NBRC/ CoARC
Collaborative Webinar
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From Standards to Student Success: A Guide to Curriculum Mapping

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Objectives

Define	Define curriculum mapping and explain its role in ensuring alignment, coherence, and program effectiveness.
Describe	Describe how CoARC standards and core competencies shape curriculum design and graduate outcomes.
Explain	Explain the process of aligning curriculum with NBRC exam content to support clinical readiness and credentialing success.
Illustrate	Illustrate curriculum mapping components, including learning outcomes, content areas, mastery levels, learning experiences, and assessment methods.

What is Curriculum Mapping?

Respiratory care curriculum mapping is the process of documenting, aligning, and organizing all components of an educational program—including courses, learning activities, and assessment methods—to ensure they meet expected competencies and program goals, align with national credentialing exam content (NBRC), and prepare students for clinical practice.

This process creates a visual or documented pathway that identifies gaps and redundancies in the curriculum, ensuring that knowledge (cognitive), skills (psychomotor), and behaviors (affective) are progressively developed.

Purpose of the Curriculum Map

- Organizes the full curriculum across didactic, laboratory, simulation, and clinical settings
- Documents how content is Introduced (I), Developed (D), and Mastered (M)
- Demonstrates alignment between required courses and expected competencies
- Identifies where and how student learning outcomes (SLOs) are assessed
- Supports annual curriculum review and revision

CoARC Standards Driving Curriculum Mapping

Standard 3.01: Program goal(s) must be defined and published

Standards 3.03–3.04: Ongoing formative and summative student evaluation required

Standards 4.01–4.02: Foundational and professional content must support goal(s)

Standards 4.03–4.07: Five core competencies required for all graduates

Standard 4.08: A formal curriculum management plan must include a curriculum map

Assessment Strategy Alignment
(Standards 3.03–3.04)

- Evaluation must occur throughout the curriculum in all learning environments
- Includes formative and summative assessments
- Must align with expected competencies and student learning outcomes
- Assessment tools include exams, labs checkoffs, simulation rubrics, and clinical evaluations
- Documentation supports remediation planning and student progression monitoring

Foundational and Professional Content (Standards 4.01-4.02)

- *Foundational Content*
  - Oral/written communication
  - Social/behavioral sciences
  - Biomedical/ natural sciences
- *Professional Content*
  - Communication Skills
  - Critical Thinking
  - Problem Solving
  - Ethical Decision Making

**Note:* Bachelor's Degree and Master's Degree Programs will include additional areas of content/focus

Five Required Core Competencies (Standards 4.03–4.07)

- Evidence-Based Diagnostic & Therapeutic Procedures
- Information Literacy (Find, evaluate, apply evidence)
- Critical Thinking & Problem Solving
- Professionalism & Ethical Decision-Making
- Interprofessional Communication and Team Function

CoARC Standard 4.08 Overview

Formal written curriculum management plan required

Includes mapping, evaluation, coordination, and annual review

Course Effectiveness

EVALUATE EACH COURSE'S CONTRIBUTION TO PROGRAM GOALS

USE STUDENT OUTCOMES, CLINICAL PERFORMANCE, AND EXAM RESULTS

IDENTIFY GAPS AND GUIDE IMPROVEMENTS

Faculty Coordination

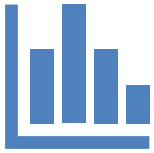
Defined mechanism for communication among faculty

Ensures integration, sequencing, and consistent expectations

Supports cohesive curriculum delivery

Annual Curriculum Review

Conducted with input from faculty, students, administration, AC, and stakeholders



Includes data analysis and feedback

Updates curriculum map as needed

Annual Curriculum Review & Continuous Improvement

Standard 4.08 requires a formal written curriculum management plan

Faculty evaluate course effectiveness and competency progression annually

Inputs include: student evaluations, graduate/employer surveys, advisory committee feedback

