Academic Plan - Associate of Science Fermentation Science

**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, COM 115 - Public Speaking\*, 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, SOC 101 - Introduction to Sociology I: GT-SS3\*, available fall spring summer

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

4 Credits, MAT 121 - College Algebra: GT-MA1 or Higher\*, available fall spring summer

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

5 Credits, CHE 101 - Introduction to Chemistry I with Lab: GT-SC1\*, available fall spring summer

# Additional Required Courses

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

3 Credits, CIS 115 - Introduction to Computer Information Systems OR CIS 118 Introduction to PC Applications,

available fall spring summer

4 Credits, FER 101 - Craft Beer Brewing\*, available fall

4 Credits, FER 203 - Fermented Foods Sciences\*, available spring

5 Credits, BIO 208 - General College Microbiology, available spring

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

# Pre-Requisites, Co-Requisites, and Recommendations

ENG 122 - English Composition II: GT-CO2

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

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

Pre-Requisite: MAT 121 - College Algebra or Higher

# Program Outcomes

Demonstrate aptitude with scientific research methods. As such, they will be able to apply scientific principles to a research project, analyze experimental results, and draw reasonable conclusions from data.

Synthesize knowledge of key scientific fermentation principles across various applications.

Identify main biological and chemical inputs and products for diverse fermentation processes.

Apply knowledge of fermentation biochemistry to analyze new situations.

Integrate biological and chemical processes to the stability and quality of fermented foods.

Describe the brewing process and explain key factors influencing beer maturation, quality, and contamination.

# 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).

FER 101 and FER 203 will be offered in alternate fall semesters.

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/departments-and-programs/graduation) by the deadline and meet all degree requirements.

# RECOMMENDED COURSE SEQUENCE FULL-TIME TRACK

## Year 1: Fall

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

3 Credits, COM 115 - Public Speaking

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

4 Credits, FER 101 - Craft Beer Brewing

## Year 1: Spring

3 Credits, CIS 115 or CIS 118

1 Credits, Elective

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

3 Credits, History GT-HI1

4 Credits, MAT 121 - College Algebra: GT-MA1 or Higher

## Year 2: Fall

3 Credits, Arts / Humanities GT-AH1-AH4

5 Credits, CHE 101 - Introduction to Chemistry I with Lab: GT-SC1

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

3 Credits, SOC 101 - Introduction to Sociology I: GT-SS3

## Year 2: Spring

3 Credits, Arts / Humanities GT-AH1-AH4

5 Credits, BIO 208 - General College Microbiology

4 Credits, FER 203 - Fermented Foods Sciences

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

# RECOMMENDED COURSE SEQUENCE PART-TIME TRACK

## Year 1: Fall

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

4 Credits, MAT 121 - College Algebra: GT-MA1 or Higher

## Year 1: Spring

5 Credits, CHE 101 - Introduction to Chemistry I with Lab: GT-SC1

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

## Year 1: Summer

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

3 Credits, COM 115 - Public Speaking

## Year 2: Fall

4 Credits, FER 101 - Craft Beer Brewing

3 Credits, SOC 101 - Introduction to Sociology I: GT-SS3

## Year 2: Spring

3 Credits, Arts / Humanities GT-AH1-AH4

5 Credits, BIO 208 - General College Microbiology

## Year 2: Summer

3 Credits, History GT-HI1

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

## Year 3: Fall

3 Credits, Arts / Humanities GT-AH1-AH4

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

## Year 3: Spring

3 Credits, CIS 115 or CIS 118

1 Credits, Elective

4 Credits, FER 203 - Fermented Foods Sciences