. starting treatment based on patient response	Pharmacology Pulmonary Disease
b. treatment of pneumothorax	Pulmonary Disease
c. adjustment of fluid balance	Pulmonary Disease Critical Care Concep
d. adjustment of electrolyte therapy	Diagnostic II Critical Care Concep.
e. insertion or change of artificial airway	Mechanical Vent. Critical Care Concep.
f. liberating from mechanical ventilation	Mechanical Vent.
g. extubation	Mechanical Vent.
h. discontinuing treatment based on patient response	Pharmacology Pulmonary Disease
i. consultation from a physician specialist	Pharmacology Pulmonary Disease
3. Recommendations for changes	
a. patient position	Pulmonary Disease Critical Care Concep Mechanical Vent
b. oxygen therapy	Pulmonary Disease Critical Care Concep Mechanical Vent
c. humidification	Mechanical Vent.
d. airway clearance	Mechanical Vent Pulmonary Disease
e. hyperinflation	Equipment Pulmonary Disease

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program # _____)	List Course Number(s)
f. mechanical ventilation	Diagnostic I Mechanical Vent
4. Recommendations for pharmacologic interventions	
a. bronchodilators	Pharmacology Pulmonary Disease
b. anti-inflammatory drugs	Pharmacology Pulmonary Disease
c. mucolytics and proteolytics	Pharmacology Pulmonary Disease
d. Aerosolized antibiotics	Pharmacology Pulmonary Disease
e. Inhaled pulmonary vasodilators	Pharmacology Pulmonary Disease
f. cardiovascular	Pharmacology Pulmonary Disease
g. antimicrobials	Pharmacology Pulmonary Disease
h. sedatives and hypnotics	Pharmacology Pulmonary Disease Mechanical Vent
i. analgesics	Pharmacology Pulmonary Disease Mechanical Vent
i. narcotic antagonists	Pharmacology Pulmonary Disease Mechanical Vent
j. benzodiazepine antagonists	Pharmacology Pulmonary Disease Mechanical Vent
l. neuromuscular blocking agents	Pharmacology Pulmonary Disease Mechanical Vent
m. diuretics	Pharmacology Pulmonary Disease Mechanical Vent
n. surfactants	Pharmacology Neo/Peds
o. changes to drug, dosage, administration, frequency, mode, or concentration	Pharmacology Pulmonary Disease Mechanical Vent
F. Utilize Evidence-Based Practice	
1. Classification of disease severity	Diagnostic II Pulmonary Disease
2. Recommendations for changes in a therapeutic plan when indicated	Mechanical Vent, Pulmonary Disease Critical Care Concepts, Neo/Peds
3. Application of guidelines, for example, • ARDSNet • NAEPP •GOLD	Mechanical Vent, Pulmonary Disease Critical Care Concepts, Neo/Peds
G. Provide Respiratory Care in High-Risk Situations	

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program # _____)	List Course Number(s)
1. Emergency	
a. cardiopulmonary emergencies, excluding CPR	Clinical Critical Care Concepts
b. disaster management	Clinical Leadership/Mgt
c. medical emergency team (MET) / rapid response team	Clinical
2. Interprofessional communication	Comm and Pt Education
3. Patient transport	
a. land / air between hospitals	Critical Care Concepts, Neo/Peds
b. within a hospital	Critical Care Concepts, Neo/Peds
H. Assist a Physician / Provider in Performing Procedures	
1. Intubation	Clinical Mechanical Ventilation
2. Bronchoscopy	Clinical
3. Specialized bronchoscopy, for example, •endobronchial ultrasound (EBUS) •navigational bronchoscopy (ENB)	Clinical
4. Thoracentesis	Clinical Critical Care Concepts
5. Tracheostomy	Clinical Critical Care Concepts
6. Chest tube insertion	Clinical Critical Care Concepts
7. Insertion of arterial or venous catheters	Clinical
8. Moderate (conscious) sedation	Clinical
9. Cardioversion	Clinical Critical Care Concepts
10. Withdrawal of life support	Clinical Mechanical Ventilation
I. Conduct Patient and Family Education	
1. Safety and infection control	Clinical Comm and Pt Education

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program # _____)	List Course Number(s)
2. Home care and related equipment	Clinical Comm and Pt Education
3. Lifestyle changes, for example, •smoking cessation •exercise	Clinical Comm and Pt Education
4. Pulmonary rehabilitation	Clinical Comm and Pt Education
5. Disease/ condition management, for example, •asthma •COPD •CF •tracheostomy care •ventilator dependent	Clinical Comm and Pt Education

Proposed Program:

Bachelor of Science Degree – Respiratory Care

Phase II Proposal

Submitted by:

St. Louis Community College

November 2020

Executive Summary

St. Louis Community College seeks approval to offer the baccalaureate of science degree in respiratory care. We have the personnel, facilities, equipment, and experience to offer this premium program. This statement is supported in the following language taken from the letter of support offered by our four-year transfer partners (Appendix A):

> "OTC and STLCC provide evidence of their ability to provide high quality education and training in respiratory care […] OTC and STLCC have made a convincing case, and we believe they meet the statutory criteria" (pg. 2).

The St. Louis, MO-Illinois metropolitan statistical area (MSA) needs more respiratory therapists. The demand for respiratory therapists is expected to increase each year for the region in the next seven years (Appendix C). The recent coronavirus pandemic has highlighted the crucial role these professionals play in the health of the St. Louis Metropolitan area. An external market analysis, along with engagement from our local employers, supports the need for more respiratory therapists.

Furthermore, accreditation standards for respiratory care education programs, as established by the Commission on Accreditation for Respiratory Care (CoARC), have changed. Beginning July 1, 2018, community colleges who seek to establish <u>new</u> or expand <u>existing</u> respiratory therapy programs at another location must now offer baccalaureate degrees. As a result, community colleges are unable to adequately respond to Missouri's hospitals and health systems experiencing a serious shortage of qualified respiratory therapists.

In addition, the American Association of Respiratory Care has established a goal of the baccalaureate degree being the entry requirement to the respiratory care profession by 2030.

Fortunately, in 2018, the Missouri State Legislature passed Senate Bill 807, which establishes that Missouri's community colleges may offer bachelor's degrees "in circumstances where the level of education required in a field for accreditation or licensure increases to the baccalaureate degree level." The changes to the respiratory care profession present the exact set of conditions that exemplify why this legislation was passed. Community colleges have been long-trusted partners in developing the state's workforce by offering high-quality, affordable educational opportunities. In 2019, community colleges served 37% of Missouri's college students.

St. Louis Community College is an integral part of the talent pipeline providing affordable educational opportunities. These opportunities are aligned with the workforce needs of the local region.

Rationale for the Proposal

State of Respiratory Therapy Education in the United States

Across the nation today, the respiratory education model is in a state of transition. Respiratory education functions under the oversight of three different bodies:

- The **American Association for Respiratory Care** (AARC) is the leading national and international professional association for respiratory care.
- The **Commission on Accreditation for Respiratory Care** (CoARC) accredits programs in respiratory care at the associate, baccalaureate, and master's degree levels. The mission of the CoARC is to ensure that high-quality educational programs prepare competent respiratory therapists for practice, education, research, and service.
- The **National Board for Respiratory Care** (NBRC) is the credentialing arm of the profession and provides the licensure examination and awards the certified respiratory therapist (CRT) and the registered respiratory therapist (RRT) credentials. These credentials are required to work as a respiratory therapist.

Two of these organizations have recently issued position statements or changed standards related to the goal of baccalaureate entry to the profession:

- In 2019, the AARC issued a position statement that sets a goal for a baccalaureate degree to be required for entry to the profession in the year 2030 and thereafter.[1]
- In 2016, the CoARC announced a change to accreditation standards for new respiratory care programs. This change to Standard 1.01 went into effect on July 1, 2018:

> Except as provided in the following sentence, an educational sponsor must be a post-secondary academic institution accredited by a regional or national accrediting agency that is recognized by the U.S. Department of Education (USDE) and must award graduates of the program a baccalaureate or graduate degree upon completion of the program. For associate degree programs that applied for accreditation or were accredited prior to January 1, 2018, an educational sponsor must be a post-secondary academic institution accredited by a regional or national accrediting agency that is recognized by the USDE. These programs may continue to award graduates of the program an associate degree as long as they remain in compliance with the CoARC Standards.[2]

[1] "Entry Requirements to Respiratory Practice: 2030 and Thereafter" American Association for Respiratory Care. 1 May 2019. https://www.aarc.org/wp-content/uploads/2019/09/statement-entry-requirements-to-respiratory-therapy-practice-2030-and-therafter.pdf

[2] "CoARC Communication to Our Communities of Interest: Response to AARC Position Statement on Respiratory Therapist Education." Commission on Accreditation for Respiratory Care. 1 December 2017. https://coarc.com/CoARC/media/Documents/CoARC-Communication-Min-Degree-Reguirements-1-28-16-rev-12-1-17.pdf

While the CoARC states that existing associate degree programs will be supported and may remain accredited, it will no longer offer accreditation to any newly established associate degree program. In addition, any expansion of an existing program is considered a new program and must graduate students with bachelor's degrees. Given this restriction, community colleges in Missouri cannot establish new or expand existing programs in another location, even within their service areas.

Respiratory Therapy Education in Missouri

The table below lists Missouri institutions with respiratory therapy education programs, the degree offered, and the CoARC accreditation status:

Institution	Degree	CoARC accredited
Cape Girardeau Career and Technical Center	AS	Yes
University of Missouri-Columbia	BS - entry to practice	Yes
St. Louis College of Health Careers	AAS	Yes
St. Louis College of Health Careers	BS - degree advancement	Yes
Missouri Southern State University	AS	Yes
Concorde Career College	AS	Yes
Ozarks Technical Community College	AAS	Yes
St. Louis Community College - Forest Park	AAS	Yes
University of Missouri at Mercy Hospital	BS - Satellite	Yes
Missouri Southern State University	BS - degree advancement	No
Missouri State University	BS - degree advancement	No

Legislation Regarding Missouri Community Colleges Offering Bachelor's Degrees

In 2018, Missouri passed legislation that allows Missouri's community colleges to offer baccalaureate degrees under the following conditions:

- the level of education required in a field for accreditation or licensure increases to the baccalaureate level or,
- in the case of applied bachelor's degrees, the level of education required for employment in a field increases to that level, and
- when doing so would not unnecessarily duplicate an existing program, collaboration with a university is not feasible or the approach is not a viable means of meeting the

needs of students and employers.[3]

Based upon changes of the CoARC accreditation standards to only accredit new programs which offer a baccalaureate degree or higher, St. Louis Community College seeks to offer baccalaureate degrees in respiratory care. This condition meets the letter of Senate Bill 807.

[3] Senate Bills Nos 807 and 577. 2018. https://www.senate.mo.gov/18info/pdf-bill/tat/SB807.pdf

Phase II Proposal

St. Louis Community College seeks to offer a Bachelor of Science in Respiratory Care. If approved, STLCC will open this new program in Respiratory Care at the Florissant Valley campus. This new program will serve 15 new students each year.

This document is organized according to the outline provided in **6 CSR 10-4.010 (C) Comprehensive Review.**

A. Evidence that the proposing institution has explored the feasibility of collaboration with other institutions.

St. Louis Community College was strategic in our approach to collaboration opportunities. The University of Missouri System (UM) offers the only accredited entry to practice bachelor's level program in respiratory therapy in the state. With Mizzou having a satellite location in St. Louis and UMSL being STLCC's largest transfer partner, it made sense to determine if a collaboration was feasible within the UM system. No other institution in our area would have the mission, faculty, equipment, or accreditation necessary to make this collaboration worthwhile.

After discussion about the opportunities for collaboration with Dr. Steve Graham (Sr. Assoc. VP for Academic Affairs, UM), it was determined that a collaboration was not feasible. See the attached letter from Steve Graham (Appendix B).

B. Alignment with Blueprint for Higher Education goals.

Alignment with the *Blueprint for Higher Education* was satisfactorily addressed in the phase one proposal, and this information is largely repeated here for ease of reference.

Missouri's community colleges have been crucial partners in Missouri's Big Goal that 60 percent of adults have a two- or four-year degree or certificate by 2025. In 2019, community college enrollments accounted for 37% of Missouri's college students.[4] The goals of the *Blueprint for Higher Education* align with the elements of this proposal.

<u>Attainment</u>

St. Louis Community College wishes to expand their capacity to train more respiratory therapists and serve the areas of the state where these professionals are needed most. However, without approval to offer respiratory therapy degrees at the baccalaureate level, this increased capacity will not be achieved. We anticipate providing a minimum of an additional 15

[4] "Trends in Headcount Enrollment, Fall 2014-2019: Public Institutions." Missouri Department of Higher Education and Workforce Development. https://dhewd.mo.gov/data/documents/Fall2019enrollmentreport_fin.xlsx

seats annually once approved to offer a bachelor's degree in this discipline. This moves Missouri closer to its goal and fills an important workforce need.

Affordability

St. Louis Community College will offer the Bachelor of Science in Respiratory Care at regular per-credit-hour tuition rates. These rates are currently $116.50/credit hour for in-district students and $165.50/credit hour for other students in the state. These are among the lowest credit hour costs in the state. According to the Missouri Comprehensive Fee Survey for Public Institutions of Higher Education (FY 2020), Missouri's community colleges consistently offer affordable educational opportunities to students. The average total tuition and required fees charged to a typical full-time, in-district student is $3,985 per year. The average annual total tuition and required fees charged to a typical full-time, resident student at a four-year, public institution in Missouri is more than double that at $8,653 per year. Community colleges can become the linchpin in filling the skills gap for respiratory therapists across the state in the most cost-effective manner.

Quality

St. Louis Community College is a strong driver of the local economy. The college has a consistent track record offering high-quality education and training opportunities to produce a qualified and highly skilled workforce. According to Emsi (2019), "St. Louis Community College has an annual impact of $2.5 billion on the St. Louis economy by supporting 32,371 jobs.[5]

The existing respiratory care program at STLCC is no exception. STLCC's respiratory care program is long-standing and was started in 1967 with a move to the Forest Park campus in 1973 from St. Mary's Hospital. It was the fiftieth entry to practice program that offered a degree in respiratory therapy in the United States. The respiratory care program at St. Louis Community College continues its legacy of excellence and has recently met the standards required to achieve the CoARC Distinguished RRT Credentialing Success Award. Below is data from the 2019 and 2020 *Report on Current Status* as evidence of program quality:

St. Louis Community College

	Retention	**Job Placement**	**RRT Credentialing**	**TMC High Cut Score Pass Rate**	**Employer Satisfaction**	**Graduate Satisfaction**
2019	85%	83%	87%	91%	100%	100%
2020	83%	84%	92%	96%	100%	100%

(These data reflect a rolling three-year average)

[5] "The Economic Value of St. Louis Community College: Executive Summary." Emsi. 1 Sept. 2019. https://docs.stlcc.edu/docs/Documents/Divisions-Departments/Cosand%20Center/VC%20Education/Research%20and%20Planning/STLCC2017-18ExecutiveSummary.pdf

The CoARC Entry-to-Practice Accreditation Standards state the following in regard to the qualifications of faculty in a bachelor's or master's respiratory care program:[6]

> **Standards 2.02/2.08**: The Program Director (PD) and Director of Clinical Education (DCE) of a bachelor's or master's program must have earned at least a master's degree from an academic institution accredited by a regional or national accrediting agency recognized by the U.S. Department of Education (USDE).

St. Louis Community College employs two full-time faculty in the Respiratory Care program.

Lindsay Fox, MEd, RRT, RRT-ACCS, RRT-NPS, serves as the program director. Mrs. Fox's credentials include the following:

- Master's in Education, University of Missouri – Columbia
- Bachelor's of Health Science in Respiratory Therapy, University of Missouri – Columbia

Blake Anyan, BHS, RRT, RRT-ACCS, serves as the Director of Clinical Education. Mr. Anyan is currently enrolled at Missouri Southern State University, seeking a Master's degree in Curriculum and Instruction. His graduation date is August 2021. Mr. Anyan's credentials include:

- Bachelor's of Health Science in Respiratory Therapy, Missouri Southern State University
- Associate's of Applied Science in Respiratory Therapy, St. Louis Community College

St. Louis Community College employs two adjunct instructors: Dr. Kurtis Sobush, the medical director of the program who is a pediatric pulmonologist, and Mrs. Danielle Gutierrez, BHS, RRT. Mrs. Gutierrez is currently enrolled at Saint Louis University, seeking a Master's of Science in Nursing.

> **Standards 2.03/2.09**: The PD and DCE must:
> 1. hold a valid Registered Respiratory Therapist (RRT) credential and current state license;
> 2. have a minimum of four (4) years' experience as a Registered Respiratory Therapist with at least two (2) years in clinical respiratory care;
> 3. have a minimum of two (2) years' experience teaching either as an appointed faculty member in a CoARC accredited respiratory care program or as a clinical instructor/preceptor for students of such programs;
> 4. complete the CoARC key personnel training program

[6] "Accreditation Standards for Entry into Respiratory Care Professional Practice" Commission on Accreditation for Respiratory Care. 2020. https://www.coarc.com/News-and-Events/CoARC-Entry-Standards-7-1-2020.aspx

St. Louis Community College's respiratory care program faculty will meet or exceed the required levels of experience to teach at the baccalaureate level by Fall 2021:

Lindsay Fox holds the Registered Respiratory Therapist (RRT) credential, as well as advanced credentials for neonatal/pediatric specialists (NPS) and adult critical care specialist (ACCS). She has six years working as a respiratory therapist and clinical educator at the bedside in neonatal, pediatric, and adult critical care units. She has taught full-time for thirteen years at two universities and two community colleges. She has been with St. Louis Community College since 2014.

Furthermore, Mrs. Fox is an active board member of the Missouri Society for Respiratory Care and has been the treasurer of the MSRC since July 2017. Mrs. Fox has served on the CoARC board as a commissioner since 2018 and has been a CoARC site visitor since 2014.

Blake Anyan holds the Registered Respiratory Therapist (RRT) credential as well as the advanced credential of adult critical care specialist (ACCS). Mr. Anyan has ten years of experience working in adult critical care, has three years of part-time teaching experience, and has two years of full-time teaching experience at St. Louis Community College.

Faculty hired to teach in the Bachelor of Science in Respiratory Care program will also meet or exceed the CoARC standards for teaching in a baccalaureate degree program.

Research and Innovation

Research is an important component of existing respiratory care programs. According to the AARC *Issue Paper - Entry to Practice in Respiratory Therapy*,

> Advances in technology, disease management, telemedicine, patient navigation, disease protocols, evidence-based medicine, palliative care, and clinical research now are mainstays in medicine and clinical practice. The future demands respiratory therapists to be well versed in these areas of patient care in order to remain relevant members of the interprofessional health care team.[7]

The AARC organized a series of conferences (2015 and Beyond Conferences) to address many issues including the roles and responsibilities of respiratory therapists in the future as well as the competencies required for RTs to succeed. In the article related to competencies that would be required of RTs, the following is stated:

[7] "Issue Paper: Entry to Respiratory Therapy Practice 2030" American Association for Respiratory Care. September 2019.https://www.aarc.org/wp-content/uploads/2019/09/issue-paper-executive-summary-entry-to-respiratory-therapy-practice-2030.pdf

> The information age of the future will be replete with changes in the scope of practice. The science of respiratory care will continue to expand at the same pace as medicine. Projections regarding the profession must incorporate new technology, new therapeutic approaches, and data management skills, which the future RT will need to be successful in the workplace. Clinical decisions will be increasingly data driven; with evidence-based medicine guiding the activities of the therapist. The need for therapists to be actively involved in research will continue to grow. The use of protocols to guide respiratory care within and outside the intensive care unit (ICU) will continue to expand.[8]

One of the major competency areas determined essential was Competency Area III: Evidence-Based Medicine and Respiratory Care Protocols, which includes the ability of respiratory therapists to review and critique published research, explain the meaning of general statistical tests, and apply evidence-based medicine to clinical practice.

Although STLCC's current AAS in respiratory care program currently integrates research for students, current restrictions on credit hours in an associate-level respiratory care program make it difficult to provide students the necessary time to learn and practice these critical research skills. STLCC's bachelor's program will include dedicated research coursework in health literacy, statistics, and healthcare research to advance research in the field of respiratory care. The proposed curriculum is detailed in Appendix H.

Investment, Advocacy and Partnerships

Healthcare providers across Missouri are enthusiastic supporters of this proposal. They are in the difficult position of trying to provide the best level of care to Missourians, yet they are hurting due to the shortage of qualified respiratory therapists. This need is highlighted by Marla Overy from St. Louis Children's Hospital in her letter of support (Appendix D) where she notes, "Currently our department has a hiring gap of 18.37 FTE's with having to fill some of this gap with contingent workers." The needs of one hospital nearly outweigh the number of graduates in the current associate degree program. With 38 hospitals in the St. Louis metropolitan area, the shortage of qualified respiratory therapists is exacerbated. Health care organizations and hospitals - from large to small - continually ask community colleges to help develop a pipeline of skilled professionals by expanding existing or beginning new programs, but community colleges are now unable to respond to that need. Letters of support in Appendix D are evidence of their need and their support.

[8] Barnes, Thomas; Gale, David; Kacmarek, Robert, Kageler, Woody. "Competencies Needed by Graduate Respiratory Therapists 2015 and Beyond" Respiratory Care. May 2010. American Association for Respiratory Care. https://www.aarc.org/wp-content/uploads/2013/07/2015_competencies_needed.pdf

Evidence of Institutional Capacity

(I). Assessment of the institution's capacity to offer the new program in terms of general, academic, and student service support, including faculty resources that are appropriate for the program being proposed (e.g., faculty credentials, use of adjunct faculty, and faculty teaching workloads)

General

STLCC is accredited by the Higher Learning Commission, which establishes standards for academic and student support services and faculty credentials. The Higher Learning Commission requires accredited institutions to provide regular evidence to indicate compliance with its Assumed Practices and Criteria for Accreditation. Institutions must demonstrate that they have the resources, structures, and processes sufficient to fulfill their missions, improve the quality of their educational offerings, and respond to future challenges and opportunities (Criteria for Accreditation 5). They must also ensure that they have sufficient numbers and continuity of faculty members to carry out both the classroom and the non-classroom roles of faculty, including oversight of the curriculum and expectations for student performance, assessment of student learning, and establishment of academic credentials for instructional staff (Criteria for Accreditation 3.C.1) and that all instructors and student services staff are appropriately qualified (Criteria for Accreditation 3.C.3/3.C.7). All institutions must demonstrate responsibility for the quality of their educational programs, learning environments, and support services, and evaluate their effectiveness for student learning through processes designed to promote continuous improvement (Criteria for Accreditation 4).[9]

STLCC has consulted with the HLC and will be prepared to meet the requirements for external accreditation by this body upon approval by the CBHE.

In addition, STLCC's Respiratory Care Program is accredited by CoARC. The program completed a self-study and site visit in 2019/2020 and have been awarded another ten years of continuing accreditation, valid until July 31, 2030.

CoARC accreditation Standard 2.01 requires the sponsor of the accredited program to "ensure that fiscal, academic and physical resources are sufficient to achieve the program's goals, as defined in Standard III, for all program locations, regardless of the instructional methodology used." The program must, at least annually, use the CoARC Resource Assessment Surveys to assess these resources described in Standard II. Surveys are completed by all enrolled students, personnel, the advisory committee, and medical director. Survey data results are correlated into the Resource Assessment Matrix (RAM) to include in the annual report to CoARC. According to Standard 2.16, "The results of the resource assessment must be part of the

[9] "HLC Policy: Current Criteria for Accreditation" Higher Learning Commission. June 2014. https://www.hlcommission.org/Policies/criteria-through-august-31-2020.html

Program Director's continuous analysis of the program and used to make appropriate changes to program resources. Identification of any deficiency requires development of an action plan, documentation of its implementation, and evaluation of its effectiveness by ongoing resource assessment."

Financial Resources

Financial resources must be sufficient to develop and sustain the program on a continuing basis. This includes the ability to recruit and retain qualified faculty as well as purchase and maintain the equipment needed to adequately cover the curriculum in a high-quality manner. Healthcare innovation and changes require that the sponsor plan for annual budget needs for advancing technology that is necessary to reflect the current concepts of respiratory care. Please see Appendix G for the draft budget for the Bachelor of Science in Respiratory Care degree program at STLCC.

Academic and Student Support Services

STLCC uses a case-load approach to student advising. Each student is assigned their own academic success advisor so that the student will receive communication throughout the semester to direct the student to processes and supports to ensure their success. In addition to this support, the Academic Success and Tutoring centers on each campus provide free academic tutoring services. Included in this area are Writing Centers. All of these services are offered both virtually and on the campuses.

Students also have access to library resources on each campus as well as virtually. The libraries contain diverse collections, interlibrary loan services, MOBIUS access, and research databases.

The STLCC Access Offices support students and staff, so that an equitable and accessible environment is provided for learning. The Access Office takes an individualized approach to empower each student with the knowledge to make informed decisions in order to reach their fullest academic potential.

Faculty Resources

The adjunct and full-time faculty at STLCC meet the credentialing requirements of the Higher Learning Commission. All general education faculty possess a minimum of a master's degree with at least 18 graduate credit hours in the discipline in which they teach. STLCC plans to hire three full-time faculty to support the Bachelor of Science in Respiratory Care program who will possess the required credentials.

Full-time faculty at STLCC teach a base load of 15 credit hours per semester. Program coordinators receive 26% release from their teaching load to coordinate the program. Clinical coordinators receive 20% release time from their teaching load to coordinate the clinical education for the program.