Deficiencies require action plans, implementation tracking, and reassessment

Curriculum map is a key evidence document for accreditation review

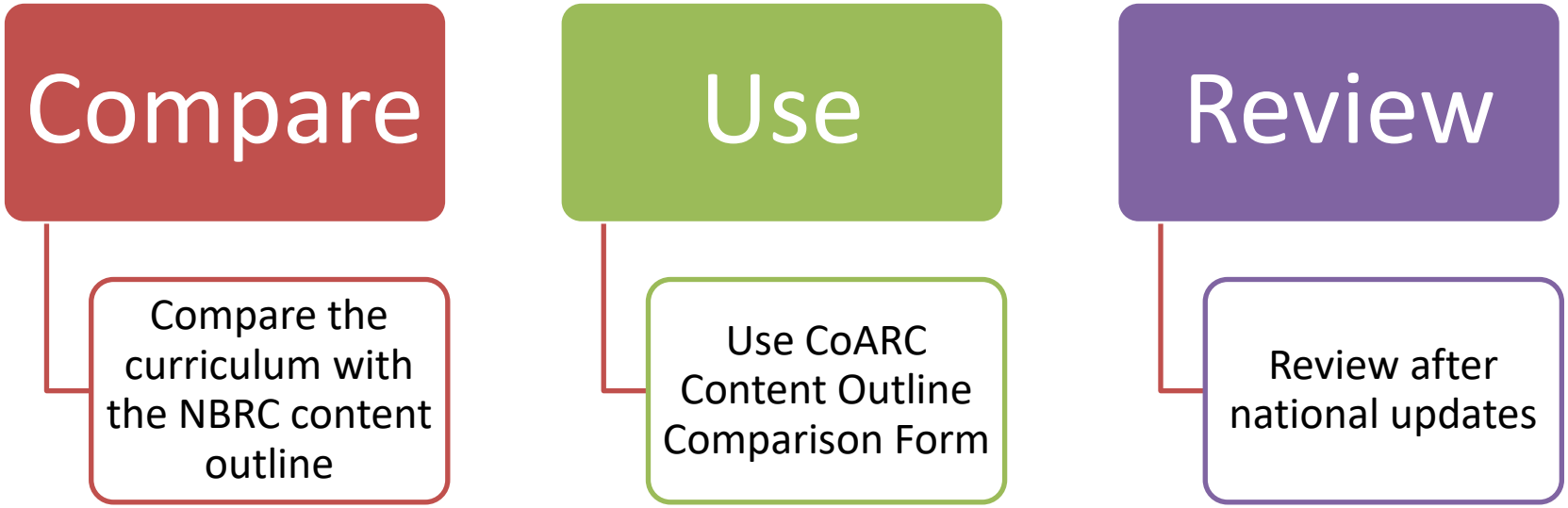
Evaluation & Continuous Improvement

Analyze	Include	Document
Analyze course and program outcomes	Include graduate feedback and NBRC exam performance	Document improvements and revisions

Interpretive Guideline Highlights

- Curriculum must be current, logically organized, competency-based
- Promotes progressive learning and minimizes redundancy
- Aligned with NBRC content matrix

Alignment with NBRC Exam Content



Program Name:	Program Number:			
NBRC Therapist Combined Detailed Content Outline Comparison with Curriculum (Effective: January 2027)	**List Course Numbers(s)**			
	Didactic	**Lab**	**Clinical**	**Simulation**
H. Use Evidence-Based Practice				
1. Adherence to respiratory-driven protocols • oxygen titration • weaning • aerosol therapy				
2. Classification of disease severity				
3. Application of national or international guidelines for diseases / conditions, for example, • ARDS • asthma • COPD • brain death • cystic fibrosis				
I. Provide Respiratory Care in High-Risk Situations				
1. Emergency				
a. cardiopulmonary emergencies, excluding CP				
b. neonatal resuscitation				
c. disaster management				
d. medical emergency team (MET)				
2. Closed loop communication				
3. Patient transport				
a. land / air between hospitals				
b. within a hospital				
4. Debriefing following adverse patient events				

NBRC Content Outline Alignment & Review

Curriculum should be compared annually to the most current NBRC content outline

Faculty review of NBRC Sub Scores by Content Domain is required

If scores fall below 85% of national mean in major areas, action plans must be implemented

