# MILLERSVILLE UNIVERSITY

Student Name_____ Student I.D.#_____

DEGREE: BS
MAJOR: BIOL
OPTION: RESP

**MAJOR REQUIREMENTS FOR A BS DEGREE IN BIOLOGY: RESPIRATORY THERAPY**

Total credit hours required: 120.0 minimum

## REQUIREMENTS AND POLICIES FOR THE BS BIOLOGY MAJOR

### A. Policies for Admission to the Major

1. New students (freshmen and transfers) must be admitted to the Biology major by the Office of Admissions upon admission to the University.
2. Admission of Millersville University students to the biology major (from other departments or undeclared status) requires that the student is in satisfactory academic standing as described in the Undergraduate Catalog. Students who were dropped from a Biology major also must satisfy the Biology Retention in the Major criteria before being readmitted to a Biology major.
3. Non-degree and continuing education students must be admitted to the Biology major by the Office of Admissions.

### B. Policies for Retention in the Major

1. University requirements for retention must be met.
2. Admission to the professional phase of the Respiratory Therapy program is competitive and not guaranteed. Biology majors in the Respiratory Therapy option must earn grades of C- (C minus) or higher in all required Biology and required-related courses (BIOL 101, 254, 255, 362, 461; CHEM 111, 112, 235, 326; MATH 161 or 163; PHYS 131 or 231), a satisfactory (S) grade in BIOL 257, and have a minimum GPA of 2.3 in these courses. Students must also maintain an overall GPA of 2.0.
3. BS Biology Respiratory Therapy students who meet the minimum math/science GPA of 2.3 can schedule an interview with the admission committee for the professional phase of the Respiratory Therapy program. The committee will assess students on her/his academic performance, letters of recommendation, communication skills, understanding of the profession, maturity, and potential to succeed in the professional phase of the program. Students who score poorly during her/his interview may be denied admission to the professional phase of the program even if she/he has met the minimum math/science GPA requirement. Students denied admission into the professional phase of the program will be advised on how he/she can strengthen her/his credentials for re-application the following year or how she/he can complete the degree requirements for an alternative program. If seats are available in the professional phase of the program, students who have not met the minimum math/science GPA may be interviewed and, if accepted, will be admitted on a probationary basis.
4. The requirements stated above must be satisfied before completion of 90 Millersville University credit hours.
5. Millersville University students changing majors, or Biology majors changing options within the Biology major, must satisfy the above requirements prior to completion of 45 additional Millersville University credit hours.
   Note: Students who desire to change their major to Biology may substitute BIOL 100 for BIOL 101 if they earn a grade of B- (B minus) or higher in this course.
6. Transfer students with 60 credit hours or more must satisfy the above requirements prior to completion of 45 Millersville University credit hours. Transfer students with fewer than 60 credits should refer to the policy for all other majors (part 4 above).
7. Any students failing to meet the above requirements will be dropped from the Biology major. Students who wish to re-enter the major, must follow the requirements stipulated in part 5 above.

### C. Policies for Completion of the Major

1. Completion of all University curricular requirements.
2. ENGL 319, Science Writing, is the recommended course for the Upper Level Writing Requirement under the General Education Curriculum Requirements.

### D. Admission to the professional phase is competitive and is not guaranteed (see part B above).

**Note to the student:** *This form is provided as a guide. It is your responsibility to consult regularly with your advisor to be aware of changes and curriculum details which are not incorporated on this form.*

# MAJOR SEQUENCE AND DEGREE REQUIREMENTS

Major: **BS BIOLOGY**
Option: **RESPIRATORY THERAPY**
Major Field Requirements: **53.0 credits**
Other Requirements: **24.0-26.0 credits**

When applicable, up to six of the **REQUIRED RELATED** courses may be credited toward the Liberal Arts Core subject to normal distribution rules.

| Course No. | Short Title | C.H. | Grade |
|---|---|---|---|
| **REQUIRED BIOLOGY COURSES (12.0 credits)** | | | |
| BIOL 101 | Foundations of Biology | 4.0 | |
| BIOL 362 | Cell & Development | 4.0 | |
| BIOL 364 | Genetics & Molecular Biology | 4.0 | |
| **REQUIRED RESP THER COURSES (12.0 credits)** | | | |
| BIOL 254 | Human Anatomy Phys I | 4.0 | |
| BIOL 255 | Human Anatomy Phys II | 4.0 | |
| BIOL 257 | Intro Allied Health Professions | 1.0 | |
| BIOL 461 | General Microbiology | 3.0 | |

**RESP THER PROFESSIONAL PHASE I (32.0 credits)**

Upon completion of 32.0 credit hours of clinical coursework, 32.0 credit hours will be credited toward the B.S. degree in Biology with the Respiratory Therapy option.