Each campus has a Center for Teaching and Learning coordinator who provides faculty development experiences. A library guide was developed as a repository for faculty development materials so that these items can be easily accessed by faculty. New faculty go through an intensive one-week orientation followed by a year-long training experience. The year-long training experience is done in a learning community format that builds strong bonds within the group, so that they can serve as support for each other in their work at the college. In addition, each full-time faculty member has a guaranteed $1000 per year for professional development funding for their use in skill acquisition and maintenance.

(II). Comprehensive cost/revenue analysis summarizing the actual costs for the program and information about how the institution intends to fund and sustain the program

It is important to note that most health science training programs are expensive to implement and sustain. However, they are offered to serve the region's need for a skilled healthcare workforce, consistent with the community college mission. Most of these programs do not cover their own costs, but are supplemented with revenue from other, more profitable programs. STLCC commits to supplement and support both the start-up costs and the ongoing costs of this new program.

Respiratory Care Bachelor of Science Revenue/Expense Analysis

The proposed budget for the Bachelor of Science in Respiratory Care Degree program can be found in Appendix G.

Budget Narrative

Tuition and Fees: For FY20, the cost to attend St. Louis Community College is $116.50 per credit hour for in-district students and $165.50 for out-of-district students. The average number of credit hours each year in the proposed bachelor's degree program will be 30 credit hours. Expected enrollment in the bachelor's degree program will be eight students in year one, 12 students in year 2, and 15 students in each year after that. Maintenance fees generated by an estimated 45 students in year five using in-district rates will equal $157,275. Each individual student will produce $13,900 in maintenance fees over 120 credit hours in the program.

Personnel costs: Three additional full-time Respiratory Care faculty will be added to serve the new bachelor's degree program. Additional adjunct faculty will also be needed for this program. A shared secretarial position (20%) will be used to help with administrative needs of the program. These costs will be implemented over the course of five years for a total cost of $409,665.06 when fully implemented.

Expenses: Other expenses that are projected for the implementation of this program include accreditation costs, build-out of the spaces on the Florissant Valley campus, furniture and equipment for these spaces, marketing of the new program, operating expenses, and professional development for the faculty.

Accreditation: Year one accreditation costs include additional Letter of Intent and provisional fees. Annual accreditation fees outside of these additional costs are $1000 per year.

Construction: Spaces at the Florissant Valley campus have been identified for laboratory and simulation build-outs. These costs are estimated at $460,000 in year one.

Furniture: New furniture will be needed in these spaces at a cost of $15,000 in year one.

Equipment: Simulation and other laboratory equipment will be purchased for these spaces at an estimated cost of $700,000 in year one.

Marketing/Recruiting: In years one and two, an estimated $5000 per year will be used to promote the program and recruit students.

General Expenses: General operating expenses are expected to be greater in year one, but will be $6800 each year after that.

Professional Development: The faculty contract at STLCC provides for $1000 per full-time faculty member each year. Total cost for three additional full-time faculty will be $3000 per year.

(III). Evidence indicating there is sufficient student interest and capacity to support the program, and, where applicable, sufficient capacity for students to participate in clinical or other external learning requirements, including library resources, physical facilities and instruction equipment.

The following data are specific to the state of Missouri and can be found in CoARC's *2019 Report on Accreditation in Respiratory Care Education*[10]

Applications

Respiratory Care Applications in Missouri

	2018	2017	2016	2015	2014	2013
Associate's	170	103	132	164	219	242
Bachelor's	25	25	19	28	23	20

[10] "2019 Report on Accreditation in Respiratory Care Education." Commission on Accreditation for Respiratory Care. 20 May 2020. https://www.coarc.com/

Respiratory Care Applications at STLCC

	2020	2019	2018	2017	2016	2015
Associate's	26	20	18	21	20	30
Bachelor's	n/a	n/a	n/a	n/a	n/a	n/a

Enrollment

New Enrollments in Missouri

	2018 Max Capacity	2018	2017	2016	2015	2014	2013
Associate's	243	126	78	86	120	145	149
Bachelor's	24	19	22	10	21	15	11

New Enrollments at STLCC

	2020 Max Capacity	2020	2019	2018	2017	2016	2015
Associate's	25	24	18	16	18	18	15
Bachelor's	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Graduates

Total Graduates in Missouri

	2018	2017	2016	2015	2014	2013
Associate's	98	92	96	118	110	146
Bachelor's	8	20	15	11	11	10

Total Graduates at STLCC

	2020	2019	2018	2017	2016	2015
Associate's	11	14	15	20	11	22
Bachelor's	n/a	n/a	n/a	n/a	n/a	n/a

These applicant, enrollment, and graduate numbers are instructive in the following ways:

- Missouri's respiratory therapy program applicants and enrollments have increased this past year in response to the current economic and healthcare crisis. This indicates increasing interest in the field of respiratory care. However, a more concerted effort to increase awareness of the respiratory care profession is needed. The recent global pandemic has brought greater awareness of the profession where little may have previously existed.

- Missouri's community colleges have historically been the primary producers of qualified respiratory therapists in the state.
- The total number of graduates in Missouri is not enough to fill the estimated 220 annual vacancies.
- As the profession moves to a bachelor's for entry requirement, those who aspire to become respiratory therapists will be required to obtain a baccalaureate degree.

(IV). Description of accreditation requirements.

In order to practice as a respiratory therapist in 49 out of 50 states (except Alaska), a state license is required. To become licensed, respiratory care graduates must pass the National Board for Respiratory Care (NBRC) board exams. Admission requirements for the NBRC board exams state that applicants must be graduates of a program accredited by the Commission on Accreditation for Respiratory Care (CoARC).[11] As stated previously, the mission of the CoARC is to ensure that high-quality educational programs prepare competent respiratory therapists for practice, education, research, and service. Beginning January 1, 2018, the CoARC updated its Standard 1.01, which is still current in its most recent update in the 2020 Entry to Respiratory Care Practice Standards:

> **Standard 1.01**: Except as provided in the following paragraphs, an educational sponsor must be a post-secondary academic institution accredited by a regional or national accrediting agency recognized by the U.S. Department of Education (USDE) and must award program graduates a baccalaureate or graduate degree.
>
> Associate degree programs that were accredited prior to January 1, 2018, or that applied for accreditation prior to January 1, 2018 and have subsequently received accreditation, may continue to award program graduates an associate degree as long as they remain accredited by the CoARC. Sponsors of these programs must be post-secondary academic institutions accredited by a regional or national accrediting agency recognized by the USDE and must award program graduates an associate degree.[12]

[11] Examinations. The National Board for Respiratory Care. June 2020. https://www.nbrc.org/examinations/
[12] "Accreditation Standards for Entry into Respiratory Care Professional Practice" Commission on Accreditation for Respiratory Care. 2020. https://www.coarc.com/News-and-Events/CoARC-Entry-Standards-7-1-2020.aspx

Evidence that the Proposed Program is Needed

(I). Documentation demonstrating that the program does not unnecessarily duplicate other programs in the applicable geographic area.

St. Louis Community College offers a high-quality, accredited AAS degree in the new Center for Nursing and Health Science facility located at the Forest Park Campus in the City of St. Louis.

The University of Missouri has a BS satellite program in the St. Louis region at Mercy Hospital, and St. Louis College of Health Careers (SLCHC) offers both an AAS and a BS degree advancement program in the St. Louis Region (Fenton).

According to our external workforce report (Appendix C) there were only 8 bachelor's level graduates in the St. Louis area in all of 2019 (all from SLCHC), and there were 43 job postings in the last six months seeking this credential.

There is not enough RT programming for the demand/needs in the St. Louis region. In addition, there is significant demand in north St. Louis County as evidenced by the letter of support from Christian Hospital (Appendix D). Placing this program at the Florissant Valley campus of St. Louis Community College will not lead to unnecessary duplication, but rather, additional opportunity for our students to meet the demands of the workforce.

Virtual course delivery methods for this program are limited due to the hands-on skilled learning outcomes that must be accomplished to meet accreditation standards. Therefore, establishing the bachelor's degree program at the Florissant Valley campus will not duplicate the program at the Forest Park campus of St. Louis Community College.

(II). Rigorous analysis demonstrating strong and compelling workforce need

The U.S. Bureau of Labor Statistics estimates that the demand for respiratory therapists will grow 21% from 2018 to 2028, much faster than the average for all occupations. The aging population will lead to an increased demand for respiratory care services. The greatest need for respiratory care practitioners will be in rural areas.[13]

The Missouri Economic Research and Information Center (MERIC) reports that healthcare is the top industry in the state; unfortunately, the demand for qualified healthcare providers outpaces supply. This is true for respiratory therapists, as well. MERIC data indicate that the demand in Missouri for skilled respiratory therapists will grow nearly 28% by 2026, with annual

[13] Occupational Outlook Handbook: Respiratory Therapists. Bureau of Labor Statistics. June 2020. https://www.bls.gov/ooh/healthcare/respiratory-therapists.htm

vacancies numbering 220 statewide.[14] Respiratory therapy was identified as the sixth fastest-growing occupation in the St. Louis Region in 2017-2019 with an expected need of 50 additional respiratory therapists in that region alone.[15] The Kansas City Region indicates a 25% growth in the demand for respiratory therapists, and the Ozark Region anticipates a 38.5% growth.[16] In fact, MERIC identifies respiratory therapy as a "Top Grade Career" in every region in the state of Missouri.

However, for the last three years of IPEDS completion data, Missouri institutions have produced an average of only 163 respiratory therapy graduates annually. If the community colleges expand or offer new programs, there is potential to fill the workforce pipeline gap in this industry.

Additionally, respiratory care is a well-paying occupation. According to MERIC, the average entry-level salary for respiratory therapists is $45,020 with an average annual wage of $56,340.

It is important to note that these data were compiled before the recent novel coronavirus pandemic, which has highlighted the need for skilled and highly trained respiratory therapists who work on the frontlines of the fight against this illness. Further, burnout is reported to be extremely high in the profession due to the stress of long hours, shortage of ventilators, and lack of adequate personal protective equipment.[17]

The St. Louis region mirrors the state and the country with respect to need for these trained professionals. Attached is a market analysis provided by an external data and analytics company, Chmura Economics & Analytics (Appendix C). Also attached are several letters from St. Louis area employers concerning the need for, or support of, STLCC's request to expand this programming in respiratory care (Appendix D).

In 2018, the Missouri Society for Respiratory Care (MSRC) sent out a survey to all members asking therapists in the state if a BS degree should be the entry to the profession. This was a survey done in response to the AARC's position statement. Subjects were asked, "Do you feel that the move to BS entry is the correct move for Respiratory Therapy?" The survey received 135 responses from across the state; 68.89% (93) stated "Yes," and 31.11% (42) stated "No."

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[14] Real Time Labor Market Data. Missouri Economic Research and Information Center. June 2020. https://meric.mo.gov/media/pdf/real-time-labor-market-summary

[15] St Louis Region Fastest Growing Occupations 2017-2019. Missouri Economic Research and Information Center. March 2018. https://meric.mo.gov/sites/meric/files/library/fastest_growing_stl_2017-2019.pdf

[16] Regional Profiles. Missouri Economic Research and Information Center. June 2020. https://meric.mo.gov/regional-profiles

[17] "Even After the Coronavirus Pandemic, America Can't Breathe Easy." US News and World Report. 1 April 2020.https://www.usnews.com/news/healthiest-communities/articles/2020-04-01/coronavirus-pandemic-exposes-need-for-respiratory-therapists

This was a statewide survey and was pushed out to AARC members via an email link placed on MSRC social media pages and promoted by the MSRC board members.

As mentioned earlier, the current pandemic conditions have impacted the need for trained specialists in respiratory care. According to analysis by Chmura, in a six-month period (180 days ending on 10/20/2020), there were almost 400 job postings for respiratory therapists – almost double the number in the entire 2017 year (205 postings, 2017 RT Real-Time Intelligence Report, Appendix E).

While it is important to consider the current pandemic conditions and the resultant immediate need for respiratory therapists, it is even more important to consider the ongoing job growth and subsequent need for employees in this specialty after the pandemic subsides. The Chmura report (Appendix C), along with our internal analytics, show a year-over-year increase in the number of respiratory therapy jobs in the St. Louis region. The economists at Chmura forecast growth based on historical information and not simply current conditions. While the expected annual growth of 1.1% may seem small, it is vital to understand the volume of jobs this reflects and whether the pipeline of graduates into those jobs is sufficient. Within the next seven years, it is projected that this growth will result in 119 additional jobs in the area (Appendix C, pg. 6). Also indicated in the report, employers in the St. Louis area may have difficulty filling jobs in respiratory therapy and may be required to recruit employees from outside the region (Appendix C, pg. 13). This analysis clearly indicates a labor market shortage of respiratory therapists in the area that could be remediated by additional graduates from accredited programs.

This report also points to the increased demand for respiratory therapists with bachelor's degrees. Using analytics on job postings for respiratory therapists, Chmura identified that 43 out of 189 job postings requested a bachelor's degree as the minimum education level for the opening (page 17). This reflects 24% of the postings that had an identifiable minimum education level. This data is based on recent postings – a 180-day period ending October 20, 2020. To understand the magnitude of this increase, it is important to note that this rate was only 18% in 2017 (Appendix E).

Christian Hospital in north St. Louis County has a shortage of trained respiratory therapists. North St. Louis County has been disproportionately impacted by the current pandemic. In the past six months (180-day period ending 11/16/2020), thirteen job postings for respiratory therapists were made by Christian Hospital with eight of the thirteen (62%) requiring a minimum of a bachelor's degree (Appendix F).

(III). Clear plan to meet the articulated workforce need

a. Aligned curriculum with specific knowledge and competencies needed to work in the field

St. Louis Community College's Respiratory Care Program has been the leading choice of healthcare employers in the St. Louis area for almost fifty years. Due to the quality of the program and its strong ties to the community, the placement rate was 86% for the years 2017-2019. The CoARC Entry to Practice standards for curriculum will be used to adapt the curricular components of the baccalaureate program.

Program Goal:

> **CoARC Standard 3.01:** The program must have the following goal defining minimum expectations: "To prepare graduates with demonstrated competence in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains of respiratory care practice as performed by registered respiratory therapists (RRTs)"

In addition, the Standard 3.01 requires that an additional goal for programs at the baccalaureate or master's level be as follows:

> For programs offering a bachelor's or master's degree, the program must have the following additional goal defining minimum expectations: "To prepare leaders for the field of respiratory care by including curricular content that includes objectives related to acquisition of skills in one or more of the following: management, education, research, advanced clinical practice (which may include an area of clinical specialization)."

To prepare graduates with the cognitive, psychomotor, and affective behavior domains, the Bachelor's in Science in Respiratory Care curriculum will correlate with the most recent National Board for Respiratory Care (NBRC) examination matrices as well as the required affective behaviors as stated in the AARC Respiratory Code of Conduct. To prepare leaders of the field of respiratory care, the curriculum will include coursework in management, health literacy, statistics, research, and health education. The St. Louis region offers premier clinical opportunities for clinical specialization which will be offered in the last semester of the curriculum.

Student Learning Outcomes

Student learning outcomes (SLOs) will be based on the necessary knowledge, skills, and affective behavior required by that of a Registered Respiratory Therapist with a baccalaureate degree. The National Board for Respiratory Care (NBRC) is the credentialing agency and has created a matrix of the two required board exams for the RRT credential that align with a

nation-wide job analysis performed every five years. The last update was in January of 2020. The proposed curriculum (Appendix H) will cover the information in these matrices (Appendix I). Furthermore, to ensure that the second part of the program goal is achieved, there will be student learning outcomes centered around the acquisition of skills in management, education, research, and advanced clinical practice.

Minimum Course Content

According to the Commission on Accreditation for Respiratory Care (CoARC) standards 4.01, the program must have minimum course content that includes "content in oral and written communication skills, social/behavioral sciences and biomedical/natural sciences as well as respiratory care." Our proposed curriculum includes general education courses in English composition and communication courses that will provide students opportunities to gain competency in writing as well as communicating across different cultures. These outcomes will also be assessed within respiratory care coursework utilizing simulation and clinical training. Social and behavioral sciences will include general education courses such as general psychology and sociology. Because respiratory therapists' jobs include assessing patients for brain death as well as performing terminal weans from the mechanical ventilator, there will also be a psychology course about death and dying. Biomedical and natural science coursework will include biology, anatomy and physiology, microbiology, and physics.

According to CoARC Standard 4.02, "for programs offering a bachelor's or master's degree, the program must include content related to leadership development in management, education, research, AND/OR to advanced clinical practice (which may include an area of clinical specialization)." The proposed curriculum will include three courses revolving around the area of research. First, students will take an introduction to statistics course. Next, students will take a health literacy course to understand how to obtain and read evidence-based medicine literature. Lastly, during the last semester of the program, students will take a healthcare research class in which they will use information from these two previous courses to complete a research capstone project. A healthcare management course will be provided within the last semester of the program in which students will learn about management structures of healthcare as well as leadership skills they can use in any position. A healthcare education course will provide information on community and patient education, focusing on disease management. This course will also provide information regarding formal education in the field of respiratory care. Lastly, in regard to clinical specialization, there will be opportunities for a clinical externship and clinical electives students may choose to gain experience in these specialty areas that require a baccalaureate degree or higher.

Core Competencies

The CoARC accreditation standards also list core competencies for respiratory care programs. These include Standards 4.04 through 4.07.

Standard 4.04: Graduates must be competent to perform all diagnostic and therapeutic procedures required of a Registered Respiratory Therapist entering the profession.

The Bachelor of Science in Respiratory Care program will include five separate lab courses, totaling 6 credit hours, which is equaled to 9,000 hours in lab. One-third of these hours include a lab for neonatal and pediatric respiratory care and advanced critical care techniques that will only be delivered in the bachelor's program. Students will be assessed on these skills during lab, simulation, and during clinical training.

Standard 4.05: Graduates must be able to function proficiently within inter-professional teams and communicate effectively with diverse populations. The curriculum must prepare students to work with, and care for, a variety of populations including, but not limited to, individuals of various ages, abilities, and ethnicities.

Prior to starting the professional coursework of the program, students will be required to complete COM:200 Communication Across Cultures in which students will examine communication topics such as barriers, language, and culture shock and develop skills utilizing cultural research and case studies. Within the program, the respiratory care students will have opportunities to practice working within inter-professional teams in the simulation center. The Health Science division at St. Louis Community College includes programs in nursing, EMS, paramedic, diagnostic imaging, surgical technology, clinical laboratory science, and physical and occupational therapy assistants. Students can also collaborate with students and faculty in behavioral health, biomedical electronic technology, deaf communication studies, and other programs housed at the Florissant Valley campus.

Standard 4.06: Program graduates must exhibit adequate critical thinking skills and be competent in the application of problem-solving strategies in the patient care setting.

The first two years of this program will be in general education courses that will provide a foundation for students as they enter the professional courses and utilize these principles as they will be asked to apply theories and analyze data. Many respiratory care courses will incorporate problem-based learning strategies in order to engage students to critically think through patient case studies. These assignments will be used to assess the students' critical thinking skills during didactic and lab activities. Evidence-based medicine guidelines will be taught throughout the program, requiring students to analyze data provided to make clinical decisions at the bedside during lab, simulation, and especially in the clinical setting. Paid clinical instructors will be taking students into the clinical setting with set objectives for each week. These objectives will include tasks revolving around critical thinking and decision

making. The clinical instructors will assess the students' abilities to perform these competencies daily in clinical.

> **Standard 4.07:** Graduates must demonstrate ethical decision-making skills and an understanding of professional responsibility.

A requirement of the program will be the completion of a medical ethics course in which students will analyze a range of moral issues related to the fields of medicine from the standpoint of philosophical ethical theories. The students will have an opportunity to put these theories to practice through clinical simulations and clinical training.

STLCC's proposed Bachelor of Science in Respiratory Care degree program has been developed following these standards. A draft of the proposed program is located in Appendix H.

<u>b. Providing students with external learning experiences to increase the probability that they will remain in the applicable geographic area after graduation</u>

The Bachelor of Science in Respiratory Care program will include five semesters of clinical coursework that will begin the first semester of the students' professional coursework. The clinical courses will include:

- Clinical Practice I – students will spend one day a week during the last 8 weeks of the first semester being introduced to the healthcare setting. The student learning objectives will be centered around communication, documentation, comprehending patient histories, and performing physical assessments at the bedside. This clinical rotation will be an estimated 32 hours.
- Clinical Practice II – students will spend one day a week in the hospital setting providing care on the general floors. Students will assess patients and use protocols to make clinical decisions that will treat the patients in need of respiratory care. They will be required to assemble and troubleshoot equipment used to provide general respiratory care. This clinical rotation will be an estimated 128 hours.
- Clinical Practice III – students will be introduced to the intensive care units and emergency departments of the hospital to learn about the care of critically ill patients. They will assess, perform diagnostic tests, and treat patients in neurological, surgical, cardiovascular, and medical ICUs. They will be introduced to the care of the patient who is receiving mechanical ventilation via an artificial airway. They will practice critical care skills of airway management such as suctioning, assisting intubation, tracheostomy care, and extubation. This clinical rotation will be an estimated 192 hours.
- Clinical Practice IV – students will spend this rotation working with critically ill patients in the ICU and emergency departments to increase their level of knowledge, skill, and confidence working in this setting. They will become more independent and will be able to take on more regarding patient workload. Students will spend time in rounds with

the healthcare team and physicians, gaining experience in interprofessional and collaborative healthcare. The student will be expected to communicate with these healthcare professionals to discuss their patients' current plan and changes that need to be made to that plan. Advanced techniques of the baccalaureate therapist will be introduced during this rotation regarding ventilator management, advanced diagnostics, and cutting-edge therapeutics. This clinical rotation will be an estimated 256 hours.

- Clinical Practice V – during the last semester of the program students will be able to complete clinical externships in which they may provide their top choices of healthcare facilities in which they would like to work. The student will then be paired with a respiratory therapist at that site and will work their schedule with them throughout the semester. The goal of an externship experience will be to match a student with his or her future employer to make the transition from student to graduate a seamless one. This clinical rotation will be an estimated 192 hours.
- Clinical Practice VI – during the last semester of the program, students will be able to spend time in specialty areas that are specific to respiratory therapists with a bachelor's degree. These areas of specialization can include interventional radiology, bronchoscopy, ECMO specialist, formal education, management, physician clinics, home care, pulmonary function testing, and pulmonary rehabilitation. Students will be able to choose specialty areas in which they are most interested so that the experience is individualized. This clinical rotation will be an estimated 128 hours.

Overall, the clinical education portion of the baccalaureate program will be an estimated 928 hours, compared to the 832 hours in the associate's program. This is an 11.5% increase in clinical hours, with the additional opportunities for externships and specialization. The clinical education will be delivered in a high-quality manner using paid clinical instructors instead of volunteer preceptors provided by the hospitals. Implementing a paid clinical instructor model will ensure consistent and meaningful instruction of the students at the bedside. This a drastic difference from the volunteer preceptor model in which the therapists' priority is patient care.

c. A plan for assessing the extent to which the new program meets that need when implemented

Assessment of the Bachelor's in Applied Science in Respiratory Care will include the evaluation of program resources, evaluation of the program goals and student learning outcomes, and evaluation of the program through the annual assessment required by the Commission on Accreditation for Respiratory Care of outcome thresholds.

> **Assessment of Program Resources, CoARC Standard 2.16:** The program must, at least annually, use the CoARC Resource Assessment Surveys to assess the resources described in Standard II. Survey data must be documented in the CoARC Resource Assessment Matrix (RAM). The results of resource assessment must be part of the Program Director's continuous analysis of the program and

used to make appropriate changes to program resources. Identification of any deficiency requires development of an action plan, documentation of its implementation, and evaluation of its effectiveness by ongoing resource assessment.

Assessment of Program Goals and Student Learning Outcomes, CoARC Standard 3.03: Program goals must be the basis for continuous program planning, implementation, evaluation and revision. The program must formulate a systematic assessment process to evaluate the achievement of its goal(s) and expected student learning outcomes.

To demonstrate compliance, programs must document annual review and analysis of the program curriculum using sub score data by content domain of the NBCR TMC and CSE board exams. If any content area falls below 85% of the national mean, an action plan and follow up will be required. This information will be shared with the STLCC BASRT Advisory Committee.

For baccalaureate and master's programs, the program must develop outcome measures to assess the accomplishment of the required additional goal of competencies in leadership, research, education, and/or clinical specialization.

Assessment of Program Outcomes

Regardless of the degree awarded, all programs must, at a minimum, meet the thresholds established by CoARC for all mandated outcome measures at all program locations, notwithstanding the instructional methodology used. Program outcomes must be submitted to the CoARC annually, on or before the mandated deadline, using the Report of Current Status (RCS) format.

Evidence of Compliance will include the outcomes data of a three-year average completed in the annual RCS accepted by CoARC.

Outcomes reported will be the following:

1. Credentialing exam performance is evaluated by NBRC TMC High Cut Score success and NBRC RRT credentialing success, which is the percentage of program graduates (not the percentage of those taking the test) achieving the NBRC's High Cut Score and earning the RRT credential, respectively. The established threshold for TMC High Cut Score Success is 60%. There is no threshold for RRT Credentialing Success; however, programs are still required to provide RRT outcomes data on annual reports.
2. Retention is defined as the number of students who were formally enrolled in a respiratory care program and graduated from the program after completing all programmatic and graduation requirements, calculated as a percentage of the total number of students initially enrolled in that class. The established threshold for

retention is 70%, and the basis for CoARC action is a subthreshold retention average for a given three-year cycle.