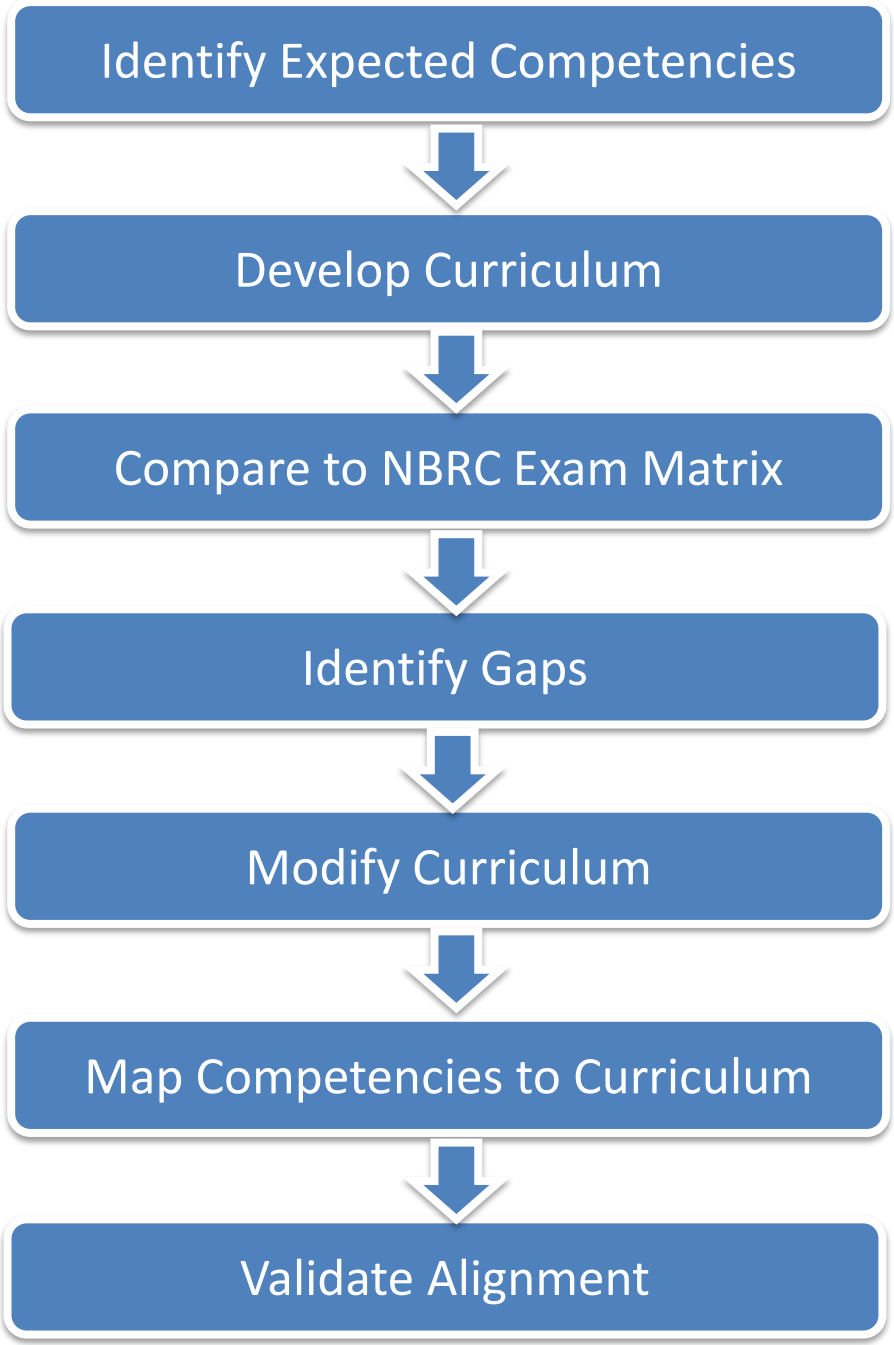
Mapping helps identify where content is taught and assessed across the curriculum

Evidence of Compliance

- Curriculum plan and policies
- Curriculum map with updates
- Course and program evaluation documentation
- Meeting minutes and stakeholder input

Evidence of Compliance

- Annual RCS verification
- Faculty & AC meeting records
- Evidence of instructional coordination
- Action plans with follow-up



Key Takeaway: Competencies drive the curriculum — NOT the NBRC exam matrix.