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| RESP 410 | Acute Cardiopulmonary Care | 2.0 | |
| RESP 411 | Respiratory Care Techniques I | 2.0 | |
| RESP 412 | Prin. Aerosol & Gas Therapy | 3.0 | |
| RESP 413 | Respiratory Assess & Therap. | 4.0 | |
| RESP 414 | Respiratory Care Techniques II | 3.0 | |
| RESP 419 | Respiratory Care in Alt Sites | 2.0 | |
| RESP 420 | Arterial Blood Gas Analysis | 3.0 | |
| RESP 421 | Physio Mechanical Ventilation | 2.0 | |
| RESP 422 | Pharmacology | 2.0 | |
| RESP 423 | Infectious Diseases | 2.0 | |
| RESP 424 | Noninfectious Diseases | 2.0 | |
| RESP 425 | Neonatology for Resp Therapist | 2.0 | |
| RESP 460 | Clinical Practice I | 1.0 | |
| RESP 461 | Clinical Practicum I | 2.0 | |

After completion of the Phase I coursework, the student may graduate with a B.S. degree in Biology, Respiratory Therapy; however, the graduate must complete the Phase II coursework in order to be employed and certified as a respiratory therapist.

**RESP THER PROFESSIONAL PHASE II (22.0 credits)**

Following the completion of 22.0 credit hours of Phase II coursework, the student will receive a Respiratory Therapy certificate, which will permit them to seek employment as a respiratory therapist and qualifies them to take the certification exam.

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| RESP 415 | Tech Aspects Mech Ventilation | 3.0 | |
| RESP 417 | Respiratory Care Techniques III | 3.0 | |
| RESP 462 | Clinical Practice II | 1.0 | |
| RESP 463 | Clinical Practicum II | 3.0 | |
| RESP 464 | Clinical Practicum III | 10.0 | |
| RESP 495 | Respiratory Care Research | 2.0 | |

| Course No. | Short Title | C.H. | Grade |
|---|---|---|---|
| **REQUIRED RELATED (24.0-26.0 credits)** | | | |
| **Chemistry (16.0 credits)** | | | |
| CHEM 111* | Introductory Chemistry I | 4.0 | |
| CHEM 112* | Introductory Chemistry II | 4.0 | |
| CHEM 235 | Short Course Organic Chem | 4.0 | |
| CHEM 326 | Biochemistry I | 4.0 | |

Note: CHEM 231* and CHEM 232 (total 8.0 credits) may substitute for CHEM 235.
*Must earn a C- or better in these CHEM courses before completing CHEM 235 or CHEM 232.

Note: Those wishing to complete a Chemistry minor must complete CHEM 265 (Quantitative Analysis) in addition to those Chemistry courses listed above.

Note: Students who are considering going to graduate school or attending medical, dental, veterinary school or wanting to enroll in school to become a pharmacist, physical therapist, or physician assistant after completing their professional phase SHOULD TAKE CHEM 231 and 232.

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| **Mathematics (4.0 - 5.0 credits)** | | | |
| MATH 161 | Calculus I | 4.0 | |
| | **---- ---- or ---- ----** | | |
| MATH 163 | Honors Calculus | 5.0 | |
| **Physics (4.0-5.0 credits)** | | | |
| PHYS 131 | Physics I with Algebra | 4.0 | |
| | **---- ---- or ---- ----** | | |
| PHYS 231 | Physics I with Calculus | 5.0 | |

Note: Students who might be interested in attending graduate school or professional school after completing their professional phase SHOULD ALSO TAKE PHYS 132 OR PHYS 232.

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| **Suggested Additional Course (no minimum)** | | | |
| PSYC 100 | General Psychology | 3.0 | |

Note: Students who are considering going to graduate school or attending medical, dental, veterinary school or wanting to enroll in school to become a pharmacist, physical therapist, or physician assistant after completing their professional phase SHOULD ALSO consider taking General Psychology (PSYC 100), which can be used toward the G3 general education requirement.

**General Electives (as necessary)**

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