3. Graduate and employer satisfaction surveys must be administered six (6) to twelve (12) months after graduation. The established threshold for these surveys is that for each question at least 80% of returned graduate and employer surveys rate overall satisfaction 3 or higher on a 5-point Likert scale. The basis for CoARC action is a subthreshold average of satisfactory responses for a given three-year cycle.
4. Job placement is also reported, but there is no threshold for CoARC. St. Louis Community College will utilize graduate surveys to provide information regarding the positions held by baccalaureate program.

The STLCC Respiratory Care Advisory Committee is made up of students, graduates, faculty, college administration, employers, physicians, and a member of the public; the committee meets twice a year. Program outcomes, resource assessment data, substantive changes, assessment of curriculum, and technical standards are reviewed and discussed, and all changes are voted upon by the committee. STLCC has an active and engaged advisory committee. The last meeting was held on October 12, 2020. The committee voted unanimously in support of STLCC offering a Bachelor of Science in Respiratory Care at the Florissant Valley campus.

The information provided in this Phase Two proposal demonstrates how STLCC has met both the legislated criteria and the departmental rules for approval to offer a Bachelor of Science in Degree in Respiratory Care. In addition to the workforce need and our institutional capacity to offer this program, we also have the support of our local employers and our public college colleagues to offer this program. We thank you for your consideration.

Appendix A:
Letter of Support from Four-Year Publics

July 24, 2020

Zora Mulligan, Commissioner of Higher Education
Missouri Department of Higher Education and Workforce Development
301 W. High Street
P.O. Box 1469
Jefferson City, MO 65201-1469

Commissioner Mulligan,

Thank you for the opportunity to provide input on this important Phase I proposal for eight community college bachelor's degrees in the field of respiratory care. This is a very important discussion, particularly due to the ongoing pandemic. In addition, how we approach this review will set precedent for future comprehensive reviews. We appreciate your consideration of our feedback and look forward to opportunities for further discussion beyond written comments.

Some four-year institutions became aware of the community colleges' intent to submit this proposal in May, when the community colleges expressed an interest in exploring the feasibility of a collaboration. Further definition of, and decision about, what it means for a community college to make "a good-faith effort" to explore a collaboration with a four-year partner and to look at multiple potential options for degree offerings is needed. This element needs clarification in the administrative rules and the process needs to define acceptable parameters moving forward.

We feel that OTC and STLCC are unique from the other six community colleges included in this proposal. Both have existing accredited respiratory therapy programs at the associate level and potentially have the necessary equipment and faculty necessary to offer the program at a high quality especially if they follow the guidelines for collaboration. This Phase I proposal further supports that conclusion, and both institutions should be afforded the opportunity to dive deeper with a Phase II proposal and external review.

We have serious concerns, however, regarding the remaining six institutions. For the sake of efficiency, we have no complaints if a collective of community colleges submits one, comprehensive document. For example, all eight institutions would likely want to lean on statewide workforce trends to support their cases, and it makes sense to communicate that information once, as opposed to eight separate times. However, the submission of a single document should not obfuscate the fact that these are eight separate proposals, with each individual institution needing to provide a standalone case for why it should be approved to offer a baccalaureate degree, per the department's *Plan for Comprehensive Review of Academic Program Proposals* (attached). Specifically, this should include the information requested in the department's *Elements of a Complete Proposal for Comprehensive Review*.

In the current proposal, only OTC and STLCC provide the requested information, while the others provide little-to-no evidence supporting a standalone case for why they can and should be authorized to offer this degree. In fact, the other six institutions are directly referenced in the proposal only once—on the cover page. Specific examples of our concerns are included below:

- In the section dedicated to ensuring program quality (pp. 7-8), only OTC and STLCC provide evidence of their ability to provide high-quality education and training in respiratory care. The other institutions should be required to provide similar evidence.

- The institutional capacity section (pp. 9-10) begins with a note that each community college will provide this information in Phase II, but this information—regarding academic and student support, faculty resources, a comprehensive cost/revenue analysis, student interest, and clinical capacity—is explicitly requested in the Phase I proposal. Using Higher Learning Commission (HLC) accreditation as primary evidence of institutional capacity is insufficient and sidesteps the department's requirements. Again, only OTC and STLCC provide additional information.

- Letters of support included in Appendix B (p. 16) should provide at least some evidence of relevant employer support for each individual institution's efforts. While there is greater institutional diversity in the letters of support (i.e., they are not limited to OTC and STLCC), three institutions have no letters of support.

Overall, we believe there is potential for a limited number of community college bachelor's degrees in respiratory care. OTC and STLCC have made a convincing case, and we believe they meet the statutory criteria. Our primary concern is that evidence of these institutions' readiness will be confused for that of the other six institutions for which very little or no evidence is provided. To allow those six institutions to proceed to Phase II at this point would set damaging precedent and undermine the integrity of the process. The required evidence to propose offering a bachelor's degree is not apparent and has certainly not been adequately articulated.

Sincerely,

Michael Godard
Provost
Southeast Missouri State University

Doug Davenport
Provost and Vice President for Academic Affairs
Missouri Western State University

Paula Carson
Provost and Vice President of Academic Affairs
Missouri Southern State University

Frank Einhellig
Provost
Missouri State University

Janet Gooch
Provost
Truman State University

Vicki Schwinke
Vice President of Academic Affairs
State Technical College

Jamie Hooyman
Provost
Northwest Missouri State University

Alphonso Sanders
Provost and Vice President
Lincoln University

Steve Graham
Sr. Associate Vice President for Academic Affairs
University of Missouri System

Phil Bridgmon
Provost and Vice President for Academic Affairs
University of Central Missouri

LaTonia Collins Smith
Vice President, Academic Affairs
Harris-Stowe State University

Tab 12

Plan for Comprehensive Review of Academic Program Proposals

Coordinating Board for Higher Education
June 7, 2018

BACKGROUND

The Higher Education System Review Task Force in its report to the Coordinating Board recommended the process for reviewing and approving proposals for new academic programs be updated to allow institutions to meet state workforce needs. MDHE staff and institutional representatives developed a three-tiered approach to new academic program review, which included a comprehensive review path for institutions to propose programs outside their mission. In anticipation of pending legislation removing certain statutory restrictions on degrees offered at public institutions of higher education being enacted, MDHE staff has developed guidelines for submitting proposals under the comprehensive review umbrella. These guidelines discussed below have been excerpted from 6 CSR 10-4.010, which the Coordinating Board approved in December 2016 and is now in the final stages of the rulemaking process.

CURRENT STATUS

The 2018-2019 review cycle commences on July 1, 2018, and institutions must submit preliminary proposals for new academic programs requiring comprehensive review by that date. As this is year two of the revised program review process, the CBHE will consider as many as five proposals, with no more than three proposals from either public universities or public two-year institutions.

Preliminary Proposals

In order to avoid unnecessary expenses associated with a full comprehensive review, institutions will submit by July 1, 2018, a preliminary proposal for consideration. The preliminary proposal is a statement of the institution's intent and provides MDHE staff an opportunity to assess which programs should be considered for a full comprehensive review. The CBHE, in its sole discretion and in consultation with MDHE staff, will determine by its September meeting which of the preliminary proposals to evaluate through a full comprehensive review. Proposals selected for a full comprehensive review will submit the additional elements to submit a complete proposal for comprehensive review. The Coordinating Board will take action on these proposals in March 2019.

Timeline for Conducting Comprehensive Reviews

May-June	MDHE strongly encourages institutions to notify the Assistant Commissioner for Academic Affairs prior to submitting a preliminary proposal for comprehensive review to assess informally the appropriateness of the institution's request and its capacity to comply with the requirements and expectations of the comprehensive review.
July 1	Preliminary proposals for new academic programs requiring comprehensive review due to the MDHE.
July-September	MDHE staff will determine which five proposals of those submitted received will be evaluated fully through the comprehensive review process.
September-February	MDHE staff will work with each institution with a proposal undergoing comprehensive review to ensure the proposal is complete and the CBHE has all the information and data necessary to approve or disapprove the proposed program.
March	The Coordinating Board for Higher Education will take action on the proposals considered through comprehensive review.

Elements of a Complete Proposal for Comprehensive Review

Each institution seeking approval for a program requiring comprehensive review will submit a complete proposal for the Coordinating Board's approval. A complete proposal will be submitted and reviewed over two phases, a preliminary and final phase.

Phase I

An institution seeking approval for an academic program requiring a comprehensive review will first submit a preliminary proposal to MDHE staff by July 1, 2018. The MDHE will provide forms for this initial step. The preliminary proposal will include the following:

A. Evidence that the proposing institution has explored the feasibility of collaboration with other institutions whose mission or service region encompasses the proposed program. At a minimum, the proposing institution must include letters from the chief academic officers of both the proposing institution and other institutions involved in exploring the feasibility of collaboration attesting to the nature of the discussions and explaining why collaboration in this instance is not feasible.

B. The proposal should identify and explain in detail which of the Blueprint for Higher Education goals the new program will advance.

C. The proposal must include evidence that the institution has the capacity to launch the program in a high-quality manner. This should include:

1. An assessment of the offering institution's capacity to offer the new program in terms of general, academic, and student service support, including faculty resources that are appropriate for the program being proposed (e.g. faculty credentials, use of adjunct faculty, and faculty teaching workloads);

2. A comprehensive cost/revenue analysis summarizing the actual costs for the program and information about how the institution intends to fund and sustain the program;

3. Evidence indicating there is sufficient student interest and capacity to support the program, and, where applicable, sufficient capacity for students to participate in clinical or other external learning requirements, including library resources, physical facilities and instruction equipment; and

4. Where applicable, a description of accreditation requirements for the new program and the institution's plans for seeking accreditation.

Phase II

If the proposal is accepted for further evaluation, the institution will be asked to prepare materials for a complete proposal.

A. The proposing institution will consult with MDHE staff to identify an external review conducted by a team that includes faculty experts in the discipline of the program to be offered and administrators from institutions already offering programs in the discipline and at the degree level proposed. If appropriate, the external review team may include employer or industry experts. The exact size of the external review team may vary depending on the nature of the proposed program but generally will consist of five to nine individuals. The proposing institution will bear all costs associated with the external review.

B. The proposal must provide clear and compelling evidence that the proposed program is needed. This will include:

1. An explanation with supporting documentation demonstrating that the program does not unnecessarily duplicate other programs in the applicable geographic area, as described in subsection (10)(C) of the administrative rule;

2. In consultation with MDHE staff and with consideration of input offered by the external review team described above, the proposing institution will present a rigorous analysis demonstrating a strong and compelling workforce need for the program, which might include data from a credible source, an analysis of changing program requirements, the current and future workforce and other needs of the state, and letters of support from local or regional businesses indicating a genuine need for the program;

3. The institution will provide a clear plan to meet the articulated workforce need, including:

    a. Aligning curriculum with specific knowledge and competencies needed to work in the field(s) or occupation(s) described in the workforce need analysis in part (II) of this subparagraph;

    b. Providing students with external learning experiences to increase the probability that they will remain in the applicable geographic area after graduation; and

    c. A plan for assessing the extent to which the new program meets that need when implemented.

The Coordinating Board will apply the same comprehensive review criteria and standards used to approve baccalaureate degree programs at four-year public institutions in the comprehensive review process when considering proposals from two-year institutions to offer baccalaureate degrees.

RECOMMENDATION

This is an information item only.

Appendix B:
Steve Graham Letter

June 25, 2020

Commissioner Zora Mulligan
Missouri Department of Higher Education and Workforce Development
P.O. Box 1469
Jefferson City, MO 65101

Dear Commissioner Mulligan:

In May 2020, the University of Missouri System (UM) was notified by Ozark Technical College (OTC) and St. Louis Community College (STLCC) of their intent to submit a preliminary proposal to offer a baccalaureate degree in respiratory care. Both institutions expressed interest in exploring the feasibility of a collaboration with UM. MU currently offers an accredited bachelor's degree program in respiratory therapy. Following internal discussions and a conversation with the vice chancellors for academic affairs at OTC and STLCC, UM has concluded that at this point we are not interested in developing a collaborative bachelor's program with either institution.

Policy changes initiated by the Commission on Accreditation for Respiratory Care (CoARC) were amended and OTC and STLCC would require the authorization to offer the baccalaureate-level program to start a new or expand an existing respiratory care program. The developing COVID-19 pandemic makes the value of further investments in respiratory therapists obvious, and it is likely there will be workforce demand in both Springfield and St. Louis.

OTC and SLCC are unique from the other community colleges currently expressing interest in starting bachelor's programs. Both OTC and SLCC have existing accredited RT programs at the associate degree level and likely have the necessary equipment and faculty who could offer the program. However, we have significant concerns about other community colleges who do not have existing RT programs related to the actual market need and the necessary resources. We also have reservations about the conditions required for a collaborative partner in the original inquiries. Some of the "terms" outlined in the original inquiry were not reasonable and not in the spirit of the legislation or the DHEWD administrative rules (e.g., maximum of 30 hours of coursework from the four-year institutions and the four-year university coursework offered at community college rates).

MISSOURI

We appreciate that OTC and STLCC reached out and engaged with us from the beginning. This is an integral part of the process as outlined by statute and, just as importantly, an important way to foster productive relationships between two- and four-year institutions. Even though MU is not interested in a collaboration at this point, OTC and STLCC may want to seek opportunities with other four-institutions to see if they are interested in creating a collaborative partnership.

Steve Graham
Senior Associate Vice President for Academic Affairs
University of Missouri System
grahams@umsystem.edu | (573) 882-3119

Appendix C:
Market Analysis – Workforce Report CHMURA

October 29, 2020

To Whom It May Concern:

St. Louis Community College is seeking to create a bachelor's degree program to train respiratory therapists. As part of this process, the college must demonstrate market demand for such a program. This letter is intended to provide context and key points for the attached market demand report for respiratory therapists. The St. Louis, MO-IL metropolitan statistical area (MSA) is the region under consideration for market demand. Two questions must be considered when determining market demand for this program:

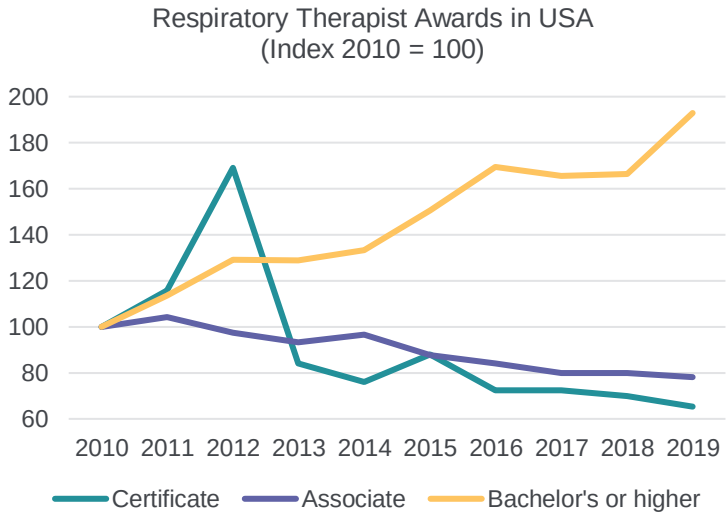
1. What is the long-term outlook for demand for respiratory therapists in the St. Louis region?
2. What is the trend in entry-level training required for respiratory therapists?

In considering the first question, skills and occupations that are in demand today may not be in demand in the months or years ahead when a student finishes a training program or education. For that reason, long-term gaps need to be considered in conjunction with current gaps. The Occupation Snapshot section of the attached report shows the JobsEQ® forecast of annual demand for 119 new respiratory therapists over the next seven years due to growth in the region's industries. Including demand from people exiting the labor market (includes individuals who are retiring) or transferring to other occupations, total demand for respiratory therapists in the region is expected to exceed 700 over the next seven years. This occupation is expected to grow at an average annual rate of 1.1% compared with the average forecast decline of 0.1% each year for the region overall.

The Training Concentration section provides further evidence of a potential shortfall in training for respiratory therapists. Training Concentration analysis considers output from related training programs in the region against a baseline of national awards output for a given occupation. In comparison with the national norm, the St. Louis region has an estimated shortfall of 13 postsecondary awards for respiratory therapists each year. Taken together, these sections show a current training gap for respiratory therapists and forecast long-term market demand for this occupation.

The second question relates to the need for a bachelor's program in addition to existing associate programs in the region. As shown in the Education Profile section, the typical entry-level education requirement for respiratory therapists determined by the Bureau of Labor Statistics is an associate degree, held by 56% of workers in this occupation, suggesting a two-year award would be sufficient.

However, several trends indicate the training requirements for respiratory therapists are increasing. Nationally, associate awards for respiratory therapists have fallen 22% from 2010 to 2019, while bachelor's awards nearly doubled (up 93%) over this period (see figure to the right). The share of bachelor's degrees as a percent of total awards in respiratory care has steadily increased from 10% in 2010 to 22% in 2019.



Source: NCES, JobsEQ by Chmura

This increasing demand for bachelor's degrees is expected to continue for both students and employers over the next decade. The American Association for Respiratory Care (AARC), the foremost professional association promoting respiratory therapists, issued an updated position statement on entry-level training requirements for the profession in 2019. "To achieve consistency in practice and the provision of safe, efficient, and effective care," AARC recommends a requirement for entry of a bachelor's degree in respiratory therapy or related health sciences and a Registered Respirator Therapist (RRT) certification for all new respiratory therapists beginning by at least 2030.[1]

Finally, data from online job postings provide further evidence of the current demand for respiratory therapists with a bachelor's degree. As shown in the RTI (Job Postings) section of the attached report, nearly 400 online job ads have been posted for respiratory therapists in the MSA over the last six months. Of those that provided a minimum education level in the ad, 43 (or 24%) requested a bachelor's degree. In contrast, only eight bachelor's degrees were awarded in 2019 for respiratory therapists in the region, all from the private St. Louis College of Health Careers.

In summary, the market analysis shows evidence of current gaps and strong demand in the future for a bachelor's degree for respiratory therapists in the St. Louis MSA.

Sincerely,

Patrick Clapp

Economist

Chmura Economics & Analytics

[1] Source: https://www.aarc.org/wp-content/uploads/2019/09/issue-paper-entry-to-respiratory-therapy-practice-2030.pdf

JOBSEQ

Occupation Report

Respiratory Therapists

St. Louis, MO-IL MSA

Definition of Respiratory Therapists, SOC 29-1126

Assess, treat, and care for patients with breathing disorders. Assume primary responsibility for all respiratory care modalities, including the supervision of respiratory therapy technicians. Initiate and conduct therapeutic procedures; maintain patient records; and select, assemble, check, and operate equipment.

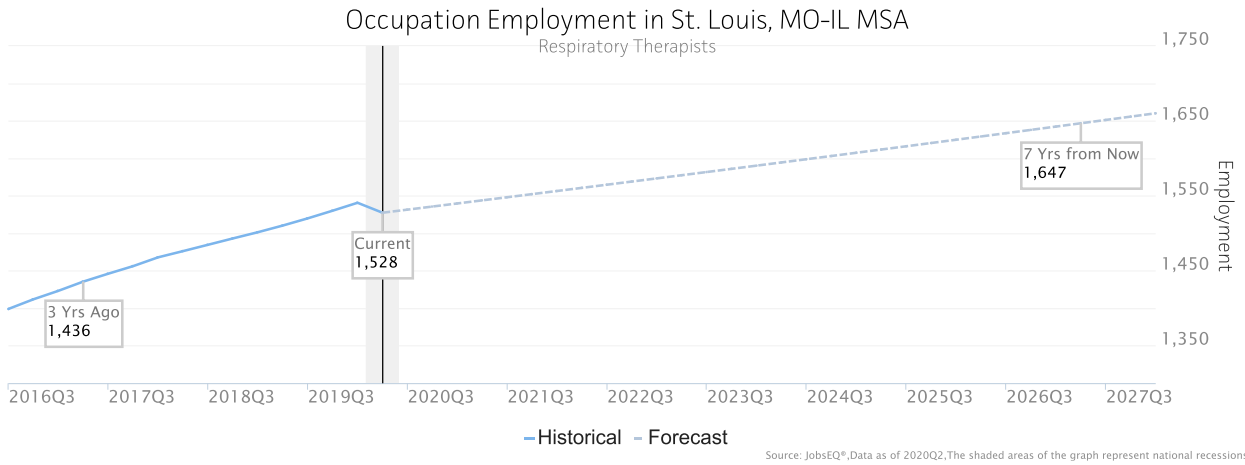
Occupation Snapshot

As of 2020Q2, total employment for Respiratory Therapists in the St. Louis, MO-IL MSA was 1,528. Over the past three years, this occupation added 92 jobs in the region and is expected to increase by 119 jobs over the next seven years, or at an annual average rate of 1.1%.

Respiratory Therapists in St. Louis, MO-IL MSA, 2020Q2[1]

Current						3-Year History		7-Year Forecast				
Empl	Avg Ann Wages[2]	LQ	Unempl	Unempl Rate	Online Job Ads[3]	Empl Change	Ann %	Total Demand	Exits	Transfers	Empl Growth	Ann % Growth
1,528	$57,100	1.26	19	1.2%	139	92	2.1%	701	302	280	119	1.1%

Source: JobsEQ®
Data as of 2020Q2 unless noted otherwise
Note: Figures may not sum due to rounding.
1. Data based on a four-quarter moving average unless noted otherwise.
2. Wage data are as of 2019 and represent the average for all Covered Employment
3. Data represent found online ads active within the last thirty days in the selected region; data represents a sampling rather than the complete universe of postings. Ads lacking zip code information but designating a place (city, town, etc.) may be assigned to the zip code with greatest employment in that place for queries in this analytic. Due to alternative county-assignment algorithms, ad counts in this analytic may not match that shown in RTI (nor in the popup window ad list).

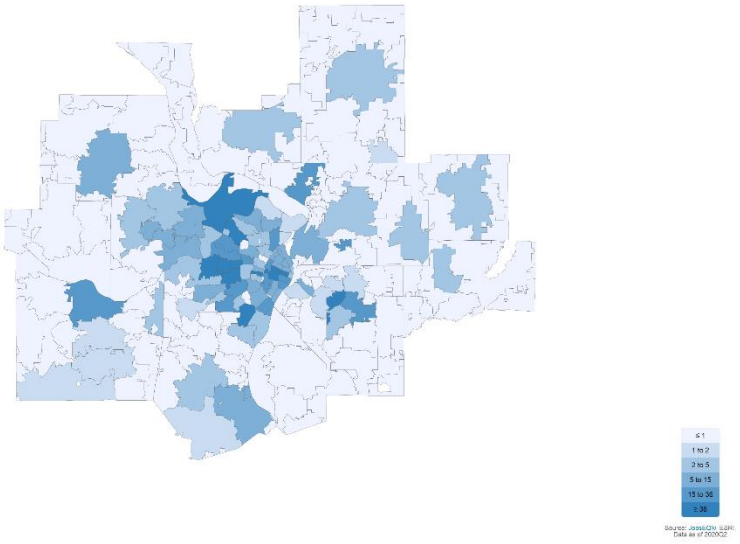


Occupation employment data are estimated via industry employment data and the industry/occupation mix. Industry employment data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and currently updated through 2019Q4, imputed where necessary with preliminary estimates updated to 2020Q2. Wages by occupation are as of 2019 provided by the BLS and imputed where necessary. Forecast employment growth uses national projections from the Bureau of Labor Statistics adapted for regional growth patterns. Occupation unemployment figures are imputed by Chmura.

Geographic Distribution

The below maps illustrate the ZCTA-level distribution of employed Respiratory Therapists in the St. Louis, MO-IL MSA. Employment is shown by place of work and by residence.

Occupation Concentration by Place of Work for Respiratory Therapists

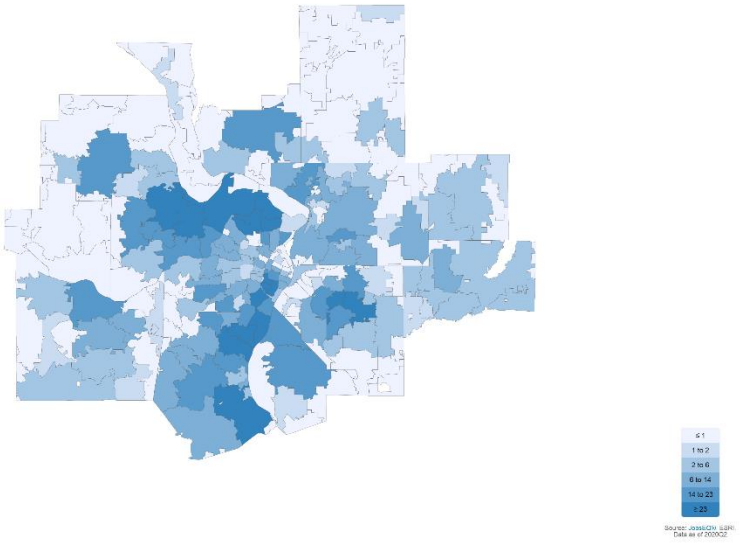


Top ZCTAs by Place of Work for Respiratory Therapists, 2020Q2

Region	Employment
ZCTA 63110	296
ZCTA 63141	76
ZCTA 63103	60
ZCTA 63017	60
ZCTA 63131	52
ZCTA 63128	51
ZCTA 63117 (St. Louis County, MO portion)	51
ZCTA 63108	44
ZCTA 63044	44
ZCTA 63301	38

Source: JobsEQ®
Occupation employment data are estimated via industry employment data and the industry/occupation mix. Industry employment data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and currently updated through 2019Q4, imputed where necessary with preliminary estimates updated to 2020Q2. Occupation by residence data are derived from the same in addition to commuting pattern data.