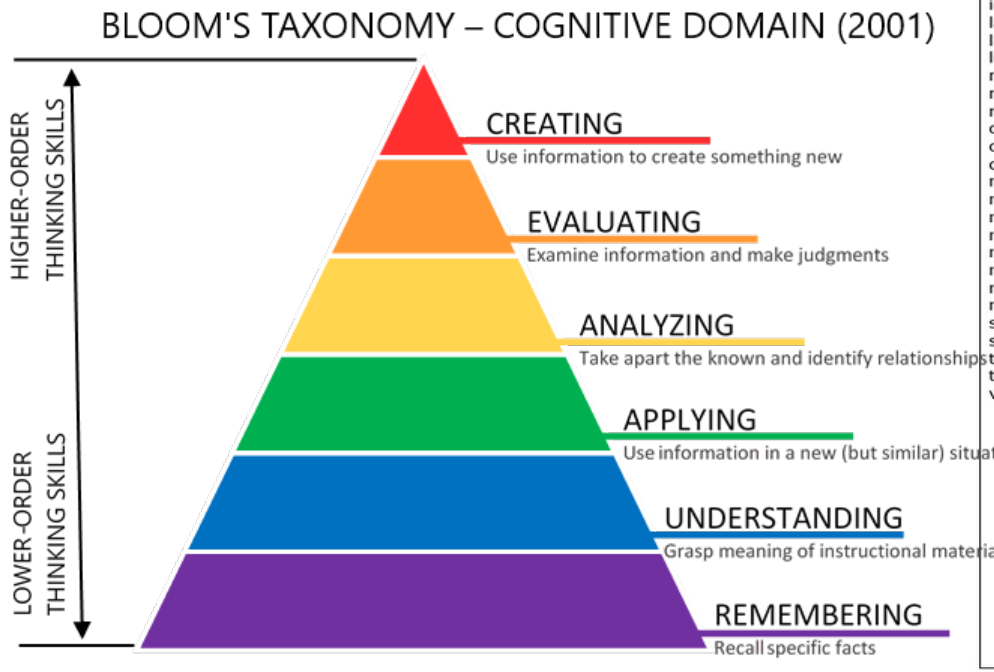
Program competencies curriculum map

- College or University preferred template?
- Example formats:
  - Program Competencies
  - Program Outcomes
  - Course Outcomes

Disclaimer: "This guidance document is intended to support compliance with the CoARC Standards. It is not exhaustive and does not prescribe the only means of demonstrating compliance. Programs may demonstrate compliance in other ways, provided they meet the intent and requirements of the Standards."

Program competencies curriculum map

- Competency: observable, measurable ability that integrates knowledge, skills, and attributes
  - Perform clinical assessments
  - Perform airway management
  - Manage lung expansion and clearance
  - Support oxygenation and ventilation
  - Administer medications
  - Modify care plans
  - Utilize evidence-based practice
  - Exhibit affective behaviors
  - Participate in interprofessional practice
  - Educate patients and families
  - Manage respiratory therapy department clinical services



