Academic Plan - Associate of Science Biology

**Catalog Year: 2019/2020**

**Total Credits:60**

The purpose of a statewide articulation agreement is to identify the courses a student at a Colorado public community college must complete as part of an AA/AS degree to be guaranteed to be able to complete the designated baccalaureate degree program at any public four-year college and university (hereafter referred to as receiving institutions) that offers that program within the minimum number of credits designated by the Colorado Commission on Higher Education.

# General Education Courses

3 Credits, Arts / Humanities GT-AH1-AH4, available fall spring summer

3 Credits, Arts / Humanities GT-AH1-AH4, available fall spring summer

3 Credits, ENG 121 - English Composition I: GT-CO1\*, available fall spring summer

3 Credits, ENG 122 - English Composition II: GT-CO2, available fall spring summer

3 Credits, History GT-HI1, available fall spring summer

3 Credits, Social / Behavioral Science GT-SS1-SS3, available fall spring summer

3 Credits, Social / Behavioral Science GT-SS1-SS3, available fall spring summer

5 Credits, BIO 111 - General College Biology I with Lab: GT-SC1\*, available fall spring summer

5 Credits, CHE 111 - General College Chemistry I with Lab: GT-SC1\*, available fall spring summer

5 Credits, MAT 201 - Calculus I: GT-MA1, available fall spring summer

# Additional Required Courses

4 Credits, Elective (See Notes for specific requirements), available fall spring summer

5 Credits, BIO 112 - General College Biology II with Lab: GT-SC1\*, available fall spring

5 Credits, CHE 112 - General College Chemistry II with Lab: GT-SC1\*, available fall spring summer

5 Credits, PHY 111 - Physics: Algebra-Based I with Lab: GT-SC1\*, available fall spring

5 Credits, PHY 112 - Physics: Algebra-Based II with Lab: GT-SC1\*, available fall spring

# Pre-Requisites, Co-Requisites, and Recommendations

BIO 112 - General College Biology II with Lab: GT-SC1\*

Pre-Requisite: BIO 111 - General College Biology I with Lab: GT-SC1 OR Score of 75+ on Biology Placement Test

CHE 111 - General College Chemistry I with Lab: GT-SC1\*

Pre-Requisite: MAT 121 - College Algebra: GT-MA1 or equivalent placement scores

CHE 112 - General College Chemistry II with Lab: GT-SC1\*

Pre-Requisite: CHE 111 - General College Chemistry I with Lab: GT-SC1

Pre-Requisite: MAT 121 - College Algebra or Higher

ENG 122 - English Composition II: GT-CO2

Pre-Requisite: ENG 121 - English Composition I OR ENG 131 - Technical Writing I

MAT 201 - Calculus I: GT-MA1

Pre-Requisite: MAT 122 - College Trigonometry: GT-MA1 OR MAT 166 - Pre-Calculus: GT-MA1

PHY 111 - Physics: Algebra-Based I with Lab: GT-SC1\*

Pre-Requisite: MAT 121 - College Algebra or Higher

PHY 112 - Physics: Algebra-Based II with Lab: GT-SC1\*

Pre-Requisite: MAT 121 - College Algebra or Higher

Pre-Requisite: PHY 111 - Physics: Algebra-Based I with Lab: GT-SC1

# Program Outcomes

Explain and apply the scientific method including designing valid hypotheses and experiments that test them.

Identify, read, understand and synthesize information presented in primary scientific literature and use proper APA in-text and full reference citation format to refer to research in their own writing.

Demonstrate familiarity with broad biological background concepts including, cellular and molecular structure and function, Mendelian genetics, gene expression, organismal form and function, and evolution.

Explain and apply proper laboratory safety procedures, correct use of equipment and will demonstrate proper lab experimental technique.