Occupation Concentration by Place of Residence for Respiratory Therapists



Top ZCTAs by Place of Residence for Respiratory Therapists, 2020Q2

Region	Employment
ZCTA 63129	62
ZCTA 63376	54
ZCTA 63031	44
ZCTA 63123 (St. Louis County, MO portion)	43
ZCTA 63033	37
ZCTA 63010	34
ZCTA 63034	32
ZCTA 63052	30
ZCTA 62226	30
ZCTA 63116	30

Source: JobsEQ®
Occupation employment data are estimated via industry employment data and the industry/occupation mix. Industry employment data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and currently updated through 2019Q4, imputed where necessary with preliminary estimates updated to 2020Q2. Occupation by residence data are derived from the same in addition to commuting pattern data.

Employment by Industry

The following table illustrates the industries in the St. Louis, MO-IL MSA which most employ Respiratory Therapists. The single industry most employing this occupation in the region is General Medical and Surgical Hospitals, NAICS 6221. This industry employs 1,236 Respiratory Therapists—employment which is expected to increase by 105 jobs over the next ten years; furthermore, 664 additional new workers in this occupation will be needed for this industry due to separation demand, that is, to replace workers in this occupation and industry that retire or move into a different occupation.

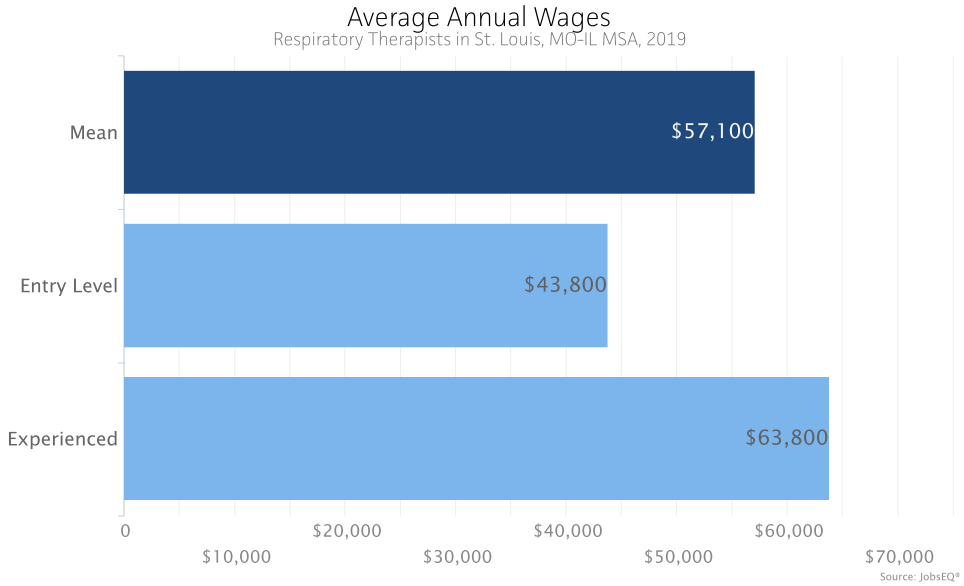
Top Industry Distribution for Respiratory Therapists (29-1126) in St. Louis, MO-IL MSA

		Current		10-Year Demand			
NAICS Code	Industry Title	% of Occ Empl	Empl	Exits	Transfers	Empl Growth	Total Demand
6221	General Medical and Surgical Hospitals	80.9%	1,236	345	319	105	769
6223	Specialty (except Psychiatric and Substance Abuse) Hospitals	6.2%	94	31	29	50	111
6231	Nursing Care Facilities (Skilled Nursing Facilities)	3.7%	57	16	14	2	32
6211	Offices of Physicians	1.5%	23	7	6	5	18
6213	Offices of Other Health Practitioners	1.1%	17	5	5	4	14
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	1.1%	17	4	4	-2	6
4461	Health and Personal Care Stores	0.9%	14	4	3	-1	6
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	0.8%	13	4	3	1	8
5322	Consumer Goods Rental	0.7%	11	3	3	0	6
6216	Home Health Care Services	0.7%	10	3	3	4	10
6214	Outpatient Care Centers	0.6%	9	3	3	4	10
	All Others	1.8%	27	7	7	1	15

Source: JobsEQ®
Data as of 2020Q2 except wages which are as of 2019. Note that occupation-by-industry wages represent adjusted national data and may not be consistent with regional, all-industry occupation wages shown elsewhere in JobsEQ.
Note: Figures may not sum due to rounding.
Occupation employment data are estimated via industry employment data and the industry/occupation mix. Industry employment data are derived from the Quarterly Census of Employment and Wages, provided by the Bureau of Labor Statistics and currently updated through 2019Q4, imputed where necessary with preliminary estimates updated to 2020Q2. Forecast employment growth uses national projections from the Bureau of Labor Statistics adapted for regional growth patterns.

Wages

The average (mean) annual wage for Respiratory Therapists was $57,100 in the St. Louis, MO-IL MSA as of 2019. For the same year, average entry level wages were approximately $43,800 compared to an average of $63,800 for experienced workers.



Occupation wages (mean, median, and percentiles) are as of 2019 provided by the BLS, modified and imputed by Chmura where necessary. Entry-level and experienced wages are derived from these source data, computed by Chmura.

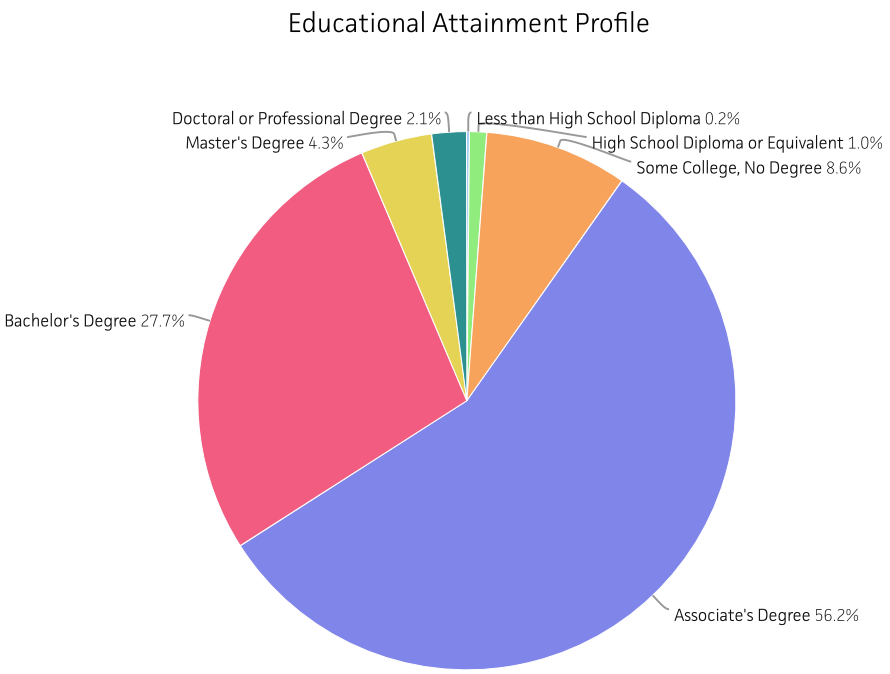
Education Profile

Typical education and training requirements for Respiratory Therapists are described below.

Education and Training Requirements

Typical Entry-Level Education:	Associate's degree
Previous Work Experience:	None
Typical On-the-Job Training:	None

Source: JobsEQ®



Source: JobsEQ®

Education and training requirements are from the Bureau of Labor Statistics (BLS); educational attainment mix are regional data modeled by Chmura using Census educational attainment data projected to 2020Q2 along with source data from the BLS.

Awards

The table below is a list of postsecondary program awards that were granted by postsecondary institutions located in the St. Louis, MO-IL MSA in the 2019 academic year. These programs have been identified as providing training for Respiratory Therapists (for further details, see the source note).

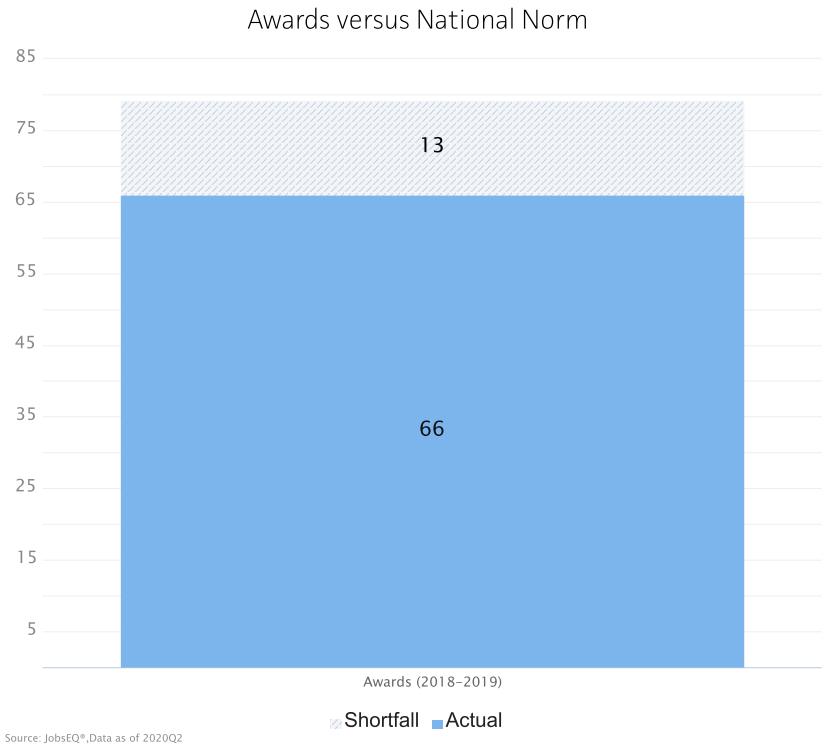
	Annual Awards - St. Louis, MO-IL MSA		
Title/School	Certificates and 2yr Degrees	4yr Degrees	Postgraduate Degrees
51.0908 Respiratory Care Therapy/Therapist			
Kaskaskia College	12	0	0
Saint Louis Community College	15	0	0
Southwestern Illinois College	15	0	0
St Louis College of Health Careers-Fenton	31	8	0
Total			
Total	73	8	0

Source: JobsEQ®
Data as of the 2019 academic year
Awards data are per the National Center for Education Statistics (NCES) and JobsEQ for the 2019 academic year. Any programs shown here have been identified as being linked with the occupation being analyzed. Other existing programs may also provide training in the region for this occupation but have not been so identified by the program-occupation crosswalk (see the FAQ section at the end of this report for more details). Furthermore, any programs shown here reflect only data reported to the NCES; reporting is required of all schools participating in any federal finance assistance program authorized by Title IV of the Higher Education Act of 1965, as amended—other training providers in the region that do not report data to the NCES are not reflected in the above.

Training Concentration

In the 2018-2019 academic year, it is estimated that postsecondary schools in the St. Louis, MO-IL MSA granted awards for a potential 66 new Respiratory Therapists.[2] Given the size of this occupation in the region, this award output is below the national norm of 79 awards per year—put another way; it is at 83% of the national average.

Training concentrations above the national average can indicate that the region is an exporter of graduates for this occupation; in other words, some students may come from outside the region for this education and subsequently leave after the award to work outside the region. Training concentrations below the national average can indicate that the region is an importer of graduates for this occupation; in other words, some employers within the region who hire this occupation may need to hire workers who received this training outside of the region.



Awards data by occupation are estimates produced by JobsEQ and for the academic year 2018-2019.

[2] This figure may not match the total awards shown in the prior section since some of those awards may flow into more than one occupation.

RTI (Job Postings)

Occupations

SOC	Occupation	Total Ads
29-1126.00	Respiratory Therapists	393

Source: JobsEQ®
Data reflect online job postings for the 180 day period ending 10/20/2020
Note: Data are subject to revision. Time series data can be volatile with trends unrelated to actual changes in demand; use with caution.

Locations

Location	Total Ads
63110	51
Saint Louis, Missouri	41
St Louis, Missouri	35
Fenton, Missouri	12
63131	11
Saint louis, Missouri 63101	11
Saint Louis, MO 63150	10
St. Louis, MO 63128	10
63136	9
Bridgeton, Missouri	8

Source: JobsEQ®
Data reflect online job postings for the 180 day period ending 10/20/2020
Note: Data are subject to revision. Time series data can be volatile with trends unrelated to actual changes in demand; use with caution.

Employers

Employer Name	Total Ads
SSM Health	61
Barnes-Jewish Hospital	30
BJC HealthCare	25
St. Louis Children's Hospital	19
Advanced Travel Therapy	12
Club Staffing	12
Kindred	11
Missouri Baptist Medical Center	11
CoreMedical Group	10
Christian Hospital	9

Source: JobsEQ®
Data reflect online job postings for the 180 day period ending 10/20/2020
Note: Data are subject to revision. Time series data can be volatile with trends unrelated to actual changes in demand; use with caution.

Certifications

Certificate Name	Total Ads
Registered Respiratory Therapist (RRT)	44
Basic Life Support (BLS)	41
Advanced Cardiac Life Support Certification (ACLS)	40
Certified Respiratory Therapist (CRT)	23
Certification in Cardiopulmonary Resuscitation (CPR)	19
Licensed Respiratory Care Practitioner (RCP)	8
Registered Nurse (RN)	8
Pediatric Advanced Life Support (PALS)	7
Certified Nursing Assistant (CNA)	4
Licensed Practical Nurse (LPN)	4

Source: JobsEQ®
Data reflect online job postings for the 180 day period ending 10/20/2020
Note: Data are subject to revision. Time series data can be volatile with trends unrelated to actual changes in demand; use with caution.

Hard Skills

Skill Name	Total Ads
Critical Care	51
Patient Care	29
Endotracheal Tubes	25
Wound Care	17
Pediatrics	14
Intensive Care Unit (ICU)	9
Ability to Lift 51-100 lbs.	8
Long-Term Care	8
Geriatric	6
Home Health Care	6

Source: JobsEQ®
Data reflect online job postings for the 180 day period ending 10/20/2020
Note: Data are subject to revision. Time series data can be volatile with trends unrelated to actual changes in demand; use with caution.

Soft Skills

Skill Name	Total Ads
Supervision/Management	115
Time Management/Time Utilization	106
Critical Thinking	92
Troubleshooting	86
Cooperative/Team Player	85
Communication (Verbal and written skills)	81
Self-Motivated/Ability to Work Independently/Self Leadership	32
Customer Service	21
Accountable/Responsible/Reliable/Dependable/Trustworthy	18
Problem Solving	17

Source: JobsEQ®
Data reflect online job postings for the 180 day period ending 10/20/2020
Note: Data are subject to revision. Time series data can be volatile with trends unrelated to actual changes in demand; use with caution.

Job Titles

Job Title	Total Ads
Respiratory Therapist	37
RRT	31
Registered Respiratory Therapist, RRT	21
PRN Registered Respiratory Therapist, RRT	20
Respiratory Care Practitioner - RRT	12
Registered Respiratory Therapist - (RRT)	10
Respiratory Therapist (RT)	8
Part-time Registered Respiratory Therapist, RRT	6
Part-time Respiratory Care Assistant, RCA	6
Respiratory Cardio - Registered Respiratory Therapist	5

Source: JobsEQ®
Data reflect online job postings for the 180 day period ending 10/20/2020
Note: Data are subject to revision. Time series data can be volatile with trends unrelated to actual changes in demand; use with caution.

Education Levels

Minimum Education Level	Total Ads
Associate's degree	146
Bachelor's degree	43
Unspecified/other	204

Source: JobsEQ®
Data reflect online job postings for the 180 day period ending 10/20/2020
Note: Data are subject to revision. Time series data can be volatile with trends unrelated to actual changes in demand; use with caution.

Programs

Program Name	Total Ads
Respiratory Therapy	26
Science	3
Healthcare	2

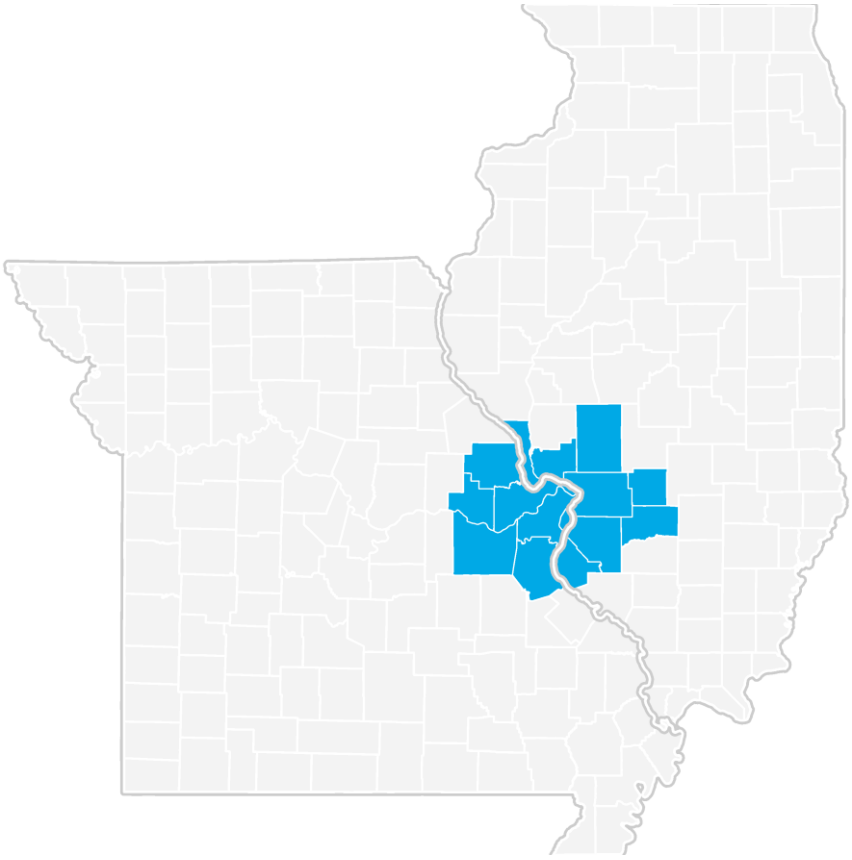
Source: JobsEQ®
Data reflect online job postings for the 180 day period ending 10/20/2020
Note: Data are subject to revision. Time series data can be volatile with trends unrelated to actual changes in demand; use with caution.

Job Types

Type	Total Ads
Full-Time	155
Part-Time	65
Temporary (unspecified)	21
Temporary (short-term)	11
Permanent	10
Unspecified/other	180

Source: JobsEQ®
Data reflect online job postings for the 180 day period ending 10/20/2020
Note: Data are subject to revision. Time series data can be volatile with trends unrelated to actual changes in demand; use with caution.

St. Louis, MO-IL MSA Regional Map



Source: JobsEQ®, http://www.chmuraecon.com/jobseq

Region Definition

St. Louis, MO-IL MSA is defined as the following counties:

Bond County, Illinois	Franklin County, Missouri
Calhoun County, Illinois	Jefferson County, Missouri
Clinton County, Illinois	Lincoln County, Missouri
Jersey County, Illinois	St. Charles County, Missouri
Macoupin County, Illinois	St. Louis County, Missouri
Madison County, Illinois	Warren County, Missouri
Monroe County, Illinois	St. Louis City, Missouri
St. Clair County, Illinois	

FAQ

What is SOC?

The Standard Occupational Classification system (SOC) is used to classify workers into occupational categories. All workers are classified into one of over 804 occupations according to their occupational definition. To facilitate classification, occupations are combined to form 22 major groups, 95 minor groups, and 452 occupation groups. Each occupation group includes detailed occupations requiring similar job duties, skills, education, or experience.

What is a location quotient?

A location quotient (LQ) is a measurement of concentration in comparison to the nation. An LQ of 1.00 indicates a region has the same concentration of an occupation (or industry) as the nation. An LQ of 2.00 would mean the region has twice the expected employment compared to the nation and an LQ of 0.50 would mean the region has half the expected employment in comparison to the nation.

What is training concentration?

The training concentration analysis compares local postsecondary training output compared to the national norm. Let's consider registered nurses as an example. If in the nation, one RN award is granted for every ten RNs employed, that 1:10 ratio is the national norm. If in your region your schools also grant one RN award for every ten RNs employed, then your region will be right at the national norm, or we say at 100% of the national norm which is termed a 100% training concentration. If your region grants two RN awards for every ten employed, your region would be at twice the national norm or have a 200% training concentration. Similarly, if your region grants one RN award for every twenty employed, your region would be at half the national norm or have a 50% training concentration.

What is the program-to-occupation crosswalk?

Training programs are classified according to the Classification of Instructional Programs (CIP codes). For relating training programs, this report uses a modified version of the CIP to SOC crosswalk from the National Center for Education Statistics (NCES). While this is a very helpful crosswalk for estimating occupation production from training program awards data, the crosswalk is neither perfect nor comprehensive. Indeed, it is hard to imagine such a crosswalk being perfect since many training program graduates for one reason or another do not end up employed in occupations that are most related to the training program from which they graduated. Therefore, the education program analyses should be considered in this light.

As an example of the many scenarios that may unfold, consider a journalism degree that crosswalks into three occupations: editors, writers, and postsecondary communications teachers. Graduates with a journalism degree may get a job in one of these occupations—and that may be the most-likely scenario—but a good number of these graduates may get a job in a different occupation altogether (the job may be somewhat related, such as a reporter, or the job may be totally unrelated, such as a real estate agent). Furthermore, a graduate may stay in school or go back to school for a degree that will lead to other occupation possibilities. Still another possibility includes the graduate not entering the labor market (maybe being unemployed, being a non-participant, or moving to another region).

What is separation demand?

Separation demand is the number of jobs required due to separations—labor force exits (including retirements) and turnover resulting from workers moving from one occupation into another. Note that separation demand

does not include all turnover—it does not include when workers stay in the same occupation but switch employers. The total projected demand for an occupation is the sum of the separation demand and the growth demand (which is the increase or decrease of jobs in an occupation expected due to expansion or contraction of the overall number of jobs in that occupation).

What is NAICS?

The North American Industry Classification System (NAICS) is used to classify business establishments according to the type of economic activity. The NAICS Code comprises six levels, from the "all industry" level to the 6-digit level. The first two digits define the top level category, known as the "sector," which is the level examined in this report.

Appendix D:
Letters of support

SSMHealth

Saint Louis University Hospital
1201 S. Grand Blvd.
St. Louis, MO 63104

phone: 314-257-8000
ssmhealth.com/sluhospital

Delores Griffin | Director – Respiratory Care and Bronchoscopy
Saint Louis University Hospital
(314) 257-1450

Letter of support for Forest Park Community College

In my capacity as Director of Respiratory Care and Bronchoscopy at SSM Health Saint Louis University Hospital, I would like to express my full support to St. Louis Community College at Forest Park in their pursuit for the option of Baccalaureate degree as part of their educational platform.

St. Louis Community College at Forest Park has been a very important resource for those of us seeking professional, qualified candidates. It is my belief that the high-quality educational goals that is set by the college will only enhance us as a profession and continue to elevate patient care in the area.

The proposed work is highly relevant and well in line with the SSMHealth commitment to exceptional care and the goals of care set within the department.

If you need any additional information, please feel free to reach out to me.

Yours sincerely,

Delores Griffin

Delores Griffin | Director – Respiratory Care and Bronchoscopy
Saint Louis University Hospital

BJC HealthCare

Richard J. Liekweg
President and Chief Executive Officer

April 21, 2020

Jeff L. Pittman, Ph.D.
Chancellor
St. Louis Community College
3221 McKelvey Road
Bridgeton, MO 63044

Dear Dr. Pittman:

BJC HealthCare is pleased to support St. Louis Community College (STLCC), and its partner community colleges, proposal for the expansion of respiratory care to the bachelor's degree through the Missouri Department of Higher Education. The College's proposed expansion of its health professions workforce programs is a timely and practical way to address the critical shortage of health care professionals in the St. Louis metropolitan area.

BJC HealthCare is one of the largest nonprofit health care organizations in the United States, delivering services to residents primarily in the greater St. Louis, southern Illinois and mid-Missouri regions. Serving the health care needs of urban, suburban and rural communities, BJC includes 15 hospitals and multiple health service organizations. Services include inpatient and outpatient care, primary care, community health and wellness, workplace health, home health, community mental health, rehabilitation, long-term care and hospice. BJC's nationally recognized academic hospitals, Barnes-Jewish and St. Louis Children's hospitals, are affiliated with Washington University School of Medicine.

As an employer of more than 31,000 health care professionals, we can attest to the dire need for qualified registered respiratory therapists.

We look forward to partnering with you on this endeavor and working with you to address our region's health sciences workforce pipeline issues.

Sincerely,

Richard J. Liekweg

Mercy Hospital St. Louis
Paul R. Bast, RRT, MBA

Executive Director RT Services
Administrative Lead Pulmonary Specialty Council
Mercy Hospital St. Louis
615 S. New Ballas Rd.342A St. Louis, MO 63141
Office: 314-251-5477| Fax: 314-251-5714

11/20/2020

To whom it may concern,

To educators of the state of Missouri concerning the question of the Bachelor of Science program at Forest Park Community College St Louis, MO. as a respiratory leader in the Saint Louis area for over 40 years I would like to put my support behind the proposal for a bachelor's of science program in respiratory therapy at Saint Louis Community College. The shortage of respiratory therapist in the Saint Louis market has been on-ongoing concern for the last several decades. Adding an additional program to the Saint Louis market in the form of a bachelor's degree program would be extremely beneficial to the patients and hospitals in the Saint Louis and surrounding areas. The evaluations done by our national organization the American Association for respiratory care as shown at the respiratory therapy market is one of the areas that will be in high demand over the next decade and beyond. This additional program would greatly help Saint Louis market as well as surrounding areas be able to provide quality well educated respiratory care practitioners to help those patients in need of respiratory services for years to come. Please let me know if there is anything, I can do to answer any questions you may have.