REVISED Bloom's Taxonomy Action Verbs

Remember	Understand	Apply	Analyse	Evaluate	Create
BL1	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers.	Demonstrate understanding of facts and ideas by organizing, comparing, interpreting, giving descriptions, and stating main ideas.	Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations.	Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria.	Compile information together in a different way by combining elements in a new pattern or proposing new solutions.
define describe duplicate enumerate examine identify label list locate match memorize name observe omit quote read recall recite recognize record repeat reproduce retell select state tabulate tell visualize	ask associate cite classify compare contrast convert describe differentiate discover discuss distinguish estimate explain express extend generalize give examples group identify illustrate indicate infer interpret judge observe order paraphrase predict relate report represent research restate review rewrite select show summarize trace transform translate	administer apply articulate calculate change chart choose collect complete compute construct determine develop discover dramatize employ establish examine experiment explain illustrate interpret judge manipulate modify operate practice predict prepare produce record relate report schedule simulate sketch solve teach transfer write	advertise analyze appraise calculate categorize classify compare conclude connect contrast correlate criticize deduce devise diagram differentiate discriminate dissect distinguish divide estimate evaluate experiment explain focus illustrate infer order organize plan prioritize select separate subdivide survey test	appraise argue assess choose compare conclude consider convince criticize critique debate decide defend discriminate distinguish editorialize estimate evaluate find errors grade judge justify measure order persuade predict rank rate recommend reframe score select summarize support test weigh	adapt anticipate assemble collaborate combine compile compose construct create design develop devise express facilitate formulate generalize hypothesize infer integrate intervene invent justify manage modify negotiate originate plan prepare produce propose rearrange reorganize report revise rewrite role-play simulate solve speculate structure test validate write

Adapted from Anderson, L. W., & Krathwohl, D. R. (2001). *A taxonomy for learning, teaching, and assessing*, Abridged Edition. Boston, MA: Allyn and Bacon.

Program competencies curriculum map

RT Competency
Perform clinical assessments
Perform airway management
Manage lung expansion and clearance
Administer medications
Support oxygenation and ventilation
Modify care plans
Utilize evidence-based practice
Exhibit affective behaviors
Participate in interprofessional practice
Educate patients and families
Manage respiratory therapy department clinical services

Program competencies curriculum map

Foundational Content

- essential knowledge, concepts, and skills that form the base on which more advanced, discipline-specific learning is built

RT Professional Content

Course(s) / Class(es)

Mastery Level

- degree to which a learner can independently and consistently demonstrate a skill, concept, or competency in reference to an established standard of proficiency

Instructional Strategies

Assessment Strategies

Miller's Pyramid

Adapted from Miller, G.E. The assessment of clinical skills/competence/performance. Acad Med. 1990; 65(9 suppl):S63-S67.

Program competencies curriculum map

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RT Competency	Foundational Content	RT Professional Content	Course(s) / Class(es)	Mastery Level	Instructional Strategies	Assessment Strategies
Perform clinical assessments	A&P, vital signs	Auscultation, pulse oximetry	Procedures I, Clinical education I-IV	Master	Flipped Classroom	Objective Written Assessments
Perform airway management	Airway anatomy	Manual ventilation	Procedures II, Clinical education III-IV	Develop	Microlearning	Objective Written Assessments
Manage lung expansion and clearance	A&P, humidity	Nasotracheal and endotracheal suction techniques	Procedures I, Clinical education I-IV	Develop	Skills Laboratory	Direct Observation Tools
Administer medications	Pharmacology	Aerosol delivery techniques	Procedures II	Introduce	Skills Laboratory	Direct Observation Tools
Support oxygenation and ventilation	Pressure/flow dynamics	Ventilator initiation and monitoring	Mechanical Vent I–II	Introduce	Simulation-based Education, Debriefing	Simulation-Based Assessments
Modify care plans	Pathophysiology	Disease management	Diseases I, Clinical education III-IV	Develop	Concept Mapping, Case-based Learning	Case-Based Assessments
Utilize evidence-based practice	EBP principles	Clinical practice guideline use	Diseases I, Clinical education III-IV	Develop	Team-based Learning	Self-Assessment & Peer Assessment
Exhibit affective behaviors	Ethics	Respect in patient interactions	Clinical education I-IV	Master	Supervised Clinical Education	Clinical Evaluation Rubrics
Participate in interprofessional practice	Communication, teamwork	Structured IP communication tools	Clinical education III-IV	Master	Supervised Clinical Education	Clinical Evaluation Rubrics
Educate patients and families	Communication, education theory	Essential steps for self-administration	Patient education I	Develop	Reflective Practice	OSCE
Manage respiratory therapy department clinical services	Management, leadership theory	Patient safety, quality improvement	Management I	Introduce	Microlearning	Capstone Project