# Notes

Electives: Select from any of the following (excluding Special Topics, Independent Study, Capstone, and Internships): AAA 101, AAA 109, AST (any), BIO (100 or higher), CHE (any), CIS 118, CSC 119, CSC 126, CSC 160, CSC 161, CSC 165, CSC 200, CSC 225, CSC 233, CSC 236, CSC 240, ECO 201, ECO 202, ECO 245, EGG (any), ENV 101, ENV 110, any Foreign Language courses (including ASL) numbered 111 or higher, GEO 111, GEO 112, GEY 111, GEY 112, GEY 135, HNR 100, HNR 289, MAT 121 (or higher, except 155 / 156), MET 150, or PHY 111 (or higher).

Students are strongly encouraged to seek academic advising prior to registration regarding the acceptability of online science courses if they anticipate transferring to a 4-year institution or completing graduate work in the sciences or health professions. It should be noted that per Colorado Revised Statute, 23-1-125(1)€, general education courses taken online are guaranteed to satisfy core course (gtPathways) requirements at all Colorado public institutions of higher education.

Course availability is subject to change.

Refer to 19/20 catalog for specific requirements and important information about this degree.

The Colorado Department of Higher Education website has additional information about this statewide agreement.

Follow the Recommended Course Sequence on the following pages of this document.

Recommended courses may be listed above for certain electives; consult with the Academic Advising Office (advising@arapahoe.edu or 303.797.5664) for additional elective recommendations.

\*This course requires college level readiness as measured by Accuplacer, ACT, or SAT scores; approved high school course work that is less than five years old; or successful completion of appropriate college-readiness course.

AAA 101 – College 101: Student Experience is required for all new college students seeking degrees or transfer.

# Graduation Requirements

All courses required for this degree must be completed with a "C" or better to meet graduation requirements.

To graduate, students must apply for graduation (form available at www.arapahoe.edu/graduation) by the deadline and meet all degree requirements.

# RECOMMENDED COURSE SEQUENCE FULL-TIME TRACK

## Year 1: Fall

3 Credits, Arts / Humanities GT-AH1-AH4

5 Credits, BIO 111 - General College Biology I with Lab: GT-SC1

4 Credits, Elective

3 Credits, ENG 121 - English Composition I: GT-CO1

## Year 1: Spring

5 Credits, BIO 112 - General College Biology II with Lab: GT-SC1

5 Credits, CHE 111 - General College Chemistry I with Lab: GT-SC1

3 Credits, ENG 122 - English Composition II: GT-CO2

3 Credits, Social / Behavioral Science GT-SS1-SS3

## Year 2: Fall

5 Credits, CHE 112 - General College Chemistry II with Lab: GT-SC1

5 Credits, PHY 111 - Physics: Algebra-Based I with Lab: GT-SC1

3 Credits, Social / Behavioral Science GT-SS1-SS3

## Year 2: Spring

3 Credits, Arts / Humanities GT-AH1-AH4

3 Credits, History GT-HI1

5 Credits, MAT 201 - Calculus I: GT-MA1

5 Credits, PHY 112 - Physics: Algebra-Based II with Lab: GT-SC1

# RECOMMENDED COURSE SEQUENCE PART-TIME TRACK

## Year 1: Fall

4 Credits, Elective

3 Credits, ENG 121 - English Composition I: GT-CO1

3 Credits, Social / Behavioral Science GT-SS1-SS3

## Year 1: Spring

5 Credits, BIO 111 - General College Biology I with Lab: GT-SC1

3 Credits, ENG 122 - English Composition II: GT-CO2

## Year 1: Summer

3 Credits, Social / Behavioral Science GT-SS1-SS3

## Year 2: Fall

5 Credits, BIO 112 - General College Biology II with Lab: GT-SC1

5 Credits, MAT 201 - Calculus I: GT-MA1

## Year 2: Spring

5 Credits, CHE 111 - General College Chemistry I with Lab: GT-SC1

5 Credits, PHY 111 - Physics: Algebra-Based I with Lab: GT-SC1

## Year 2: Summer

3 Credits, Arts / Humanities GT-AH1-AH4

3 Credits, Arts / Humanities GT-AH1-AH4

3 Credits, History GT-HI1

## Year 3: Fall

5 Credits, CHE 112 - General College Chemistry II with Lab: GT-SC1

5 Credits, PHY 112 - Physics: Algebra-Based II with Lab: GT-SC1