Recoverable Signature

X Paul Bast

Paul R. Bast, RRT, MBA
Executive Director RT Services
Signed by: Bast, Paul

Children's
HOSPITAL • ST. LOUIS

November 18, 2020

To Whom It May Concern:

Hello, my name is Marla Overy and I serve as the Program Manager for Clinical Service Lines at St. Louis Children's Hospital, which includes the Respiratory Care Department. I am also a Registered Respiratory Therapist myself and manage a department of 110 Respiratory Therapist. I am contacting you to provide support for St. Louis Community College's current proposal with the State of Missouri to offer a baccalaureate degree in Respiratory Care at St. Louis Community College.

In 2019, the American Association for Respiratory Care (AARC) issued a statement that set a goal for all Registered Respiratory Therapist to have a baccalaureate degree for entry into the profession starting in 2030. I am in support of this change for my profession and look forward to it advancing the profession of Respiratory Care and the department I currently serve.

Along with the support of this advancement comes concerns for the challenges this will create. Currently our department has a hiring gap of 18.37 FTE's with having to fill some of this gap with contingent workers. This does not include the additional positions I would like to request to meet future growth demands. Much of this hiring gap is due to the limited supply of RT's in the current market. In addition, the majority of the current RT programs are not baccalaureate degrees. With this future change, I anticipate having even less programs and less candidates and an even larger hiring gap then what we currently struggle with.

Currently, STLCC is one of our primary sources of qualified and competent RT's. The program has been highly successful in producing outstanding candidates. It is an affordable and accessible program for our community and provides a strong educational foundation for our candidates. The program has a long history of success and I hope to have it continue to be a source of our future candidates. I fully support St. Louis Community College's current proposal with the State of Missouri to offer a baccalaureate degree in Respiratory Care at St. Louis Community College. If I can answer any questions, please do not hesitate to reach out to me at the number below.

Sincerely,

Marla Overy RRT-NPS

Marla Overy RRT-NPS
Program Manager Clinical Service Line
St. Louis Children's Hospital
314-454-2334

Department of Pediatrics
1465 South Grand Blvd
St. Louis, MO 63104
www.slu.edu

SAINT LOUIS
UNIVERSITY

Health Sciences Center
School of Medicine

William L Hubble, PhD, CNMT, RT (R)(CT)(N), FSNMMI-TS
District Division Dean of Academic Affairs-Health Sciences
St. Louis Community College
5600 Oakland Avenue
St. Louis, MO 63110-1316

November 5, 2020

Re: Letter of Support for a Baccalaureate Program in Respiratory Care at St. Louis Community College

Dear Dr. Hubble:

For many years, I have known St. Louis Community College to be an institution that is continually responding to the various needs of the St. Louis region. As a medical provider of pediatric pulmonary care, I have witnessed this directly through my work with highly trained respiratory therapists that have received instruction and a degree from your Respiratory Care Program at St. Louis Community College. These colleagues and former students that have matriculated through this program are educated about recent advancements in respiratory therapy and are "work ready" for their respective employers in St. Louis regional medical care centers.

I have had the fortune of serving as the Medical Director of this program and have seen how accreditation standards are exceeded on a regular basis. This has led to a recent 10-year accreditation award by the Commission of Accreditation for Respiratory Care, the highest achievable. It is my understanding that this governing body, as well as the American Association of Respiratory Care, have set new goals for a baccalaureate degree to be the standard for entry into the profession of respiratory therapy by 2030. With St. Louis Community College being a recognized regional and national leader in instructing the next generation of respiratory therapists, it stands to reason that this program would help establish a path to a baccalaureate degree to achieve meeting these goals. This letter serves as a strong support for St. Louis Community College to develop this baccalaureate program in respiratory care.

The needs for advancing instruction in respiratory care are evolving and place a greater demand on respective students. Respiratory therapists are truly essential workers that have played a key health care role during the current coronavirus pandemic. They react to and guide bedside care of some of the sickest patients, they optimize use of technology like ventilators while also troubleshooting when necessary, they draft policy to keep patients and health care providers safe, and they remain aware of updates to the medical literature and scientific basis of the care they provide. These elements are clearly formidable and reflect the need for advancing instruction in this discipline.

The Respiratory Care administrative leadership team at St. Louis Community College is quite suited for this task ahead as you pursue this update. I am more than happy to continue work with you and this team to help with these endeavors. Please do not hesitate to contact me if I can offer any added perspective that might help this worthy process.

Regards,

Kurtis T. Sobush, MD
Associate Professor of Pediatrics, Saint Louis University School of Medicine
Department of Pediatrics, Division of Pulmonary and Sleep Medicine
Medical Director of the Complex Medical Care Program
SSM Health/Cardinal Glennon Children's Hospital
Medical Director of Respiratory Care
St. Louis Community College
314-268-6439

christian hospital
BJC HealthCare™

April 21, 2020

Jeff L. Pittman, Ph.D.
Chancellor
St. Louis Community College
3221 McKelvey Road
Bridgeton, MO 63044

Dear Dr. Pittman:

Christian Hospital/BJC HealthCare is pleased to support St. Louis Community College (STLCC), and its partner community colleges, proposal for the expansion of respiratory care to the bachelor's degree through the Missouri Department of Higher Education. The College's proposed expansion of its health professions workforce programs is a timely and practical way to address the critical shortage of health care professionals in the St. Louis metropolitan area.

BJC HealthCare is one of the largest nonprofit health care organizations in the United States, delivering services to residents primarily in the greater St. Louis, southern Illinois and mid-Missouri regions. Serving the health care needs of urban, suburban and rural communities, BJC includes 15 hospitals and multiple health service organizations. Services include inpatient and outpatient care, primary care, community health and wellness, workplace health, home health, community mental health, rehabilitation, long-term care and hospice. BJC's nationally recognized academic hospitals, Barnes-Jewish and St. Louis Children's hospitals, are affiliated with Washington University School of Medicine.

As an employer of more than 31,000 health care professionals, we can attest to the dire need for qualified registered respiratory therapists.

Christian Hospital/BJC HealthCare will actively support STLCC in this endeavor by offering clinical locations, offering paid internships, and interviewing qualified candidates who complete.

We look forward to working with you in addressing our region's health sciences workforce pipeline issues.

Sincerely,

Rick Stevens, FACHE
President

Appendix E:
Real-Time Intelligence Report

JOBSeQ

Real-Time Intelligence Report

Query Definition

Online job postings for 2017, meeting all of the following criteria:

- This region: St. Louis, MO-IL MSA
- This occupation: Respiratory Therapists (29-1126)

Summary

Total Job Posts	Occupations	Locations	Employers	Certifications	Hard Skills	Soft Skills	Job Titles	Education Levels	Programs	Job Types
205	1	54	73	16	29	29	124	2	3	5

Openings by Occupations

Occupations

SOC	Occupation	Total Ads	
29-1126.00	Respiratory Therapists	205	

Openings by Locations

Locations

Location	Total Ads
St Louis, Missouri	46
Belleville, Illinois	19
Saint Louis, Missouri	16
Missouri-St. Louis-SSM Health Cardinal Glennon Children's Hospital	12
St Charles, Missouri	7
Bridgeton, Missouri	6
Granite City, Illinois	5
Illinois-Centralia-SSM Health St. Mary's Hospital – Centralia	4
Missouri-St. Louis-BJC Hospital	4
Saint Louis, MO 63108	4

Openings by Employers

Employers

Employer Name	Total Ads
SSM Health	23
BJC HealthCare	22
Mercy	15
Washington University in St. Louis	9
Kindred Healthcare	7
HSHS St. Elizabeth Hospital, Belleville IL	6
HealthSouth Corporation	6
SSM Health | SSM Health St. Joseph Hospital - St. Charles	6
Select Medical	6
SSM Health | SSM Health St. Mary's Hospital - St. Louis	5

Openings by Certifications

Certifications

Certificate Name	Total Ads
Basic Life Support (BLS)	64
Registered Respiratory Therapist (RRT)	29
Pediatric Advanced Life Support (PALS)	23
Neonatal Resuscitation Program (NRP)	22
Licensed Respiratory Care Practitioner (RCP)	18
Advanced Cardiac Life Support Certification (ACLS)	17
Certification in Cardiopulmonary Resuscitation (CPR)	17
Certified Respiratory Therapist (CRT)	13
Registered Nurse (RN)	11
Licensed Practical Nurse (LPN)	7

Openings by Hard Skills

Hard Skills

Skill Name	Total Ads
Patient Care	42
Electronic Health Record (EHR)	12
Intensive Care Unit (ICU)	12
Critical Care	10
Pediatrics	10
Teaching/Training, Job	8
Electrocardiogram (ECG, EKG)	7
Ability to Lift 21-30 lbs.	6
Calculators	6
Health/Wellness	6

Openings by Soft Skills

Soft Skills

Skill Name	Total Ads
Cooperative/Team Player	71
Communication (Verbal and written skills)	52
Supervision/Management	27
Self-Motivated/Ability to Work Independently/Self Leadership	13
Good Judgment	11
Adaptability/Flexibility/Tolerance of Change and Uncertainty	10
Ability to Work in a Fast Paced Environment	8
Problem Solving	7
Critical Thinking	6
Detail Oriented/Meticulous	6

Openings by Job Titles

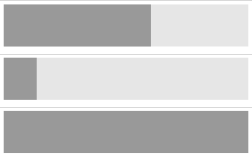
Job Titles

Job Title	Total Ads
Respiratory Care Practitioner	14
Respiratory Therapist	12
Reg Respiratory Therapist	9
RRT PRN	5
Respiratory Care Assistant	5
Respiratory Therapist (LTACH)	5
Respiratory Care Practitioner Sign on Bonus	4
Cardiopulmonary/Pulmonary Function Technician - Pulmonary	3
Pulmonary Tech	3
RRT Sign On Bonus Eligible	3

Openings by Education Levels

Education Levels

Minimum Education Level	Total Ads
Associate's degree	71
Bachelor's degree	16
Unspecified/other	118



Source: JobsEQ®, http://www.chmuraecon.com/jobseq

Openings by Programs

Programs

Program Name	Total Ads
Respiratory Therapy	29
Healthcare	22
Science	1

Openings by Job Types

Job Types

Type	Total Ads
Full-Time	38
Part-Time	17
Temporary (unspecified)	5
Permanent	3
Temp-to-Hire	1
Unspecified/other	145

Data Notes

Job ads data are online job posts from the Real-Time Intelligence (RTI) data set, produced wholly by Chmura and gleaned from over 30,000 websites. Data are subject to revision. Data in this report reflect ads meeting criteria in the Query Definition, including being active during the Query Definition time-frame and being advertised for any Zip Code Tabulation Area in or intersecting with the Query Definition region(s).

Historical volume is revised as additional data are made available and processed. Since many extraneous factors can affect short-term volume of online job postings, time-series data can be volatile and should be used with caution.

All ad counts represent deduplicated figures. It is not always possible to conclusively identify duplicate ads with the information provided. Characteristics that impact this determination are the wording of the ads, volume of information provided, the timing of the ads, and the sites where the ads appear. Roughly two-thirds of ad volume is removed through this process.

RTI wages are extracted from job postings as given and are analyzed and converted into hourly or annual formats. When wages provided are hourly, the conversion to annual wages assumes full-time, year-long employment. When a wage is given as a range, a single wage is selected within that range based upon our analysis of the "most likely" wage given those circumstances. Displayed wages in RTI may not include commissions or overtime, depending upon how the source ads present those wages. After all analysis and cleaning, roughly 12% of all job postings provide a usable wage.

Approximately 4% of jobs are omitted from the RTI duration data due to quality reasons. For example, ads open for an inordinately long period—indicating that it is likely being left up not for one, but for multiple openings—are excluded from the duration data. These ads are also excluded from the count of "Ads Closed."

FAQ

How does the time period work?

Online job postings included in this report are those that meet the Query Definition parameters (shown above) and that were active at any point in the specified time frame preceding the date this report is generated. As such, this report may include some ads that were closed as of the date of this report; in addition, this report may include some ads that were first posted prior to the specified time frame referred to above.

What are "active" and "closed" ads?

An "active" ad refers to an online job posting that was still posted online when Chmura's web crawler last viewed that page, which occurs at least once a week. An ad is considered "closed" if Chmura's web crawler no longer sees the ad listed or if the ad is specifically designated on the site as no longer being active.

Is every online-job-ad website included in these data?

We make every attempt to catch all of the significant job-posting websites across the United States, but we cannot guarantee complete, 100% coverage. If you have any questions about a particular website, please don't hesitate to ask.

Appendix F:
Christian Hospital Report

JOBSeQ

Real-Time Intelligence Report

Query Definition

Online job postings for the 180 day period ending 11/16/2020, meeting all of the following criteria:

- This region: St. Louis, MO-IL MSA
- This occupation: Respiratory Therapists (29-1126)
- Postings where the employer name contains: "Christian Hospital"

Summary

Total Job Posts	Occupations	Locations	Employers	Certifications	Hard Skills	Soft Skills	Job Titles	Education Levels	Programs	Job Types
13	1	1	1	0	1	10	9	2	0	2

Openings by Occupations

Occupations

SOC	Occupation	Total Ads	
29-1126.00	Respiratory Therapists	13	

Openings by Locations

Locations

Location	Total Ads	
63136	13	

Openings by Employers

Employers

Employer Name	Total Ads	
Christian Hospital	13	

Openings by Hard Skills

Hard Skills

Skill Name	Total Ads	
Wound Care	12	

Openings by Soft Skills

Soft Skills

Skill Name	Total Ads
Critical Thinking	13
Supervision/Management	13
Time Management/Time Utilization	13
Troubleshooting	11
Accountable/Responsible/Reliable/Dependable/Trustworthy	2
Cooperative/Team Player	2
Dispute Resolution/Conflict Resolution/Diplomacy/Problem Resolution	2
Good Judgment	2
Initiative	2
Leadership	2

Openings by Job Titles

Job Titles

Job Title	Total Ads
Registered Respiratory Therapist, RRT	4
PRN Registered Respiratory Therapist, RRT	2
Part-time Registered Respiratory Therapist, RRT	1
Registered Respiratory Therapist, RRT (Full-Time/Day)	1
Registered Respiratory Therapist, RRT (PRN)	1
Registered Respiratory Therapist, RRT (Part-Time/Day)	1
Respiratory Care Coordinator, RRT	1
Respiratory Shift Coordinator (Nights)	1
Respiratory Therapist - $10K Sign On Bonus	1

Openings by Education Levels

Education Levels

Minimum Education Level	Total Ads
Bachelor's degree	8
Associate's degree	5

Openings by Job Types

Job Types

Type	Total Ads
Full-Time	8
Part-Time	2
Unspecified/other	3

Data Notes

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Historical volume is revised as additional data are made available and processed. Since many extraneous factors can affect short-term volume of online job postings, time-series data can be volatile and should be used with caution.

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RTI wages are extracted from job postings as given and are analyzed and converted into hourly or annual formats. When wages provided are hourly, the conversion to annual wages assumes full-time, year-long employment. When a wage is given as a range, a single wage is selected within that range based upon our analysis of the "most likely" wage given those circumstances. Displayed wages in RTI may not include commissions or overtime, depending upon how the source ads present those wages. After all analysis and cleaning, roughly 12% of all job postings provide a usable wage.

Approximately 4% of jobs are omitted from the RTI duration data due to quality reasons. For example, ads open for an inordinately long period—indicating that it is likely being left up not for one, but for multiple openings—are excluded from the duration data. These ads are also excluded from the count of "Ads Closed."

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How does the time period work?

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Is every online-job-ad website included in these data?

We make every attempt to catch all of the significant job-posting websites across the United States, but we cannot guarantee complete, 100% coverage. If you have any questions about a particular website, please don't hesitate to ask.

Appendix G:
Budget

Bachelor's Degree - Respiratory Therapy

Academic Year	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Projected Students (Freshman - Senior)	8	20	35	40	45
Revenue:					
Tuition $116.50/cr for 30 hrs	$ 27,960.00	$ 69,900.00	$ 122,325.00	$ 139,800.00	$ 157,275.00
Total Revenue	**$ 27,960.00**	**$ 69,900.00**	**$ 122,325.00**	**$ 139,800.00**	**$ 157,275.00**
Personnel Cost (Faculty and Staff):					
Program Coordinator Salary	$ 18,343.00	$ 18,343.00	$ 18,343.00	$ 18,343.00	$ 18,343.00
Program Coordinator Salary + Benefits	$ 24,843.76	$ 25,027.19	$ 25,210.62	$ 25,394.05	$ 25,577.48
Clinical Coordinator Salary	$ 16,015.60	$ 16,015.60	$ 16,015.60	$ 16,015.60	$ 16,015.60
Clinical Coordinator Salary + Benefits	$ 21,691.53	$ 21,851.68	$ 22,011.84	$ 22,172.00	$ 22,332.15
Faculty Salary	$ 133,840.00	$ 200,760.00	$ 200,760.00	$ 200,760.00	$ 200,760.00
Faculty Salary + Benefits	$ 181,272.90	$ 273,916.94	$ 275,924.54	$ 277,932.14	$ 279,939.74
Adjunct Faculty Salary	$ -	$ 23,799.15	$ 23,799.15	$ 23,799.15	$ 23,799.15
Adjunct Faculty Salary + Benefits	$ -	$ 25,786.38	$ 25,786.38	$ 25,786.38	$ 25,786.38
Summer Faculty	$ -	$ 30,127.50	$ 30,127.50	$ 30,127.50	$ 30,127.50
Summer Faculty + Benefits	$ -	$ 41,105.96	$ 41,407.24	$ 41,708.51	$ 42,009.79

Summer Adjunct Faculty	$ -	$ 4,407.25	$ 4,407.25	$ 4,407.25	$ 4,407.25
Summer Adjunct + Benefits	$ -	$ 4,775.26	$ 4,775.26	$ 4,775.26	$ 4,775.26
Staff Salary	$ 6,477.20	$ 6,477.20	$ 6,477.20	$ 6,477.20	$ 6,477.20
Staff Salary + Benefits	$ 8,985.17	$ 9,049.94	$ 9,114.72	$ 9,179.49	$ 9,244.26
Subtotal Personnel Cost	**$ 236,793.36**	**$ 401,513.36**	**$ 404,230.59**	**$ 406,947.82**	**$ 409,665.06**
Expenses:					
Accreditation	$ 2,250.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00
Construction	$ 460,000.00	$ -	$ -	$ -	$ -
Furniture	$ 15,000.00				
Equipment	$ 700,000.00	$ -	$ -	$ -	$ -
Marketing / Recruiting	$ 5,000.00	$ 5,000.00			
General Expenses	$ 10,000.00	$ 6,800.00	$ 6,800.00	$ 6,800.00	$ 6,800.00
Professional Development	$ 2,000.00	$ 3,000.00	$ 3,000.00	$ 3,000.00	$ 3,000.00
Subtotal Expenses	**$ 1,194,250.00**	**$ 15,800.00**	**$ 10,800.00**	**$ 10,800.00**	**$ 10,800.00**
Total Personnel Cost and Expenses	**$ 1,431,043.36**	**$ 417,313.36**	**$ 415,030.59**	**$ 417,747.82**	**$ 420,465.06**
Contribution to the College	**$ (1,403,083.36)**	**$ (347,413.36)**	**$ (292,705.59)**	**$ (277,947.82)**	**$ (263,190.06)**

Appendix H:
BSRC Curriculum

Recommended Academic Plan
St. Louis Community College
Bachelor's of Science in Respiratory Care

Year 1 – Semester 1 (Fall)	
Course	**Credits**
ENG101 Composition I **(MOTR ENGL 100)**	3
SOC101 Intro to Sociology **(MOTR SOCI 101)**	3
BIO111 General Biology **(MOTR BIOL 100L)**	4
Civics **(MOTR HIST 101, MOTR HIST 102, MOTR HIST 101AA, MOTR HIST 102AA, MOTR POSC 101)**	3
Subtotal	**13**

Year 1 – Semester 2 (Spring)	
Course	**Credits**
COM107 Public Speaking **(MOTR COMM 107)**	3
MTH140 Intermed Algebra OR MTH160 Precalc Algebra	3
ENG102 Composition II **(MOTR ENGL 200)**	3
HS100 Medical Terminology	3
Subtotal	**12**

Year 2 – Semester 1 (Fall)	
Course	**Credits**
BIO207 Anatomy & Physiology I **(MOTR LIFS 150 LAP)**	4
CHEM105 General Chemistry I **(MOTR CHEM 150L)**	5
BIO203 Microbiology	4
MTH180 Introduction to Statistics **(MOTR MTH 110)**	3
Subtotal	**16**

Year 2 – Semester 2 (Spring)	
Course	**Credits**
PHL109 Bio-medical Ethics	3
HS200 Health Literacy	3
PSY200 General Psychology **(MOTR PSYC 100)**	3
BIO208 Anatomy & Physiology II	4
COM200 Communication across Cultures **(MOTR SBSC 101)**	3
Subtotal	**16**

Year 3 – Semester 1 (Fall)	
Course	**Credits**
RC110 Cardiopulmonary A&P	3
RC120 Fundamentals of Respiratory Care	6
RC125 Fundamentals of Respiratory Care Lab	2
RC145 Pharmacology	3
RC175 Clinical Practice I	1
Subtotal	**15**

Year 3 – Semester 2 (Spring	
Course	**Credits**
RC150 Respiratory Care Practices with Lab	4
RC160 Mechanical Ventilation I with Lab	4
RC180 Cardiopulmonary Diseases	3
RC195 Clinical Practice II	1
HS250 Psychology of Death and Dying	3
Subtotal	**15**

Year 3 – Semester 3 (Summer)	
Course	**Credits**
RC200 Adult Critical Care	3
RC224 Neonatal Respiratory Care	2
RC235 Clinical Practice III	1
Subtotal	**6**

Year 4 – Semester 1 (Fall)	
Course	**Credits**
RC226 Pediatric Respiratory Care	2
RC225 Neonatal/Pediatric Respiratory Care Lab	1
RC215 Advanced Critical Care Techniques	3
RC216 Advanced Critical Care Techniques Lab	1
RC240 Respiratory Care Specialties	3
RC265 Clinical Practice IV	2
Subtotal	**12**

Year 4 – Semester 2 (Spring)	
Course	**Credits**
RC270 Healthcare Management	3
RC280 Healthcare Research	3
RC290 Healthcare Education	2
RC255 NBRC Review	2
RC275 Clinical Practice V	2
RC285 Clinical Practice VI Electives	3
Subtotal	**15**

Total Hours in the Program: 120

Appendix I:
NBRC Matrix

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program #_____)	List Course Number(s)
I. PATIENT DATA	
A. Evaluate Data in the Patient Record	
1. Patient history , for example, • history of present illness (HPI) • orders • medication reconciliation • progress notes • DNR status / advance directives • social, family, and medical history	RC130, RC175
2. Physical examination relative to the cardiopulmonary system	RC125, RC130, RC175
3. Lines, drains, and airways, for example, • chest tube • artificial airway •vascular lines	RC150, RC215, RC216, RC235, RC265
4. Laboratory results, for example, • CBC • electrolytes • coagulation studies •sputum culture and sensitivities • cardiac biomarkers	BIO203, RC200, RC235, RC265
5. Blood gas analysis and/or hemoximetry (CO-oximetry) results	RC150, RC195, RC235, RC265, RC275
6. Pulmonary function testing results, for example •spirometry •lung volumes •DLCO	RC110, RC230, RC285
7. 6-minute walk test results	RC180, RC230
8. Imaging study results, for example, • chest radiograph • CT scan • ultrasonography and/or echocardiography • PET scan • ventilation / perfusion scan	RC125, RC130, RC200, RC195, RC 35, RC265, RC275
9. Maternal and perinatal / neonatal history, for example, • APGAR scores • gestational age • L / S ratio	RC224, RC285
10. Sleep study results. for example, •apnea-hypopnea index (AHI)	RC180, RC230, RC 85
11. Trends in monitoring results	
a. fluid balance	RC 200, RC 235, RC 265, RC 275
b. vital signs	RC125, RC130, RC150, RC175, RC195, RC235, RC265, RC275
c. intracranial pressure	RC200, RC210
d. ventilator liberation parameters	RC160, RC235, RC265, RC275
e. pulmonary mechanics	RC125, RC130, RC160
f. noninvasive, for example, • pulse oximetry • capnography • transcutaneous	RC125, RC130, RC160, RC224, RC175, RC195, RC235, RC265, RC275

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program #_____)	List Course Number(s)
g. cardiac evaluation/monitoring results, for •ECG •hemodynamic parameters	RC200, RC235, RC265, RC275
12. Determination of patient's pathophysiological state	RC125, RC130, RC180
B. Perform Clinical Assessment	
1. Interviewing a patient to assess	
a. level of consciousness and orientation, emotional state, and ability to cooperate	RC125, RC130, RC175, RC195
b. level of pain	RC125, RC130, RC175, RC195
c. shortness of breath, sputum production, and exercise tolerance	RC125, RC130, RC175, RC195
d. smoking history	RC125, RC130, RC180, RC175, RC195
e. environmental exposures	RC125, RC130, RC180, RC175, RC195
f. activities of daily living	RC130, RC230
g. learning needs, for example, • literacy • social/culture • preferred learning style	HS100, HS200, RC130, RC290
2. Performing inspection to assess	
a. general appearance	RC125, RC130, RC 175, RC 195, RC 235, RC 265, RC 275
b. characteristics of the airway, for example, • patency • Mallampati classification • tracheal shift	RC 150, RC 235, RC 265, RC 275
c. cough, sputum amount and character	RC125, RC130, RC150, RC195, RC235, RC265, RC275
d. status of a neonate, for example • Apgar score • gestational age	RC224, RC225, RC285
e. skin integrity, for example, •pressure ulcers •stoma site	RC130, RC150, RC235, RC265, RC275
3. Palpating to assess	
a. pulse, rhythm, intensity	RC125, RC130, RC225, RC175, RC195
b. accessory muscle activity	RC125, RC130, RC175, RC195, RC235, RC265, RC275