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Program competencies curriculum map

RT Competency	Foundational Content	RT Professional Content
Administer medications	Pharmacology	Aerosol delivery techniques
Participate in interprofessional practice	Communication, teamwork	Structured IP communication tools
Educate patients and families	Communication, education theory	Essential steps for self-administration

Course(s) / Class(es)	Mastery Level	Instructional Strategies	Assessment Strategies
Procedures II	Introduce	Skills Laboratory	Direct Observation Tools
Clinical education III-IV	Master	Supervised Clinical Education	Clinical Evaluation Rubrics
Patient education I	Develop	Reflective Practice	OSCE

Program outcomes curriculum map

Program Learning Outcome: **specific knowledge, skills, and professional behaviors that students are expected to demonstrate by the end of the program**
Apply cardiopulmonary science
Perform RT procedures
Interpret diagnostic data
Manage mechanical ventilation
Demonstrate professional behaviors
Demonstrate competency in a specialty area of RT practice
Collaborate with interprofessional team

Program outcomes curriculum map

FOUNDATIONAL COURSES

RT PROFESSIONAL COURSES

LEARNING EXPERIENCES

MASTERY LEVEL

MASTERY ASSESSMENT

Program outcomes curriculum map

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Program Learning Outcome	Foundational Courses	RT Professional Courses	Learning Experiences	Mastery Level	Mastery Assessment
Apply cardiopulmonary science	A&P, chemistry, physics	Pathophysiology, pharm	Case studies, simulation	Introduce	Objective Written Assessments
Perform RT procedures	Intro health professions	Procedures I–III	Labs, clinical education	Develop	Direct Observation Tools
Interpret diagnostic data	Math, physics, micro	Diagnostics, ABG, PFTs	Simulation, clinical education	Develop	Case-Based Assessments
Manage mechanical ventilation	Physics, gas laws	Mechanical ventilation I–II	Labs, simulation, clinical education	Master	Simulation-Based Assessments
Demonstrate professional behaviors	Communication, healthcare ethics	Clinical education I-III	Seminars, reflection	Develop	Clinical Evaluation Rubrics
Demonstrate competency in specialty area of RT practice	Mechanical ventilation	Neonatal-Pediatric RT	Labs, simulation, clinical education	Master	Objective Written Assessments, Simulation-Based Assessments
Collaborate with interprofessional team	Teamwork, communication	Clinical education I-III	Clinical education	Introduce	Clinical Evaluation Rubrics
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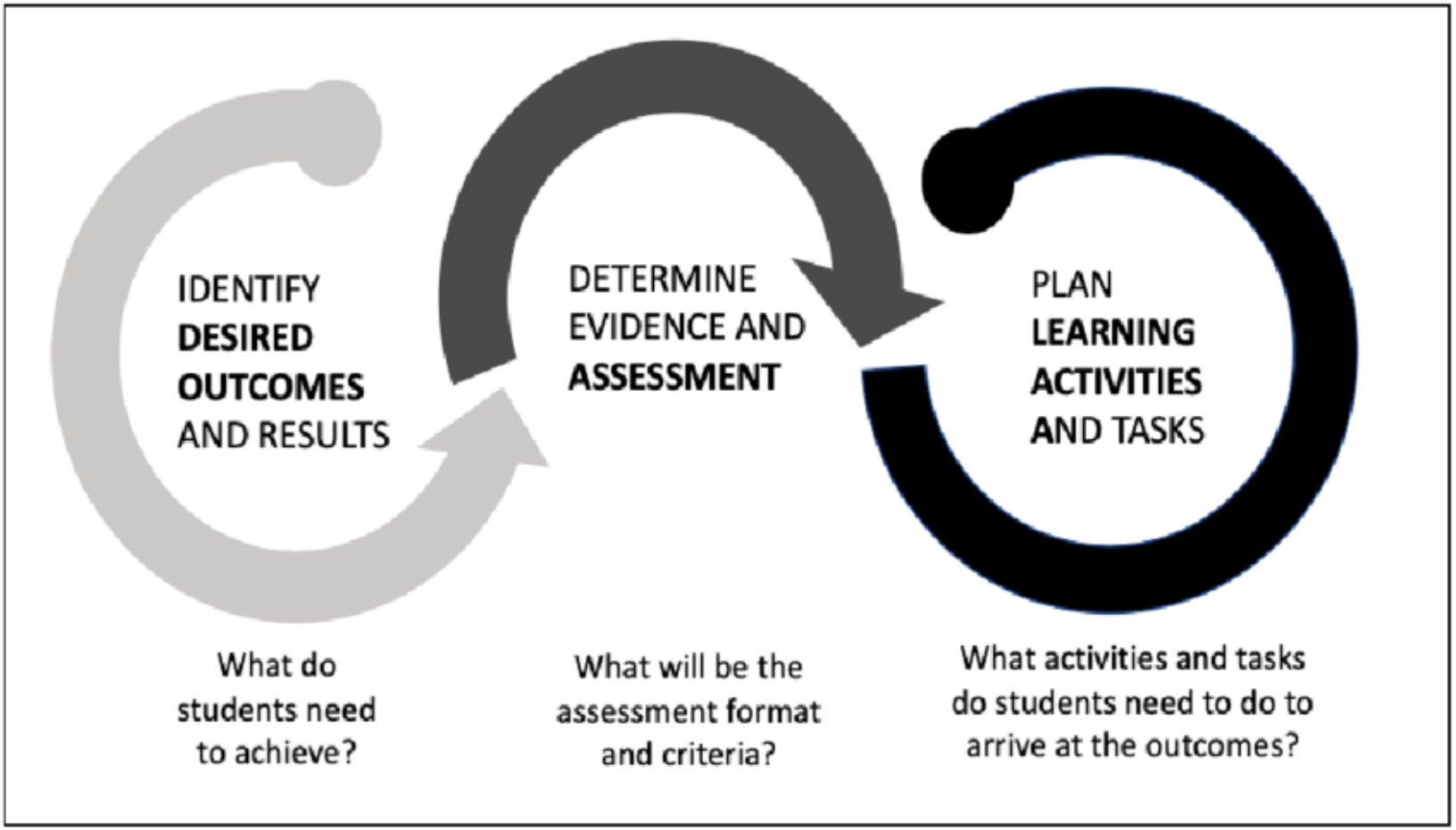
Program outcomes curriculum map