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program #_____)	List Course Number(s)
c. asymmetrical chest movements, tactile fremitus, crepitus, tenderness, tactile rhonchi, and/or tracheal deviation	RC125, RC130, RC175, RC195
4. Performing diagnostic chest percussion	RC125, RC130, RC175, RC195
5. Auscultating to assess	
a. breath sounds	RC125, RC130, RC150, RC160, RC175, RC195, RC235, RC 265, RC275, RC285
b. heart sounds and rhythm	RC125, RC130, RC200, RC175, RC195
c. blood pressure	RC125, RC130
6. Reviewing a chest radiograph to assess	
a. quality of imaging, for example, • patient positioning • penetration •lung inflation	RC125, RC130, RC200, RC235, RC265, RC275
b. presence and position of airways, lines, and drains	RC125, RC130, RC235, RC265, RC275
c. presence of foreign bodies	RC130, RC226
d. heart size and position	RC125, RC130, RC180, RC235, RC265, RC275
e. presence of, or change in,	
(i) cardiopulmonary abnormalities for example, • pneumothorax • pleural effusion •pulmonary edema • consolidation • pulmonary edema •pulmonary artery size	RC130, RC180, RC235, RC265, RC275
(ii) diaphragm, mediastinum, and/or trachea	RC125, RC130, RC235, RC265, RC275
C. Perform Procedures to Gather Clinical Information	
1. 12-lead ECG	RC200, RC215, RC216
2. Noninvasive monitoring, for example, • pulse oximetry • capnography • transcutaneous	RC125, RC130, RC150, RC 160, RC224
3. Peak flow	RC125, RC130, RC180, RC226, RC230, RC285
4. Mechanics of spontaneous ventilation linked to tidal volume, minute volume, and maximal inspiratory pressure, and vital capacity	RC125, RC130, RC160, RC235, RC265, RC275
5. Blood gas sample collection	RC150, RC195, RC235, RC265, RC275

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program #_____)	List Course Number(s)
6. Blood gas analysis and/or hemoximetry (CO-oximetry)	RC150, RC195, RC235, RC265, RC275
7. Oxygen titration with exercise	RC230, RC285
8. Cardiopulmonary calculations, for example, • $P(A\text{-}a)O_2$ • V_D / V_T • P / F • OI	RC110, RC150, RC160, RC180, RC200, RC224, RC226, RC235, RC265, RC275
9. Hemodynamic monitoring	RC200, RC215, RC265, RC275
10. Pulmonary compliance and airways resistance	RC110, RC160, RC215, RC216, RC235, RC265, RC275
11. Plateau pressure	RC110, RC160, RC215, RC216, RC265, RC275
12. Auto-PEEP determination	RC160, RC215, RC216, RC265, RC275
13. Spontaneous breathing trial (SBT)	RC160, RC215, RC216, RC235, RC265, RC275
14. Apnea monitoring	RC224, RC285
15. Apnea test (brain death determination)	RC200, RC215, RC216
16. Overnight pulse oximetry	RC180, RC230
17. CPAP / NPPV titration during sleep	RC160, RC180, RC285
18. Cuff management, for example, •tracheal •laryngeal	RC150, RC235, RC265, RC275
19. Sputum induction	RC120, RC125, RC130
20. Cardiopulmonary stress testing	RC230, RC285
21. 6-minute walk test	RC180, RC230, RC285
22. Spirometry outside or inside a pulmonary function laboratory	RC230, RC285
23. DLCO inside a pulmonary function laboratory	RC110, RC230, RC285
24. Lung volumes inside a pulmonary function laboratory	RC230, RC285
25. Tests of respiratory muscle strength- MIP and MEP	RC125, RC130, RC180, RC230, RC235, RC265, RC275, RC285
26. Therapeutic bronchoscopy	RC150, RC200, RC214, RC215, RC235, RC265, RC275, RC285

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program #_____)	List Course Number(s)
D. Evaluate Procedure Results	
1. 12-lead ECG	RC200, RC235, RC265
2. Noninvasive monitoring, for example, • pulse oximetry • capnography • transcutaneous	RC120, RC130, RC224, RC225, RC195, RC235, RC265
3. Peak flow	RC130, RC240, RC275
4. Mechanics of spontaneous ventilation linked to tidal volume, minute volume, maximal inspiratory pressure, and vital capacity	RC130, RC160, RC240, RC235, RC265
5. Blood gas analysis and/or hemoximetry (CO-oximetry)	RC130, RC150, RC195, RC235, RC265
6. Oxygen titration with exercise	RC120, RC240, RC275
7. Cardiopulmonary calculations, for example, • $P(A\text{-}a)O_2$ • V_D / V_T • P / F • OI	RC110, RC150, RC160, RC226, RC215
8. Hemodynamic monitoring	RC110, RC200, RC235, RC265
9. Pulmonary compliance and airways resistance	RC110, RC160, RC215, RC195, RC235, RC265
10. Plateau pressure	RC110, RC160, RC215, RC195, RC235, RC265
11. Auto-PEEP	RC160, RC215, RC195, RC235, RC265
12. Spontaneous breathing trial (SBT)	RC160, RC215, RC235, RC265
13. Apnea monitoring	RC224, RC275
14. Apnea test (brain death determination)	RC200
15. Overnight pulse oximetry	RC180, RC240, RC275
16. CPAP / NPPV titration during sleep	RC160, RC215, RC195, RC235, RC265
17. Cuff status, for example, •laryngeal •tracheal	RC150, RC195, RC235, RC 265
18. Cardiopulmonary stress testing	RC240, RC275
19. 6-minute walk stress testing	RC240, RC275
C20. Spirometry outside or inside a pulmonary function laboratory	RC240, RC275

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program #_____)	List Course Number(s)
22. DLCO inside a pulmonary function laboratory	RC110, RC240, RC275
23.Tests of respiratory muscle strength-MIP and MEP	RC130, RC160, RC235, RC265
E. Recommend Diagnostic Procedures	
1. Testing for tuberculosis	RC180
2. Laboratory tests, for example, • electrolytes • CBC •coagulation studies •sputum culture and sensitives •cardiac biomarkers	RC130, RC200, RC235, RC265
3. Imaging studies	RC130, RC150, RC160. RC180, RC224, RC226
4. Bronchoscopy	RC150, RC200, RC215, RC275
a. diagnostic	RC150, RC200 RC215, RC275
b. therapeutic	RC150, RC200, RC215, RC275
5. Bronchoalveolar lavage (BAL)	RC200, RC215, RC265, RC275
6. Pulmonary function testing	RC240, RC275
7. Noninvasive monitoring, for example, • pulse oximetry • capnography • transcutaneous	RC120, RC130, RC150, RC160, RC224, RC226, RC175, RC195, RC235, RC265
8. Blood gas and/or hemoximetry (CO-oximetry)	RC130, RC150, RC160, RC215, RC195, RC235, RC265
9. ECG	RC200, RC235, RC265
10. Exhaled gas analysis, for example, • CO_2 • CO • FENO	RC150, RC240
11. Hemodynamic monitoring	RC110, RC200, RC235, RC265
12. Sleep studies	RC180, RC240, RC275
13. Thoracentesis	RC180, RC215
II. TROUBLESHOOTING AND QUALITY CONTROL OF DEVICES, AND INFECTION CONTROL	
A. Assemble and Troubleshoot Equipment	
1. Medical gas delivery interfaces, for example, •mask •cannula •heated high-flow nasal cannula	RC120, RC165, RC175, RC195, RC235, RC265

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program #_____)	List Course Number(s)
2. Long-term oxygen therapy	RC180, RC240, RC275
3. Medical gas delivery, metering, and/or clinical analyzing devices, for example, •concentrator •liquid system •flowmeter •regulator •gas cylinder •blender •air compressor •gas analyzers	RC120, RC165, RC175
4. CPAP/NPPV with patient interfaces	RC160, RC180, RC215, RC195, RC235, RC265
5. Humidifiers	RC120, RC165, RC175
6. Nebulizers	RC120, RC165, RC175
7. Metered-dose inhalers, spacers, and valved holding chambers	RC120, RC165, RC175
8. Dry powder inhalers (DPI)	RC120, RC165, RC175
9. Resuscitation equipment, for example, •self-inflating resuscitator •flow-inflating resuscitator •AED	RC120, RC150, RC224, RC225, RC195, RC235, RC265
10. Mechanical ventilators	RC160, RC215, RC195, RC235, RC265
11. Intubation equipment	RC150, RC224, RC225, RC195, RC235, RC265
10. Artificial airways	RC150, RC224, RC225, RC195, RC235, RC265
12. Suctioning equipment, for example, • regulator • canister • tubing • catheter	RC150, RC195, RC235, RC265
14. Blood analyzer. for example, • hemoximetry (CO-oximetry) • point-of-care • blood gas	RC150, RC195, RC235, RC 265
15. Patient breathing circuits	RC160, RC215, RC195, RC235, RC265
16. Hyperinflation devices	RC120, RC165, RC175
17. Secretion clearance devices	RC120, RC225, RC226, RC165, RC175
18. Heliox delivery device	RC120, RC226
19. Portable spirometer	RC130, RC160, RC240
20. Testing equipment in a pulmonary function laboratory	RC240, RC275
21. Pleural drainage	RC180, RC215, RC235, RC265

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program #_____)	List Course Number(s)
22.. Noninvasive monitoring, for example, • pulse oximeter • capnometer • transcutaneous	RC130, RC150, RC160, RC224, RC175, RC195, RC235, RC265
23. Bronchoscopes and light sources	RC200, RC215, RC275
24. Hemodynamic monitoring devices	
a. pressure transducers	RC200
b. catheters, for example, • arterial • pulmonary artery	RC150, RC200
B. Ensure Infection Prevention	
1. Adhering to infection prevention policies and procedures, for example, • Standard Precautions • isolation •donning/doffing	RC130, RC165, RC175, RC195, RC235, RC265
2. Adhering to disinfection policies and procedures	RC130, RC165, RC175, RC195, RC235, RC265
3. Proper handling of biohazardous materials	RC150, RC165, RC175, RC195, RC235, RC265
C. Perform Quality Control Procedures	
1. Blood analyzers	RC150, RC195, RC235, RC265
2. Gas analyzers	RC120, RC175
3. Pulmonary function equipment for testing	RC240, RC275
a. spirometry results	RC240, RC275
b. lung volumes	RC240, RC275
c. diffusing capacity (DLCO)	RC240, RC275
4. Mechanical ventilators	RC160, RC215, RC195, RC235, RC265
5. Noninvasive monitors	RC160, RC215, RC195, RC235, RC265
III. INITIATION AND MODIFICATION OF INTERVENTIONS	
A. Maintain a Patient Airway Including the Care of Artificial Airways	
1. Proper positioning of a patient	RC150, RC195, RC235, RC265

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program #_____)	List Course Number(s)
2. Recognition of a difficult airway	RC150, RC215, RC235, RC265
3. Establishing and managing a patient's airway	
a. nasopharyngeal airway	RC150, RC195
b. oropharyngeal airway	RC150, RC195
c. esophagealtracheal tubes / supraglottic airways	RC150, RC224, RC225
d. endotracheal tube	RC150, RC224, RC225, RC195, RC235, RC265
e. tracheostomy tube	RC150, RC225, RC226, RC195, RC235, RC265
f. laryngectomy tube	RC150
g. speaking valves	RC150
h. devices that assist with intubation, for example, •endotracheal tube exchanger •video laryngoscopy	RC150, RC215, RC235, RC265
4. Performing tracheostomy care	RC150, RC225, RC175, RC195, RC235, RC265
5. Exchanging artificial airways	RC150, RC215, RC235, RC265
6. Maintaining adequate humidification	RC120, RC160, RC175, RC195, RC235, RC265
7. Initiating protocols to prevent ventilator-associated infections	RC130, RC160, RC180, RC195, RC235, RC265
8. Performing extubation	RC150, RC195, RC235, RC265
B. Perform Airway Clearance and Lung Expansion Techniques	
1. Postural drainage, percussion, or vibration	RC120, RC175
2. Suctioning, for example, • nasotracheal • oropharyngeal	RC150, RC175, RC195
3. Mechanical devices, for example, • high-frequency chest wall oscillation • vibratory PEP • intrapulmonary percussive ventilation • insufflation / exsufflation	RC120, RC225, RC226, RC175, RC195
4. Assisted cough, for example, • huff • abdominal thrust	RC120, RC175

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program #_____)	List Course Number(s)
5. Hyperinflation therapy	RC120, RC175
6. Inspiratory muscle training	RC240, RC275
C. Support Oxygenation and Ventilation	
1. Initiating and adjusting oxygen therapy	RC120, RC160, RC165, RC175, RC195, RC235, RC265
2. Minimizing hypoxemia, for example, • patient positioning • secretion removal	RC150, RC175, RC195, RC235, RC265
3. Initiating and adjusting mask or nasal CPAP	RC160, RC180, RC195, RC235, RC265
4. Initiating and adjusting mechanical ventilation settings	
a. continuous mechanical ventilation	RC160, RC215, RC235, RC265
b. noninvasive ventilation	RC160, RC215, RC195, RC235, RC265
c. high-frequency ventilation	RC215, RC275
d. alarms	RC160, RC215, RC195, RC235, RC265
5. Recognizing and correcting patient-ventilator dyssynchrony	RC160, RC215, RC235, RC265
6. Utilizing ventilator graphics	RC160, RC215, RC235, RC265
7. Performing lung recruitment maneuvers	RC215, RC235, RC265
8. Liberating patient from mechanical ventilation	RC160, RC215, RC235, RC265
D. Administer Medications and Specialty Gases	
1. Aerosolized preparations	RC120, RC140, RC175, RC195, RC235, RC265
a. antimicrobials	RC140, RC175, RC195, RC235, RC265
b. pulmonary vasodilators	RC140, RC175, RC195, RC235, RC265
c. brochodilators	RC120, RC140, RC175, RC195, RC235, RC265
d. mucolytics/proteolytics	RC120, RC140, RC175, RC195, RC235, RC265

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program #_____)	List Course Number(s)
e. steroids	RC120, RC140, RC175, RC195, RC235, RC265
2.. Endotracheal instillation	RC224, RC225, RC275
3. Specialty gases, for example, • heliox • inhaled NO	RC120, RC224, RC226
E. Ensure Modifications are Made to the Respiratory Care Plan	
1. Treatment termination, for example, • life-threatening adverse event	RC120, RC140, RC175, RC195, RC235, RC265
2. Recommendations	
a. starting treatment based on patient response	RC120, RC130, RC140, RC165, RC175
b. treatment of pneumothorax	RC180, RC200, RC215
c. adjustment of fluid balance	RC200, RC195, RC235, RC265
d. adjustment of electrolyte therapy	RC200, RC195, RC235, RC265
e. insertion or change of artificial airway	RC150, RC224, RC226, RC195, RC235, RC265
f. liberating from mechanical ventilation	RC160, RC215, RC235, RC265
g. extubation	RC150, RC195, RC235, RC265
h. discontinuing treatment based on patient response	RC120, RC130, RC140, RC150, RC175, RC195, RC235, RC265
i. consultation from a physician specialist	RC120, RC150, RC160, RC180, RC200, RC215, RC195, RC235, RC265
3. Recommendations for changes	
a. patient position	RC120, RC160, RC175, RC195, RC235, RC265
b. oxygen therapy	RC120, RC225, RC165, RC175, RC195, RC235, RC265
c. humidification	RC120, RC160, RC175, RC195
d. airway clearance	RC120, RC160, RC195, RC235, RC265
e. hyperinflation	RC120, RC175

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program #_____)	List Course Number(s)
f. mechanical ventilation	RC160, RC215, RC235, RC265
4. Recommendations for pharmacologic interventions	
a. bronchodilators	RC120, RC180, RC140, RC175, RC195, RC235, RC265
b. anti-inflammatory drugs	RC140, RC180, RC175, RC195, RC235, RC265
c. mucolytics and proteolytics	RC140, RC180, RC175, RC195, RC235, RC265
d. Aerosolized antibiotics	RC140, RC180, RC175, RC195, RC235, RC265
e. Inhaled pulmonary vasodilators	RC140, RC180, RC175, RC195, RC235, RC265
f. cardiovascular	RC200, RC175, RC195, RC235, RC265
g. antimicrobials	RC140, RC175, RC195, RC235, RC265
h. sedatives and hypnotics	RC140, RC195, RC235, RC265
i. analgesics	RC140, RC195, RC235, RC265
i. narcotic antagonists	RC140, RC195, RC235, RC265
j. benzodiazepine antagonists	RC140, RC195, RC235, RC265
l. neuromuscular blocking agents	RC140, RC195, RC235, RC265
m. diuretics	RC140, RC195, RC235, RC265
n. surfactants	RC224, RC225, RC275
o. changes to drug, dosage, administration, frequency, mode, or concentration	RC140, RC175, RC195, RC235, RC265
F. Utilize Evidence-Based Practice	
1. Classification of disease severity	RC180, RC175, RC195, RC235, RC265
2. Recommendations for changes in a therapeutic plan when indicated	RC180, RC175, RC195, RC235, RC265
3. Application of guidelines, for example, • ARDSNet • NAEPP •GOLD	RC180, RC215, RRC175, RC195, RC235, RC265
G. Provide Respiratory Care in High-Risk Situations	

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program #_____)	List Course Number(s)
1. Emergency	
a. cardiopulmonary emergencies, excluding CPR	RC120, RC200, RC224, RC225, RC175, RC195, RC235, RC265
b. disaster management	RC240
c. medical emergency team (MET) / rapid response team	RC200, RC195, RC235, RC265
2. Interprofessional communication	RC130, RC165, RC175, RC195, RC235, RC265
3. Patient transport	
a. land / air between hospitals	RC224, RC275
b. within a hospital	RC160, RC215, RC175, RC195, RC235, RC265
H. Assist a Physician / Provider in Performing Procedures	
1. Intubation	RC150, RC195, RC235, RC265
2. Bronchoscopy	RC150, RC200, RC215, RC235, RC265, RC275
3. Specialized bronchoscopy, for example, • endobronchial ultrasound (EBUS) • navigational bronchoscopy (ENB)	RC200, RC275
4. Thoracentesis	RC180, RC200, RC215
5. Tracheostomy	RC150, RC215
6. Chest tube insertion	RC200, RC215
7. Insertion of arterial or venous catheters	RC150, RC200, RC215
8. Moderate (conscious) sedation	RC140, RC200, RC215
9. Cardioversion	RC200
10. Withdrawal of life support	RC200, RC15, RC235, RC265
I. Conduct Patient and Family Education	
1. Safety and infection control	RC130, RC165, RC175, RC195, RC235, RC265

NBRC Therapist Combined Detailed Content Outline Comparison with Proposed Curriculum (Program #_____)	List Course Number(s)
2. Home care and related equipment	RC120, RC240, RC275
3. Lifestyle changes, for example, •smoking cessation •exercise	RC180, RC240, RC290
4. Pulmonary rehabilitation	RC240, RC290, RC275
5. Disease/ condition management, for example, •asthma •COPD •CF •tracheostomy care •ventilator dependent	RC150, RC180, RC240, RC290

December 17, 2020

Mara Woody, Ed.D.
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Assistant Commissioner Woody,

Thank you for the opportunity to provide feedback on St. Louis Community College's (STLCC's) and Ozark Technical Community College's (OTC's) Phase II proposals for a Bachelor of Science in Respiratory Therapy. As the proposals are substantially similar, we are responding to both proposals with this letter. We continue to believe that STLCC and OTC, which meet all relevant statutory and departmental requirements and currently offer high-quality two-year degrees in respiratory therapy, are in an appropriate position to build quality programs in this arena.

1. Market Analysis & Unmet Workforce Needs

Both proposals provide a detailed analysis of the labor market need for this degree, as well as the existing supply of graduates in the state. As we move forward, it is important that we consider each individual proposal's contributions both in relation to the overall unmet workforce need and in relationship to other proposals.

For example, the proposals indicate 220 annual job openings by 2026. STLCC projects that it will produce 15 graduates per year, and OTC projects approximately 30 graduates per year. Both also acknowledge that Missouri institutions currently produce an average of 163 graduates in the field per year. Taken together, this indicates that we can expect an estimated 208 graduates per year, once STLCC and OTC get their programs up-and-running. This leaves an unmet need of about 12 jobs. This number, updated as appropriate based on workforce projections, should be considered when reviewing additional proposals for respiratory therapy programs.

2. Program Costs

We appreciate STLCC and OTC's willingness to provide an honest assessment of the costs associated with providing a respiratory therapy program in a high-quality manner. Both institutions project losses in the initial years of the program, with STLCC projecting a loss of $2.5 million over the first five years. Both institutions highlight their willingness to absorb these revenue losses and note that, "most health science training programs are expensive to implement and sustain." We agree. In light of this, it is worth considering alternative pricing models that enable community colleges to offer these degrees in a way that is financially self-sustaining, while still retaining their commitment to affordability.

Standard estimates would suggest it costs 50% more to offer upper-division coursework in healthcare fields relative to lower-division coursework in those fields, and 100% more expensive to offer a healthcare degrees as compared to many social science degrees. The National Study of Instructional Costs and Productivity produced by the University of Delaware is an excellent resource for exploring the differential costs across fields of starting a new degree, as well as the differential costs of providing lower-division coursework and upper-division coursework. We'd be happy to provide more information on this point, as needed. The bottom line is that, as community colleges offer bacelaureate degrees, we should consider realistic pricing models that enable them to do so in a way that is financially viable in the long-term.

3. Budget Forecasts

One additional observation is that the budget provided in OTC's proposal contains only one year of projected expenditures and costs, compared with STLCC's five-year window. While not a major issue, the five-year window is what has typically been required in the past. Clarifying what is expected will allow for greater consistency and improved comparisons.

As always, thank you for the opportunity to submit this public comment. We commend both institutions for submitting very high-quality proposals. Based on its use of footnotes to validate information and its detailed budget, we believe STLCC's is an exemplar proposal that should set the bar moving forward. We are supportive of STLCC and OTC's efforts to offer bachelor's degrees in respiratory therapy.

Sincerely,

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December 23, 2020

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P.O. Box 1469
Jefferson City, MO 65101-1469

Last week, the University of Missouri System submitted a letter relating to the St. Louis Community College (STLCC) and Ozark Technical Community College's (OTC) proposals to offer bachelor's degrees in respiratory therapy. In addition to providing larger comments, we also reached out to the MU School of Health Professions (SHP) to acquire further input of a technical nature in the spirit of a peer review. We provided our initial comments in an effort to meet the deadline and without knowing for certain when we would receive additional comments from our colleagues at SHP. We are including these comments, below, to further support MDHEWD's review and to provide additional support to STLCC and OTC as they prepare to enter this space at the baccalaureate level.

Our overall position indicated in our original letter has not changed. We support STLCC and OTC's Phase II proposals.

- One area the proposal does not fully address is the plan to ensure that the Florissant Valley classroom and laboratory facilities will be equivalent to those at the Forest Park campus as this is a CoARC accreditation standard (4.08)
- The proposal notes that paid clinical instructors will be utilized for the BS students, but it would be beneficial to discuss if the existing clinical sites are agreeable to additional students. This is important as clinical site availability is a recurring issue for respiratory therapy programs.
- The academic plan (Appendix H) has 16 credit hours assigned to Year 2 Semester 1 (fall), which is quite heavy with 3 core science classes. Consider rebalancing that with the semester before or after as both of those are quite a bit less daunting.
- As a point of clarification for p. 3, MU offers a degree advancement respiratory therapy program that is in the process of receiving CoARC accreditation.

Please let us know if you have any questions.