Program Learning Outcome	Foundational Courses	RT Professional Courses
Manage mechanical ventilation	Physics, gas laws	Mechanical ventilation I–II
Demonstrate professional behaviors	Communication, healthcare ethics	Clinical education I-III
Demonstrate competency in specialty area of RT practice	Mechanical ventilation	Neonatal-Pediatric RT

Learning Experiences	Mastery Level	Mastery Assessment
Labs, simulation, clinical education	Master	Simulation-Based Assessments
Seminars, reflection	Develop	Clinical Evaluation Rubrics
Labs, simulation, clinical education	Master	Objective Written Assessments, Simulation-Based Assessments

Course outcomes curriculum map

Backward design model adapted from Wiggins and McTighe (2005)



Course outcomes curriculum map

COARC Commission on Accreditation for Respiratory Care

www.coarc.com

Home » Accreditation » Forms and Reports

Curriculum Comparison and Sequencing

Course Requirements and Sequencing Table	Download
NBRC SDS Matrix Comparison	Download
NBRC Therapist Multiple Choice Detailed Content Outline Comparison (Effective 2020)	Download
NBRC Therapist Multiple Choice Detailed Content Outline Comparison (Effective 2027)	Download ★
Crosswalk: 2027 NBRC Content Outline → Updated Equipment List	Download
Lab Equipment Aligns with the 2027 NBRC Respiratory Therapy Examination Detailed Content Outline	Download

Degree Advancement

Developing and Implementing Your ESLOs	Download ★
DA-RAM	Download
The Value of CoARC Accreditation for Degree Advancement Programs in Respiratory Care	Download

Course outcomes curriculum map

Module / Week	Course Learning Outcome
Week 1: Intro to RT	Describe major cardiopulmonary structures
Week 2: Pulmonary Physiology	Explain normal and abnormal gas exchange
Week 3: Diagnostics	Interpret ABG values
Week 4: Infection Control	Apply RT infection control procedures
Week 5: Airway Management	Perform airway clearance techniques
Week 6: Therapeutic Procedures	Select and apply O2 devices
Week 7: Mechanical Ventilation	Set initial ventilator parameters

Course outcomes curriculum map

Foundational Content

RT Professional Content

Mastery Level

Learning Experiences

Assessment Methods

Course outcomes curriculum map

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Module / Week	Course Learning Outcome	Foundational Content	RT Professional Content	Mastery Level	Learning Experiences	Assessment Methods
Week 1: Intro to RT	Describe major cardiopulmonary structures	Basic cardiopulmonary A&P	Airway structures, lung volumes	Introduce	Microlearning	Objective Written Assessments
Week 2: Pulmonary Physiology	Explain normal and abnormal gas exchange	Gas laws, diffusion	Gas exchange, V/Q matching	Develop	Flipped Classroom	Objective Written Assessments
Week 3: Diagnostics	Interpret ABG values	Basic chemistry, acid-base	ABG sampling, interpretation	Develop	Case-based learning	Case-Based Assessments
Week 4: Infection Control	Apply RT infection control procedures	Microbiology principles	Ventilator circuit management, PPE	Master	Simulation-based learning	Simulation-Based Assessments
Week 5: Airway Management	Perform airway clearance techniques	Basic cardiopulmonary A&P	Suctioning, airway adjunct placement	Develop	Skills laboratory	Direct Observation Tools
Week 6: Therapeutic Procedures	Select and apply O2 devices	Gas properties	O2 therapy devices, humidification	Introduce	Skills laboratory	Direct Observation Tools
Week 7: Mechanical Ventilation	Set initial ventilator parameters	Pressure/flow relationships	Ventilator modes & alarms	Master	Simulation-based learning	Simulation-Based Assessments

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Course outcomes curriculum map

Module / Week	Course Learning Outcome	Foundational Content
Week 1: Intro to RT	Describe major cardiopulmonary structures	Basic cardiopulmonary A&P
Week 2: Pulmonary Physiology	Explain normal and abnormal gas exchange	Gas laws, diffusion
Week 3: Diagnostics	Interpret ABG values	Basic chemistry, acid-base
Week 4: Infection Control	Apply RT infection control procedures	Microbiology principles
Week 5: Airway Management	Perform airway clearance techniques	Basic cardiopulmonary A&P
Week 6: Therapeutic Procedures	Select and apply O2 devices	Gas properties
Week 7: Mechanical Ventilation	Set initial ventilator parameters	Pressure/flow relationships

RT Professional Content	Mastery Level	Learning Experiences	Assessment Methods
Airway structures, lung volumes	Introduce	Microlearning	Objective Written Assessments
Gas exchange, V/Q matching	Develop	Flipped Classroom	Objective Written Assessments
ABG sampling, interpretation	Develop	Case-based learning	Case-Based Assessments
Ventilator circuit management, PPE	Master	Simulation-based learning	Simulation-Based Assessments
Suctioning, airway adjunct placement	Develop	Skills laboratory	Direct Observation Tools
O2 therapy devices, humidification	Introduce	Skills laboratory	Direct Observation Tools
Ventilator modes & alarms	Master	Simulation-based learning	Simulation-Based Assessments

Resources - Respiratory Therapist Campaign

RESOURCES

Anderson, L. W., & Krathwohl, D. R. (Eds.) (2001). A taxonomy for Learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives. New York: Addison Wesley Longman.

Miller, G.E. The assessment of clinical skills/competence/performance. *Acad Med.* 1990; 65(9 suppl):S63-S67. https://doi.org/10.1097/00001888-199009000-00045

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https://coarc.com/

https://www.nbrc.org/