Thank you,

Steven Chaffin
Research Consultant
Office of Academic Affairs
University of Missouri System

Coalition for Baccalaureate and Graduate Respiratory Therapy Education
Corporate Address: PO Box 392, 27 Spruce Lane
Tenants Harbor, Maine 04860-0392

December 29, 2020

Zora Mulligan, Commissioner of Higher Education
Missouri Department of Higher Education and Workforce Development
P.O. Box 1469
Jefferson City, MO 65101
RE: Ozark Technical Community College

Dear Commissioner Mulligan:

The leadership of CoBGRTE supports the development of a baccalaureate degree respiratory care programs at Ozark Technical Community College. Producing new respiratory therapists with the knowledge and skills needed for the 21st century has become increasingly difficult within the confines of a two-year program. In addition, without a baccalaureate or higher degree, respiratory therapists are often not recognized as professionals by government agencies, third party payers, the uniformed services, labor unions, and others. While the curricular needs to produce a competent therapist continue to grow, some state governments have limited associate degree credit hours in community colleges to as little as 60 semester hours. There is a need to increase the number of respiratory therapists with advanced levels of training and education to meet the demands of providing services requiring complex cognitive abilities and patient management skills. Therefore, the CoBGRTE strongly encourages the continuing development of baccalaureate and graduate education programs. The development of baccalaureate programs from associate degree respiratory therapy (RT) programs is especially important as the field moves to a professional workforce with a BSRC or a master's degree as the entry level. This will require doubling the current number of baccalaureate programs and larger graduating classes. The AARC Human Resource Study addresses the anticipated shortage of RT faculty members by reporting the planned retirement of 50% of program directors by 2024.[1] Remarkable is that 35% of RT educators responding to the Survey of Education Programs in 2014 reported a problem recruiting faculty.[1]

In 2009, the American Association for Respiratory Care (AARC) published the first of three reports on the AARC 2015 and Beyond conferences on the future direction of the profession. The first report addressed the following areas:[2]

- *What will the future health care system look like?*
- *What will be the roles and responsibilities of RTs in the future system?*

The AARC Board of Directors (BOD) accepted the direction for the future of health care and RTs roles and responsibilities as recommended in this report in April of 2012. The second report was published in 2010 addressed the competencies needed by respiratory therapists.[3] The AARC BOD accepted the competencies as recommended in July of 2012. The third report,[4] published in 2011, addressed the mechanisms by which the respiratory care workforce would acquire these needed competencies.[4] Among other steps, this report recommended that entry level respiratory care

education be (at a minimum) the baccalaureate level and the RRT credential be the entry level credential by the year 2020. In 2016 the AARC published its long awaited position paper on Respiratory Therapist Education.[5] In publishing this paper, the AARC has taken a crucial step in advancing Respiratory Care as a true profession in the eyes of the medical community and governmental agencies. The AARC is on record that the education needed to enter professional practice as a respiratory therapist must be at the baccalaureate level:

> *"Training and education for entry-to-practice as a respiratory therapist should be provided within programs awarding a bachelor's or master's degree in respiratory care (or equivalent degree titles) and all newly accredited respiratory care educational programs must award, as a minimum, the bachelor's degree in respiratory care (or equivalent degree title).*[5]"

The AARC position statement correctly explains that educational preparation for entry into practice requires a program of study longer than the two-years that can be offered by associate degree programs, especially when state governments restrict many of these programs in the number of credit hours they can offer.

Also, very important is the supportive response to the AARC position paper by the Commission on Accreditation for Respiratory Care (CoARC Response published on January 25, 2016). See excerpt below).[6]

> "The CoARC acknowledges that respiratory therapists with baccalaureate and graduate education are needed in larger numbers to serve as educators, researchers, managers, clinical specialists, and other roles throughout the healthcare delivery system. Likewise, the CoARC recognizes the prominent role played by associate degree respiratory therapy programs. To support the increasing extent and complexity of the skills required of graduates of respiratory care programs and the associated movement of the profession toward baccalaureate and graduate degrees, the CoARC Board of Commissioners, in collaboration with the AARC, approved the following change to Standard 1.01 in the *Accreditation Standards for Entry into Respiratory Care Professional Practice,* to be effective January 1, 2018:

Except as provided in the following sentence, an educational sponsor must be a post-secondary academic institution accredited by a regional or national accrediting agency that is recognized by the U.S. Department of Education (USDE) and ~~must be~~ authorized under applicable law or other acceptable authority to award graduates of the program a ~~an associate or higher~~ baccalaureate or graduate degree upon ~~at the~~ completion of the program.

I hope my letter demonstrates the level of support for new baccalaureate programs needed to produce competent respiratory therapists for the 21st century over the next 10 years. In 2019, the AARC has published a position paper stated that by 2030 all RTs entering practice should hold a baccalaureate degree in respiratory care.[7] It will be important, during the next decade that outstanding respiratory care programs like the one offered by Ozark Technical Community College be approved to offer a baccalaureate degree. The number of BSRT and MSRT entry programs has increased but not at pace meet the needed to supply the workforce with RRTs with adequate education to meet the demands of complex current day healthcare delivery.[8] There are approximately 40 degree advancement program, however more are needed.[9]

I hope the references above will help the Missouri Department of Higher Education and Workforce Development feel confident in approving this important new baccalaureate RT program at Ozark Technical Community College. Please contact me at ckane@bellarmine.edu if I can provide additional information.

Sincerely,

Christy Kane, PhD, RRT, RRT-ACCS, RRT-NPS, AE-C, FAARC
President, CoBGRTE

REFERENCES

1. Shaw R, Benavente J. AARC Human Resource Survey of Education Programs. 2014:1-102.
2. Kacmarek RM, Durbin CG, Barnes TA, Kageler WV, Walton JR, O'Neil EH. Creating a vision for respiratory care in 2015 and beyond. Respir Care 2009;54(3):375-389.
3. Barnes TA, Gale DD, Kacmarek RM, Kageler WV. Competencies needed by graduate respiratory therapists in 2015 and beyond. Respir Care 2010;55(5):601-616.
4. Barnes TA, Kacmarek RM, Kageler WV, Morris MJ, Durbin CG, Jr. Transitioning the respiratory therapy workforce for 2015 and beyond. Respir Care 2011;56(5):681-690.
5. AARC. AARC Calls for a Shift to RT Bachelor's Degree Programs. AARC, 2016, http://www.aarc.org/aarc-calls-for-a-shift-to-rt-bachelors-degree-programs/ Accessed: January 5, 2016.
6. CoARC. CoARC Communication to our Communities of Interest: Response to AARC Position Statement on Respiratory Therapist Education. CoARC, 2016, http://www.coarc.com/ Accessed: January 28, 2016.
7. AARC Issue Paper: Entry to Respiratory Therapy Practice 2030. September 2019; https://www.aarc.org/wp-content/uploads/2019/09/issue-paper-entry-to-respiratory-therapy-practice-2030.pdf.
8. CoBGRTE list of BSRT and MSRT entry programs: BSRT and MSRT Entry Programs December 29, 2020
9. CoBGRTE List of degree advancement programs: ASRT to BSRT & MSRC Degree Advancement Programs December 29, 2020.

Missouri Society for Respiratory Care

Missouri Society for Respiratory Care
213 East Capitol
Jefferson City, Missouri 65101
314-280-2628
Robin.Kidder@bjc.org
http://www.mosrc.org/home.html

Date: January 4th, 2020

MSRC Supportive Statement of Respiratory Therapy Programs

The Missouri Society of Respiratory Care supports producing more Respiratory Therapists in the state of Missouri in areas that are underserved. There are currently eight Respiratory Therapy schools in the state of Missouri. The rationale for support of an increase in Respiratory Therapy Schools include:

- Central Missouri area – Health Care Facilities such as Lake Regional, PRMC, Texas County and many others report they have barriers to hiring Respiratory Therapists, as there is not a school in their area.
- Current growth rate from the BLS shows we will need an additional 960 therapists between 2018 and 2029. That is approx. 106 additional therapists every year. (This is growth, not related to loss).
- Current loss rate from retirement based on the AARC survey demonstrates that we will lose 1675 therapists between 2014 and 2027 (50% retirement rate). That results in 902 between 2020-2027, or 129 per year.

    - This equates to Respiratory Therapy programs across the state will need to produce an average of 235 therapists per year to meet project needs (106 growth, 129 loss). Given that the current production rate is 114 therapists per year (three avg of the 8 program), the state will be short 124 therapists per year at the current rate.

References

1) AARC Resource Survey - https://www.aarc.org/wp-content/uploads/2018/06/aarc-hr-study-rt.pdf

2) BLS projections of MO RT change http://www.projectionscentral.com/Projections/LongTerm

3) BLS projection of RT in the US https://www.bls.gov/ooh/healthcare/respiratory-therapists.htm

4) Average RT MO students (2016-2018) CoARC 2019 Annual RCS Outcomes for Entry into RC Practice and SDS Certificate Programs *Based on 2019 Annual Report of Current S

Respectfully,

Missouri Society for Respiratory Care, Board of Directors

From:	MCGRADY, TRACY M.
To:	Woody, Mara
Cc:	Erickson, Alicia; Langrehr, Andrew; Higdon, Hal; Graham, Steve; LIGHT, AARON E.
Subject:	FW: Public Comment
Date:	Tuesday, December 22, 2020 11:19:01 AM
Attachments:	STLCC-OTC Respiratory Therapy Phase II Proposal Letter_12.17.20.pdf BSRT - 5 Year Budget Projection.xlsx

Good morning, Dr. Woody -

Thank you for the opportunity to respond to the attached letter from Dr. Steve Graham of the University of Missouri System.

OTC appreciates MU's continued support of our proposal. Dr. Graham gave valuable feedback regarding both program costs and budget. Our response is provided here.

Program Costs: As we note in our proposal, OTC's existing Respiratory Therapy associate-level program does not currently cover the costs it takes to run the caliber of program offered, so it is not expected that a bachelor's-level program would do so either. As it is our mission, Ozarks Technical Community College understands the importance of providing a trained workforce for our communities. Delivering highly-accredited Allied Heath instructional programs is done at a high cost; we must employ qualified faculty and maintain state-of-the-art training facilities. At the same time, we are determined to deliver instruction at an affordable cost to our students. This often creates a net loss situation for the college; however, the college has accepted and remains committed to subsidizing Allied Health programs for the greater good.

Currently, OTC sustains these programs through a tiered differential tuition structure and redirecting revenue from more profitable programs. In addition, we are supported by our taxing-district communities through local tax revenue, which supports programs that address a community need. However, Dr. Graham's suggestion of a higher tuition rate for upper-division coursework is consistent with internal discussions we have had regarding that possibility. Once the program is approved, we will more heavily weigh this option while remaining committed to our mission of affordability.

Budget Forecasts: As Dr. Graham rightly notes, OTC did not initially include a five-year budget forecast because this is not expressly stated in the statute, nor in the rule governing the comprehensive review process. However, because it helps to provide clarity and establish transparency, a revised five-year budget forecast is attached.

Thank you again for allowing OTC to respond and for sharing it with the External Review Team.

Tracy M. McGrady, Ed.D.
Provost & Vice Chancellor for Academic Affairs
Ozarks Technical Community College
1001 E. Chestnut Expressway
Springfield, MO 65802
417.447.8152

From: Erickson, Alicia <Alicia.Erickson@dhewd.mo.gov>
Sent: Friday, December 18, 2020 9:13 AM
To: MCGRADY, TRACY M. <mcgradyt@otc.edu>; Andrew Langrehr <alangrehr@stlcc.edu>
Cc: Woody, Mara <Mara.Woody@dhewd.mo.gov>; Vedenhaupt, Laura <Laura.Vedenhaupt@dhewd.mo.gov>
Subject: Public Comment

Dear Tracy and Andrew,

Attached please find a letter from the University of Missouri System office that provides feedback on the proposals to offer Bachelor of Science degrees in Respiratory Therapy/Care. If either or both of you would like to provide a response, please send it directly to Mara Woody by the close of business on December 28. You are not required to respond, though. This letter and your response, should you send one, will be shared with the review committee.

Please let me know if you have any questions and thanks, Alicia

Alicia Erickson
Senior Research Analyst|Postsecondary Policy
Missouri Department of Higher Education and Workforce Development
Cell: 217-836-6865
alicia.erickson@dhewd.mo.gov

RESPIRATORY THERAPY INSTRUCTIONAL PROGRAM - 5-Year Revenue/Expense Analysis

	BS - YEAR 1 PROJECTION	BS - YEAR 2 PROJECTION	BS - YEAR 3 PROJECTION	BS - YEAR 4 PROJECTION	BS - YEAR 5 PROJECTION
Tuition & Fees	**456,300**	**465,426**	**474,735**	**484,229**	**493,914**
Salaries & Benefits					
Program Director	102,000	104,040	106,121	108,243	110,408
Clinical Coordinator	88,000	89,760	91,555	93,386	95,254
3 FT Instructors	224,400	228,888	233,466	238,135	242,898
PT Clinical Instructors	36,900	37,638	38,391	39,159	39,942
PT Support Staff	20,700	21,114	21,536	21,967	22,406
Professional Development	10,975	11,195	11,418	11,647	11,880
Accreditations	4,550	2,100	2,100	2,100	2,100
Supplies & Services	15,500	15,810	16,126	16,449	16,778
Equipment *	72,750	0	0	0	0
Remodeling/Infill *	11,000	0	0	0	0
Program Expenses	**586,775**	**510,545**	**520,713**	**531,086**	**541,665**
COLLEGE COMMITMENT	(130,475)	(45,119)	(45,979)	(46,856)	(47,752)

*Equipment purchases are reimbursed through state grant funding up to 75% of cost. Total cost for new cohort equipment = $291k
The college's required match is 25% or approx. $72,750. This would be a first year cost only
*Lab remodel is a one-time cost that the college will fund - this is not a program expense

From: Langrehr, Andrew M.
To: Woody, Mara
Cc: Pittman, Jeff; Fickas, Julie C.; McGrady, Tracy
Subject: FW: [EXT] Public Comment
Date: Wednesday, December 23, 2020 8:43:28 AM

Dr. Woody,
Thank you for the opportunity to respond to the public comments provided by Dr. Steve Graham on behalf of the University of Missouri System. STLCC appreciates the careful analysis of our proposal and strong supportive comments provided in this letter. We will take great care in considering the alternative pricing models suggested by Dr. Graham.

Best regards,

Andrew

Andrew Langrehr, Ph.D.
Vice Chancellor for Academic Affairs
St. Louis Community College

From: Erickson, Alicia <Alicia.Erickson@dhewd.mo.gov>
Sent: Friday, December 18, 2020 9:13 AM
To: McGrady, Tracy <mcgradyt@otc.edu>; Langrehr, Andrew M. <ALangrehr@stlcc.edu>
Cc: Woody, Mara <Mara.Woody@dhewd.mo.gov>; Vedenhaupt, Laura <Laura.Vedenhaupt@dhewd.mo.gov>
Subject: [EXT] Public Comment

****External Email****

Dear Tracy and Andrew,

Attached please find a letter from the University of Missouri System office that provides feedback on the proposals to offer Bachelor of Science degrees in Respiratory Therapy/Care. If either or both of you would like to provide a response, please send it directly to Mara Woody by the close of business on December 28. You are not required to respond, though. This letter and your response, should you send one, will be shared with the review committee.

Please let me know if you have any questions and thanks, Alicia

Alicia Erickson
Senior Research Analyst|Postsecondary Policy
Missouri Department of Higher Education and Workforce Development

Cell: 217-836-6865
alicia.erickson@dhewd.mo.gov

<STLCC-OTC Respiratory Therapy Phase II Proposal Letter_12.17.20.pdf>

From:	Langrehr, Andrew M.
To:	Woody, Mara
Cc:	Pittman, Jeff; Fickas, Julie C.
Subject:	FW: [EXT] FW: Notice of Posting - Phase II Proposal from Ozarks Technical Community College - BS Respiratory Therapy
Date:	Tuesday, December 29, 2020 2:15:27 PM
Attachments:	image001.png STLCC-OTC Respiratory Therapy Phase II Response Packet 12.23.20.pdf

Dr. Woody,

Thank you for the opportunity to respond to the public comments concerning the STLCC BSRC proposal. We remain grateful for the support from the University of Missouri (UM) for our proposal. While the fourth bullet in the additional comments provided by Steven Chaffin is simply a clarification, we would like to provide brief responses to the other three bullets.

- STLCC is keenly aware of the CoARC accreditation standards. Last academic year we completed the Nursing and Health Sciences building on our Forest Park campus, which included facilities and equipment for our respiratory care program. We have had a successful CoARC visit in this new facility. The cost figures for that project inform the start-up costs within our BSRC proposal to provide equal quality and consistency of design. Our Program Coordinator for respiratory care, who is also a commissioner for CoARC, is already engaged with our facilities planning team to ensure we meet the CoARC standards with the FV project.

- Several of the letters of support provided in our proposal come from our clinical partners. These partners are aware that we plan to expand and this will require an increase in clinical opportunities for STLCC students. Our proposal includes staffing recommendations to depressurize this situation. With paid faculty members at the clinical site with our students it reduces a significant portion of our clinical partner's obligation as we form these agreements. We have used this method in our nursing program for years and our partners are amenable to this approach.
- We will consider this advice. The non-respiratory care courses (general education and STEM) in the recommended academic plan provided in the STLCC proposal are malleable in the sequencing. A student's schedule will depend on a variety of factors and will be decided with support from competent program advisors.

We appreciate the rigorous review of our proposal by UM and the formative comments provided.

Best regards,

Andrew

Andrew Langrehr, Ph.D.
Vice Chancellor for Academic Affairs
St. Louis Community College

From: Woody, Mara <Mara.Woody@dhewd.mo.gov>
Sent: Wednesday, December 23, 2020 4:56 PM
To: Langrehr, Andrew M. <ALangrehr@stlcc.edu>; McGrady, Tracy <mcgradyt@otc.edu>; 'LIGHT,

AARON E.' <lighta@otc.edu>; Fox, Lindsay L. <lfox40@stlcc.edu>; 'Whiteman-S@mssu.edu' <Whiteman-S@mssu.edu>; 'ajswaleh@gmail.com' <ajswaleh@gmail.com>; 'choerr@pcrmc.com' <choerr@pcrmc.com>; 'schibigm@health.missouri.edu' <schibigm@health.missouri.edu>; Cheryl A. Hoerr, RRT, MBA <choerr@phelpshealth.org>
Cc: Erickson, Alicia <Alicia.Erickson@dhewd.mo.gov>
Subject: [EXT] FW: Notice of Posting - Phase II Proposal from Ozarks Technical Community College - BS Respiratory Therapy

****External Email****

Good afternoon everyone,

We have received some additional public comments from the MU School of Health Professions. Please let me know if you have any questions. Thank you!

Mara "Red" Woody, Ed.D.
Assistant Commissioner for Postsecondary Policy
Missouri Department of Higher Education and Workforce Development
205 Jefferson Street
P.O. Box 1469
Jefferson City, MO 65102-1469

Phone: (573) 751-5221
Cell: (573) 310-3659
Fax: (573) 751-6635
mara.woody@dhewd.mo.gov
https://dhewd.mo.gov

From: Chaffin, Steven <schaffin@umsystem.edu>
Sent: Wednesday, December 23, 2020 4:20 PM
To: Graham, Steve <grahams@umsystem.edu>; Woody, Mara <Mara.Woody@dhewd.mo.gov>
Subject: RE: Notice of Posting - Phase II Proposal from Ozarks Technical Community College - BS Respiratory Therapy

Red:

Last week, the University of Missouri System submitted a letter relating to the St. Louis Community College (STLCC) and Ozark Technical Community College's (OTC) proposals to

offer bachelor's degrees in respiratory therapy. In addition to providing larger comments, we also reached out to the MU School of Health Professions (SHP) to acquire further input of a technical nature in the spirit of a peer review. We provided our initial comments in an effort to meet the deadline and without knowing for certain when we would receive additional comments from our colleagues at SHP. We are including these comments, below, to further support MDHEWD's review and to provide additional support to STLCC and OTC as they prepare to enter this space at the baccalaureate level. I have re-attached our original letter and added these comments so everything is one place.

Our overall position indicated in our original letter has not changed. We support STLCC and OTC's Phase II proposals.

- One area the proposal does not fully address is the plan to ensure that the Florissant Valley classroom and laboratory facilities will be equivalent to those at the Forest Park campus as this is a CoARC accreditation standard (4.08)
- The proposal notes that paid clinical instructors will be utilized for the BS students, but it would be beneficial to discuss if the existing clinical sites are agreeable to additional students. This is important as clinical site availability is a recurring issue for respiratory therapy programs.
- The academic plan (Appendix H) has 16 credit hours assigned to Year 2 Semester 1 (fall), which is quite heavy with 3 core science classes. Consider rebalancing that with the semester before or after as both of those are quite a bit less daunting.
- As a point of clarification for p. 3, MU offers a degree advancement respiratory therapy program that is in the process of receiving CoARC accreditation.

Please let us know if you have any questions and have a happy holiday!

Thank you,

Steven Chaffin
Office of Academic Affairs
University of Missouri System

From: Graham, Steven W. (Academic Affairs) <grahams@umsystem.edu>
Sent: Thursday, December 17, 2020 4:20 PM
To: Woody, Mara <Mara.Woody@dhewd.mo.gov>
Cc: Salmons, Sarah <Sarah.Salmons@dhewd.mo.gov>; Vedenhaupt, Laura <Laura.Vedenhaupt@dhewd.mo.gov>; Erickson, Alicia <Alicia.Erickson@dhewd.mo.gov>; Chaffin, Steven <schaffin@umsystem.edu>; Hagglund, Kristofer <HagglundK@health.missouri.edu>; Ramchand, Latha <ramchandl@missouri.edu>; Choi, Mun <choimun@umsystem.edu>
Subject: Re: Notice of Posting - Phase II Proposal from Ozarks Technical Community College - BS Respiratory Therapy

Red: hey here you go … our input on the comprehensive reviews for both OTC and STLCC proposals. They were substantially the same so we decided to do one letter.

Happy to provide some additional thoughts or comments if you like – including more

detailed information about the Delaware Study data. It's considered the "gold standard" nationally and a lot of institutions use it to benchmark there costs, etc.

Steve Graham
Senior Associate Vice President for Academic Affairs
University of Missouri System
309 University Hall
Columbia, Missouri 65211
573.882.3119
grahams@umsystem.edu

University of Missouri System
UMKC S&T UMSL

From: "Erickson, Alicia" <Alicia.Erickson@dhewd.mo.gov>
Date: Friday, December 4, 2020 at 3:23 PM
Cc: "Woody, Mara "Red"" <Mara.Woody@dhewd.mo.gov>, "Salmons, Sarah" <Sarah.Salmons@dhewd.mo.gov>, "Vedenhaupt, Laura" <Laura.Vedenhaupt@dhewd.mo.gov>
Subject: Notice of Posting - Phase II Proposal from Ozarks Technical Community College - BS Respiratory Therapy

NOTICE OF POSTING
COMPREHENSIVE PHASE II PROPOSAL

MDHEWD staff invites comments and feedback about Ozark Technical Community College's proposal to offer a Bachelor of Science in Respiratory Therapy. The proposal represents phase II of the comprehensive review process from 6 CSR 10-4.010 Submission of Academic Information, Data, and New Programs. The proposal and further information about the comprehensive review process is posted here: https://dhewd.mo.gov/academic/programrequests/2020ComprehensiveReviewProcess.php.

The comment period is open for 20 days, through December 24, 2020.

Please send comments directly to Alicia Erickson at alicia.erickson@dhewd.mo.gov or through the DHEWD comment portal. Please do not hesitate to contact me should you have additional questions or concerns.

Alicia Erickson
Research Analyst|Postsecondary Policy
Missouri Department of Higher Education and Workforce Development
Cell: 217-836-6865

alicia.erickson@dhewd.mo.gov

From: Langrehr, Andrew M.
To: Woody, Mara
Cc: Pittman, Jeff; Fickas, Julie C.
Subject: FW: [EXT] RE: Conversation with Dr. Andrew Langrehr
Date: Tuesday, January 5, 2021 11:59:35 AM
Attachments: image001.png

Dr. Woody,
The email below confirms St. Louis Community College's engagement with Harris-Stowe State University concerning a partnership in RT. The message is clear that a partnership between STLCC and HSSU in RT is not feasible. This note also shows support for our expansion.

Best regards,

Andrew

Andrew Langrehr, Ph.D.
Vice Chancellor for Academic Affairs
St. Louis Community College

From: Collins-Smith, LaTonia <CollinsL@hssu.edu>
Sent: Tuesday, January 5, 2021 11:48 AM
To: Langrehr, Andrew M. <ALangrehr@stlcc.edu>
Cc: Davis, Ca'Andra <DavisC@hssu.edu>
Subject: [EXT] RE: Conversation with Dr. Andrew Langrehr

****External Email****

Andrew,

It was such a pleasure meeting with you this morning to discuss the St. Louis Community College respiratory care proposal. While there is a great need in the community for more RT's definitely in light of COVID-19, this program is not a good fit for Harris-Stowe. However, we are supportive of your endeavor to increase the number of individuals working in respiratory care in our community. I look forward to working with you and your team on other opportunities, particularly in early childhood education and biotechnology.

All the best,
LaTonia

Dr. LaTonia Collins Smith

Provost and Vice President of Academic Affairs
Division of Academic Affairs
Harris-Stowe State University
P: (314) 340-3610
www.hssu.edu

Change HAPPENS HERE

From: Koch, Karol <KKoch@stlcc.edu>
Sent: Wednesday, December 23, 2020 1:43 PM
To: Collins-Smith, LaTonia <CollinsL@hssu.edu>
Cc: Davis, Ca'Andra <DavisC@hssu.edu>
Subject: Conversation with Dr. Andrew Langrehr

Greetings, Dr. Collins-Smith. Dr. Langrehr asked me to reach out to you to setup some time for a conversation about St. Louis Community College respiratory care proposal.

Please advise if you would available for an hour during the times below:

Monday, January 4	9:00 am to 5:00 pm
Tuesday, January 5	8:00 am to 9:00 am
	10:00 am to 12:00 pm

Please suggest some alternate times if these are not convenient for you. Dr. Langrehr would like to meet during the week of January 4th if possible.

Thank you for your assistance. Happy Holidays!

Karol Koch
Executive Assistant to Andrew Langrehr, Ph.D.,
Vice Chancellor for Academic Affairs
St. Louis Community College
314-539-5288
www.stlcc.edu

St. Louis Community College
Expanding Minds. Changing Lives.

December 30, 2020

Commissioner Zora Mulligan
Missouri Department of Higher Education and Workforce Development
301 W. High Street
P.O. Box 1469
Jefferson City, MO 65101

Dear Commissioner Mulligan,

In November 2020, an external review committee formed with the task of providing a comprehensive program review for the Phase II proposals submitted by Ozarks Technical Community College (OTC) and St. Louis Community College (STLCC) to offer a new bachelor's degree in Respiratory Therapy. The committee is unanimously in support of the aforementioned institutions receiving approval to award this bachelor's degree, and cite the following justifications:

1. Published goals of the American Association for Respiratory Care (AARC).

In September 2019, the AARC published an issue paper demonstrating the need to advance the minimum education of a respiratory therapist from an associate degree to a baccalaureate degree and to advance the licensure of practitioners to the RRT credential for entry into practice.

"*The AARC has engaged relevant stakeholders in an effort to embark on a collaborative initiative to mandate that all respiratory therapists entering practice in the year 2030 and thereafter have the minimum of a baccalaureate degree and the National Board for Respiratory Care's (NBRC) Registered Respiratory Therapist (RRT) credential. This is important, not only to meet the increasing level of expertise required for current practice, but also to ensure patient safety and the efficient delivery of effective patient care as the scope of practice continues to evolve to meet future needs.*" [1]

The AARC issue paper further explains that educational preparation for entry into practice requires a program of study longer than the two-years that can be offered by associate degree programs, especially when state governments restrict many of these programs in the number of credit hours they may offer.

2. Increased level of educational requirement for new Respiratory Therapy programs.

Effective January 1, 2018 the Commission on Accreditation for Respiratory Care (CoARC) revised Standard 1.01 as follows:

"Except as provided in the following paragraph, an educational sponsor must be a postsecondary academic institution accredited by an institutional accrediting agency recognized by the U.S. Department of Education (USDE) and must award program graduates a baccalaureate or graduate degree.

Associate degree programs that were accredited prior to January 1, 2018, or that applied for accreditation prior to January 1, 2018 and have subsequently received accreditation, may continue to award program graduates an associate degree as long as they remain accredited by the CoARC. Sponsors of these programs must be post-secondary academic institutions accredited by an institutional accrediting agency recognized by the USDE and must award program graduates an associate degree." [2]

3. Workforce Demand.

According to the U.S. Bureau of Labor Statistics, "Employment of respiratory therapists is projected to grow 19 percent from 2019 to 2029, much faster than the average for all occupations."[3]

The Missouri Economic Research and Information Center (MERIC) reports healthcare as a top industry in the state; however, the demand for qualified healthcare providers outpaces supply. This is true for respiratory therapists in particular. MERIC data indicate that the demand in Missouri for skilled respiratory therapists will grow nearly 28% by 2026, with annual vacancies numbering 220 statewide.[4] Respiratory therapy was identified as the sixth fastest growing occupation in the St. Louis Region in 2017-2019 with an expected need of 50 additional respiratory therapists in that region alone. The Kansas City Region indicates a 25% growth in the demand for respiratory therapists, and the Ozark Region anticipates a 38.5% growth.[5] An external market analysis conducted by CPA firm BKD in Springfield, MO confirms the employment metrics. Demand for RT's is projected to grow by 14 % in the next year, and another 2% annually over the next 10 years which is higher than 97% of other programs in the OTC service area. Additionally, the job postings outpace the graduates by 1.4 to 1 in the same geographic area.[6]

The current pandemic has only highlighted the ongoing shortage of skilled respiratory therapists and prompted those who had left full-time clinical practice to return to the bedside to support their fellow respiratory therapists on the frontline.

4. Hospital department hiring preferences.

In a survey published in the Fall 2018 Respiratory Care Education Annual, the majority of managers preferred BSRT entry hires because of the added value in teamwork, communication, ability to advance, and to provide evidence based respiratory therapy.[7] This trend is expected to continue due to the everchanging and evolving technology and practices in the health care arena.

5. Telehealth / CMS requirements.

In May 2019, H.R. 2508 was introduced in Congress. The BREATHE Act (Better Respiration through Expanding Access to Tele-Health) includes language allowing respiratory therapists to furnish telehealth services. Section 2 (e) 2 (D) of The BREATHE Act requires at a minimum a bachelor's degree or other advanced degree in a biological or health science.[8]

6. Enhanced patient outcomes.

The assessment of critical thinking and decision-making skills is evaluated in respiratory therapy students with both associate and baccalaureate degrees. With the use of validated

assessment tools such as the Watson-Glaser Critical Thinking Appraisal and the Health Sciences Reasoning Test, studies have shown that students with baccalaureate preparation have a higher level of critical thinking skills than their associate degree-prepared counterparts.[9] Additionally, there is a growing body of evidence that nurses with a baccalaureate degree in nursing (BSN) provide an improved quality and safer care with a direct correlation to a reduction in mortality as compared to those with an associate degree.[10]

7. Established high-quality programs.

Both OTC and STLCC have a long-standing history of excellence in respiratory therapy education. All CoARC accredited programs undergo a rigorous accreditation process every 10 years and additionally submit a detailed annual Report of Current Status to the CoARC. Outcomes are a matter of public record for all RT programs and data is available on the CoARC website.[11] Below is a summary of the outcomes for OTC and STLCC for 2019 and 2020.

Criteria	***OTC 2019***	***OTC 2020***	***STLCC 2019***	***STLCC 2020***
Retention	91%	93%	85%	83%
Job Placement	100%	98%	83%	84%
RRT Credentialing	100%	94%	87%	92%
TMC High Cut Score Pass Rate	100%	96%	91%	96%
Employer Satisfaction	100%	100%	100%	100%
Graduate Satisfaction	100%	100%	100%	100%

(data reflect a rolling 3yr avg.)

The programs have both provided a thoughtful and detailed proposed budget to meet the needs of the additional students and corresponding physical space.

8. Educational Institution & Public Support.

Multiple communities of interest endorsed the request for a bachelor's degree by OTC and STLCC. Highlights from the letters of support are as follows:

BJC Healthcare: *"The college's proposed expansion of its health professions workforce programs is a timely and practical way to address the critical shortage of health care professionals in the St. Louis metropolitan area."*

Children's Hospital St. Louis: *"Currently our department has a hiring gap of 18.37 FTE's with having to fill some of this gap with contingent workers. This does not include the additional positions I would like to request to meet future growth demands. Much of this hiring gap is due to the limited supply of RT's in the current market."*

Christian Hospital: *"As an employer (BJC) of more than 31,000 health care professionals, we can attest to the dire need for qualified registered respiratory therapists."*

Citizens Memorial Hospital: *"Citizens Memorial Hospital collaborates with area Respiratory programs to provide a place for the students to learn from seasoned Respiratory Therapists in a*

clinical setting." "Baccalaureate degree programs that can prepare respiratory therapists to become better leaders and make better care decisions will benefit our patients and our communities at large."

Coalition for Baccalaureate and Graduate Respiratory Therapy Education: *"The leadership of CoBGRTE supports the development of a baccalaureate degree respiratory care programs at Ozark Technical Community College. Producing new respiratory therapists with the knowledge and skills needed for the 21st century has become increasingly difficult within the confines of a two-year program. In addition, without a baccalaureate or higher degree, respiratory therapists are often not recognized as professionals by government agencies, third party payers, the uniformed services, labor unions, and others. While the curricular needs to produce a competent therapist continue to grow, some state governments have limited associate degree credit hours in community colleges to as little as 60 semester hours. There is a need to increase the number of respiratory therapists with advanced levels of training and education to meet the demands of providing services requiring complex cognitive abilities and patient management skills."*

Cox Health: *"CoxHealth will actively support OTC in this endeavor by offering clinical locations, and interviewing qualified candidates who complete. The discernment and ability to be nimble to adequately meet the needs of the healthcare workforce, is something that OTC has been at the forefront of in our community and truly in our state."*

Mercy Hospital St. Louis: *"The shortage of respiratory therapist in the Saint Louis market has been on-ongoing concern for the last several decades. Adding an additional program to the Saint Louis market in the form of a bachelor's degree program would be extremely beneficial to the patients and hospitals in the Saint Louis and surrounding areas."*

Mercy Springfield: *"Mercy Hospital Springfield is pleased to support Ozarks Technical Community College's (OTC) proposal for the expansion of the respiratory therapy program to the bachelor's degree through the Missouri Department of Higher Education. This is a timely and practical way to address the critical shortage of health care professionals in the Southwest Missouri area."*

Phelps Health: *"As a respiratory care manager, I was interested in the evidence showing baccalaureate degree educational programs provide improved opportunities for development of the psychosocial, critical thinking, and critical decision-making skills that are essential for RT's to improve the quality and effectiveness of the care they provide patients." "I fully support Ozarks Technical College in the development and implementation of a baccalaureate degree program for respiratory care. In today's uncertain health care environment, the need for the specialized care provided by respiratory therapist is critical."*

St. Louis University: *"Respiratory Therapists are truly essential workers that have played a key health care role during the current coronavirus pandemic. They react to and guide bedside care of some of the sickest patients, they optimize use of technology like ventilators while also troubleshooting when necessary, they draft policy to keep patients and health care providers safe, and they remain aware of updates to the medical literature and scientific basis of the care*

they provide. These elements are clearly formidable and reflect the need for advancing instruction in this discipline."

St. Louis University Hospital: "*St. Louis Community College at Forest Park has been a very important resource for those of us seeking professional, qualified candidates. It is my belief that the high-quality educational goals that is set by the college will only enhance us as a profession and continue to elevate patient care in the area."*

Southwest Baptist University: *"It seems that OTC is well equipped to handle the transition and has faculty resources that would be capable of accomplishing this level change, For this particular degree program, given the resources that are in place and the fact that partnership could prove problematic, we would lend support to your offering the Respiratory Therapy degree at the bachelor level."*

Texas County Memorial Hospital: *"Ozarks Technical College provides those highly skilled professionals. The school has an honored tradition of developing outstanding professionals." "Hospitals in the Mid-Missouri region are at terrifying critical shortages for respiratory therapists. The program would be an asset to individuals looking for an amazing and rewarding career and an asset to the sustainability of respiratory therapists for Mis-Missouri hospitals."*

University of Missouri: *"We continue to believe that STLCC and OTC, which meet all relevant statutory and departmental requirements and currently offer high-quality two-year degrees in respiratory therapy, are in an appropriate position to build quality programs in this arena." "We commend both institutions for submitting very high-quality proposals. We are supportive of STLCC and OTC's efforts to offer bachelor's degrees in respiratory therapy."*

As evidenced by the rubric, both OTC and STLCC have met the DHEWD criteria and adequately responded to all committee questions and public comments. We wish to thank DHEWD for the opportunity to provide guidance and feedback on these proposals and commend your dedication to ensuring that the health and well being of Missouri citizens is a top priority.

Respectfully submitted,

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[1] Source: American Association for Respiratory Care. https://www.aarc.org/wp-content/uploads/2019/09/issue-paper-entry-to-respiratory-therapy-practice-2030.pdf

[2] Source: Commission on Accreditation for Respiratory Care. https://www.coarc.com/getattachment/Accreditation/Entry-into-Practice-Standards/CoARC-Entry-Standards-7-1-2020-(updated-12-20).pdf.aspx?lang=en-US

[3] Source: Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, Respiratory Therapists, at https://www.bls.gov/ooh/healthcare/respiratory-therapists.htm

[4] Source: Real Time Labor Market Data. Missouri Economic Research and Information Center. June 2020. https://meric.mo.gov/media/pdf/real-time-labor-market-summary

[5] Source: Regional Profiles. Missouri Economic Research and Information Center. June 2020. https://meric.mo.gov/regional-profiles

[6] Source: Respiratory Therapy Program Report for Ozarks Technical Community College. BKD CPAs & Advisors. December 2020.

[7] Source: Respiratory Therapy Department Directors' Preferences Regarding the Educational Background of New Graduate Staff Respiratory Therapists. Varekojis SM et al. *Respiratory Care Education Annual*, Vol. 27, Fall 2018: 16-21. https://www.aarc.org/wp-content/uploads/2018/09/rcea2018.pdf

[8] Source: US Congress H. R. 2508. https://www.congress.gov/bill/116th-congress/house-bill/2508/text

[9] Source: Development of Baccalaureate and Graduate Degrees in Respiratory Care. 2017. American Association for Respiratory Care. https://www.aarc.org/wpcontent/uploads/2017/03/issuepaper_baccalaureate_graduate_degrees.pdf

[10] Source: Bachelor's degree nurse graduates report better quality and safety educational preparedness than associate degree graduates. Djukic M, et al. *The Joint Commission Journal on Quality and Patient Safety.* October 2018. https://www.jointcommissionjournal.com/article/S1553-7250(18)30225-3/pdf

[11] Source: Commission on Accreditation for Respiratory Care. Map of program outcomes. https://fortress.maptive.com/ver4/6479e039dd58e620af07c7aca8854194

For questions or additional information, please contact committee chair Monica Schibig at schibigm@health.missouri.edu

DEPARTMENT OF HIGHER EDUCATION & WORKFORCE DEVELOPMENT

Comprehensive Review Evaluation Matrix

Proposing Institutions: Ozarks Technical Community College, Springfield, MO and

St. Louis Community College, St. Louis, MO

Proposed Degree: OTC - Bachelor of Science, Respiratory Therapy

STLCC - Bachelor of Science, Respiratory Care

Review Completed by: External review team

December 2020

For community colleges proposing to offer a bachelor's degree, the following criteria is required, as outlined in § 163.191(1), RSMo:

Criteria	Cite Where Evidence Located in Proposal	Review Team Finding	Recommendations to Proposing Institution
The level of education required in a field for accreditation or licensure increases to the baccalaureate degree level OR, in the case of applied bachelor's degrees, the level of education required for employment in a field increases to that level, AND		Optional for External Review Team. ***Criteria Met-OTC*** ***Criteria Met-STLCC***	
When doing so would not unnecessarily duplicate an existing program,		Optional for External Review Team.	
collaboration with a university is not feasible or the approach is not a viable			

means of meeting the needs of students and employers, AND			
The institution has the academic and financial capacity to offer the program in a high-quality manner.		***Criteria Met-OTC*** ***Criteria Met-STLCC***	
Elements of a Complete Proposal for Comprehensive Review, as outlined in 6 CSR 10-4.010. A complete proposal includes the following:			
Evidence of good faith effort to explore the feasibility of collaboration with other institutions whose mission or service region encompasses the proposed program. At a minimum, this will include letters from the chief academic officers of both the proposing institution and other institutions involved in exploring the feasibility of collaboration attesting to the nature of the discussions and explaining why collaboration in this instance is not feasible;		Optional for External Review Team. ***Criteria Met-OTC*** ***Criteria Met-STLCC***	
Evidence that the offering institution is contributing substantially to the CBHE's Blueprint for Higher Education as adopted on February 4, 2016, pursuant to section 173.020(4), RSMo, and is committed to advancing the goals of that plan;		Optional for External Review Team.	
Evidence of institutional capacity to launch the program in a high-quality manner, including:			
• An external review conducted by a team including faculty experts in the discipline to be offered and administrators from institutions already offering programs in the		***Criteria Met-OTC*** ***Criteria Met-STLCC***	

discipline and at the degree level proposed. The review must include an assessment of the offering institution's capacity to offer the new program in terms of general, academic, and student service support, including faculty resources that are appropriate for the program being proposed (e.g. faculty credentials, use of adjunct faculty, and faculty teaching workloads);			
• A comprehensive cost/revenue analysis summarizing the actual costs for the program and information about how the institution intends to fund and sustain the program;		***Criteria Met-OTC*** ***Criteria Met-STLCC***	Recommend ongoing review of proposed budget to ensure alignment with actual needs and enrollment.
• Evidence indicating there is sufficient student interest and capacity to support the program, and, where applicable, sufficient capacity for students to participate in clinical or other external learning requirements, including library resources, physical facilities, and instruction equipment; and		***Criteria Met-OTC*** ***Criteria Met-STLCC***	
• Where applicable, a description of accreditation requirements for the new program and the institution's plans for seeking accreditation; and		*Criteria Met-OTC* *Criteria Met-STLCC*	
Evidence that the proposed program is needed, including:		Optional for External Review Team.	

• Documentation demonstrating that the program does not unnecessarily duplicate other programs in the applicable geographic area, as described in subsection (9)(C) of this rule;		Optional for External Review Team.	
• A rigorous analysis demonstrating a strong and compelling workforce need for the program, which might include data from a credible source, an analysis of changing program requirements, the current and future workforce, and other needs of the state, and letters of support from local or regional businesses indicating a genuine need for the program; and		Optional for External Review Team. ***Criteria Met-OTC*** ***Criteria Met-STLCC***	
• A clear plan to meet the articulated workforce need, including:		Optional for External Review Team.	
○ Aligning curriculum with specific knowledge and competencies needed to work in the field(s) or occupation(s) described in the workforce need analysis in part (II) of this subparagraph;		Optional for External Review Team. ***Criteria Met-OTC*** ***Criteria Met-STLCC***	
• Providing students with external learning experiences to increase the probability that they will remain in the applicable		Optional for External Review Team.	

geographic area after graduation; and			
• A plan for assessing the extent to which the new program meets that need when implemented.		Optional for External Review Team. ***Criteria Met-OTC*** ***Criteria Met-STLCC***	

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DEPARTMENT OF HIGHER EDUCATION & WORKFORCE DEVELOPMENT

Comprehensive Review Evaluation Checklist

Proposing Institution: Ozarks Technical Community College

Proposed Degree: BS Respiratory Therapy

Review Completed by: DHEWD

January 8, 2021

Criteria	Cite Evidence in Proposal (Institution Complete)	Finding/Status (DHEWD or External Review Team Complete)
Requirements Have Changed		
For a bachelor's degree (must meet one):		
The level of education required in a field for accreditation or licensure increases to the baccalaureate degree level	Accreditation CoARC website: Starting January 1, 2018, CoARC will only accept applications for bachelors of respiratory therapy (no longer accredits new associates programs). Current Associates Programs: Can continue to operate as long as meet CoARC standards. Phase II application (page 4): Wants to establish new satellite location at OTC Waynesville Education Center.	*Criteria Met.*
Collaboration is not an Option		
The institution has made a good-faith effort to explore the feasibility of collaboration with other institutions whose mission and service region encompasses the proposed program and has provided documentation indicating that collaboration is not feasible or a viable means of meeting student and employer needs (use attached worksheet)	Phase II application (page 24-31), letter from UM System (mission) and institutions in service region that collaboration not feasible.	*Criteria Met.*

Phase II Review

The Program Is Needed

The institution has provided evidence demonstrating a strong and compelling workforce need for the program, including at least one of the following:		
Data from a credible source	Phase II application (17-19), Rigorous analysis demonstrating strong and compelling workforce need, (page 56-67) BKD Market Analysis: Respiratory Therapy Program Report.	*Criteria Met.*
An analysis of changing program requirements		*Criteria Met.*
Current and future workforce and other needs of the state		*Criteria Met.*
Letters of support from local or regional businesses indicating a genuine need for the program		*Criteria Met.*

No Unnecessary Duplication

The institution has provided evidence that the proposed program would not unnecessarily duplicate an existing program in the applicable geographic area (use attached worksheet)	MU only entry to practice program in state, is located in central Missouri. Phase II application (page 16-17), unnecessary duplication.	*Criteria Met.*

External Review Team

Criteria	Cite Evidence in Proposal (Institution Complete)	Finding/Status (External Review Team Complete)
The institution has the capacity to offer the new program		
General	Phase II Proposal (page 10-11), Evidence of Institutional Capacity.	*Criteria Met.*
Academic, including faculty resources that are appropriate for the program being proposed (e.g., faculty credentials, use of adjunct faculty, and faculty teaching workloads)		
Student		

DHEWD

Criteria	Cite Evidence in Proposal (Institution Complete)	Finding/Status (DHEWD Complete)
The institution has provided all of the following (unless not applicable):		
A comprehensive cost/revenue analysis summarizing the actual costs of the program and information about how the institution intends to sustain the program (include five years' projected budget)	Phase II application (page 11-13), Comprehensive cost/revenue analysis.	*Criteria Met.*
Evidence indicating that there is sufficient student interest and capacity to support the program (include data and methodology)	Phase II application (page 13-15), Evidence indication there is sufficient student interest, (page 21).	*Criteria Met.*
Evidence that the institution has sufficient library resources, physical facilities, and instruction equipment	Academic and Student Support Services, (page 43-54), CoARC 2020 Report of Current Status.	*Criteria Met.*
Where applicable, a description of accreditation requirements for the new program and the institution's plan for seeking accreditation	Phase II application (page 3-4), State of Respiratory Therapy Education in the United States.	*Criteria Met.*
The institution has a clear plan to meet workforce needs, including all of the following:		
Aligning curriculum with specific knowledge and competencies needed to work in the field(s) or occupation(s) described in the workforce needs analysis (provide crosswalk of competencies to curriculum)	Phase II application (page 69-82), Proposed BS in Respiratory Therapy Alignment with NBRC Matrix.	*Criteria Met.*
Providing students with external learning experiences to increase the probability that they will remain in the applicable geographic area after graduation (letters from local employers stating will offer placement experiences for new program)	Phase I Proposal (page 11), Providing students with external learning opportunities. Phase II proposal (page 21), Providing students with external learning opportunities.	*Criteria Met.*
A plan to assess the extent to which the new program meets the workforce need when implemented (where applicable, supply accreditation plan as required by accreditor)	Phase II application (page 21-22), a plan for assessing.	*Criteria Met.*
The institution's plan will contribute substantially to the CBHE's *Blueprint for Higher Education:*		
Narrative Explanation of how meets the Blueprint's goals	Phase II application (page 5-10), Alignment with Blueprint for Higher Education Goals.	*Criteria Met.*

DEPARTMENT OF HIGHER EDUCATION & WORKFORCE DEVELOPMENT

Comprehensive Review Evaluation Checklist

Proposing Institution: St. Louis Community College

Proposed Degree: BS in Respiratory Care

Review Completed by: DHEWD

January 8, 2021

Criteria	Cite Evidence in Proposal (Institution Complete)	Finding/Status (DHEWD or External Review Team Complete)
Requirements Have Changed		
For a bachelor's degree (must meet one):		
The level of education required in a field for accreditation or licensure increases to the baccalaureate degree level	Accreditation CoARC website: Starting January 1, 2018, CoARC will only accept applications for bachelors of respiratory therapy (no longer accredits new associates programs). Current Associates Programs: Can continue to operate as long as meet CoARC standards. Phase II application (page 5): Wants to expand program to offer 15 more seats annually.	*Criteria Met.*
Collaboration is not an Option		
The institution has made a good-faith effort to explore the feasibility of collaboration with other institutions whose mission and service region encompasses the proposed program and has provided documentation indicating that collaboration is not feasible or a viable means of meeting student and employer needs (use attached worksheet)	Phase II application (page 35-36), letter from UM System (mission) not interested in collaboration, and (page 28-30), letter from 4-year institutions stating should move forward to Phase II application.	*Criteria Met.*

The Program Is Needed

The institution has provided evidence demonstrating a strong and compelling workforce need for the program, including at least one of the following:		
Data from a credible source	Phase II application (page 17-19), narrative description, and (page 68-82), Real-Time Intelligence Report.	*Criteria Met.*
An analysis of changing program requirements		*Criteria Met.*
Current and future workforce and other needs of the state		*Criteria Met.*
Letters of support from local or regional businesses indicating a genuine need for the program		*Criteria Met.*

No Unnecessary Duplication

The institution has provided evidence that the proposed program would not unnecessarily duplicate an existing program in the applicable geographic area (use attached worksheet)	MU only entry to practice program in state, is located in central Missouri. Phase II application (page 17), narrative description, (page 37-59), Market Analysis – Workforce Report Chmura.	*Criteria Met.*

External Review Team

Criteria	Cite Evidence in Proposal (Institution Complete)	Finding/Status (External Review Team Complete)
The institution has the capacity to offer the new program		
General	Phase II application (page 11-13), Evidence of Institutional Capacity.	*Criteria Met.*
Academic, including faculty resources that are appropriate for the program being proposed (e.g., faculty credentials, use of adjunct faculty, and faculty teaching workloads)		
Student		

DHEWD

Criteria	Cite Evidence in Proposal (Institution Complete)	Finding/Status (DHEWD Complete)
The institution has provided all of the following (unless not applicable):		
A comprehensive cost/revenue analysis summarizing the actual costs of the program and information about how the institution intends to sustain the program (include five years' projected budget)	Phase II application (page 12-14) narrative explanation, and (page 98-99), budget.	*Criteria Met.*
Evidence indicating that there is sufficient student interest and capacity to support the program (include data and methodology)	Phase II application (page 11), student resources, (page 14-16), application, enrollment and graduate numbers presented, and (page 23-24), explanation of external learning opportunities	*Criteria Met.*
Evidence that the institution has sufficient library resources, physical facilities, and instruction equipment		*Criteria Met.*
Where applicable, a description of accreditation requirements for the new program and the institution's plan for seeking accreditation	Phase II application (page 11-12), General information, and (page 16), Description of accreditation requirements.	*Criteria Met.*
The institution has a clear plan to meet workforce needs, including all of the following:		
Aligning curriculum with specific knowledge and competencies needed to work in the field(s) or occupation(s) described in the workforce needs analysis (provide crosswalk of competencies to curriculum)	Phase II application (page 103-116), National Board Respiratory Care matrix cross-walked with OTC courses.	*Criteria Met.*
Providing students with external learning experiences to increase the probability that they will remain in the applicable geographic area after graduation (letters from local employers stating will offer placement experiences for new program)	Phase II application (page 23-24), explanation of external learning opportunities.	*Criteria Met.*
A plan to assess the extent to which the new program meets the workforce need when implemented (where applicable, supply accreditation plan as required by accreditor)	Phase II application (page 24-26), assessment plan.	*Criteria Met.*
The institution's plan will contribute substantially to the CBHE's *Blueprint for Higher Education:*		
Narrative Explanation of how meets the Blueprint's goals	Phase II application (page 6-10), Alignment with Blueprint for Higher Education goals.	*Criteria Met.*