



Tohono O'odham Community College
Associate of Science in Biological and Biomedical Science



NAME:	TOCC ID:
TOCC EMAIL:	PHONE NUMBER:
TERM OF ADMISSION:	EXPECTED GRADUATION YEAR/TERM:
ACADEMIC ADVISOR:	FACULTY ADVISOR:

Himdag and General Education Requirements:

- **Tohono O'odham Himdag:** (7 cr): HIS 122 (Institutions of Americas: 3 cr) and THO 101 (Written & Oral Comm: 4 cr)
- **Arizona General Education Courses (AGEC) Requirements listed below (with credit requirements)**

Note: MAT 142H and courses ending in N (e.g., BIO 100N) are 4 cr. hrs unless otherwise indicated. The rest of the courses are 3 cr. hrs unless otherwise indicated.

COURSE PREFIX	COURSE NAME	REPLACEMENT COURSE	SEMESTER	YEAR	CREDITS	GRADE	MET
Institutions of the Americas: (3 cr)							
HIS 122	Tohono O'odham History and Culture						
Written and Oral Communications: (10 cr – first 6 must be composition/technical writing)							
WRT 101	Writing I						
WRT 102	Writing II						
THO 101	Elementary Tohono O'odham I						
Quantitative Reasoning: (5 cr)							
MAT 220	Calculus I (Prerequisites: MAT 182 or MAT 187; or placement test equivalent)						
Arts and Humanities: (6 cr)							
Social and Behavioral Sciences: (6 cr)							
Natural Sciences: (4 cr)							
BIO 181N	BIO 181N Unity of Life I (Prerequisite: BIO 100N or CHM 121N or higher, or instructor approval)						
Total General Education Credits Needed: 34				Total General Education Credits Earned:			

Core Requirements:

COURSE PREFIX	COURSE NAME	REPLACEMENT COURSE	SEMESTER	YEAR	CREDITS	GRADE	MET
BIO 182N	Unity of Life II						
CHM 151N	General Chemistry I						

CHM 152N	General Chemistry II						
PHY 121N	Introductory Physics I						
PHY 122N	Fundamentals of Physics II						
BIO 232	Principles of Research in Natural Science						
BIO 298	Service Learning Practicum						
BIO 299	Research Practicum						
Total Core Credits Needed: 29				Total Core Credits Earned:			
Total Program Credits Needed: 63				Total Program Credits Earned:			

<p>Recommended Life Science Elective courses based on student interest in Life Sciences (Meet with Faculty Advisor for more information)</p>	
<p style="text-align: center;">Agricultural Sciences</p> <ul style="list-style-type: none"> ● ANR 111N Agroecology and Tohono O’odham Crop Production (4 credits) ● ANR 130N Plant Science (4 credits) ● ANR 286N Water Resources (4 credits) ● ANR 221N Soil Science (4 credits) ● BIO 208N Tohono O’odham Ethnobotany (4 credits) 	<p style="text-align: center;">Natural Resources</p> <ul style="list-style-type: none"> ● CHM 151N General Chemistry I (5 credits) ● CHM 152N General Chemistry II (5 credits) <p style="text-align: center;">CHOOSE COURSES FROM THE FOLLOWING LIST FOR A TOTAL OF AT LEAST 9 CREDITS:</p> <ul style="list-style-type: none"> ● ANR 221N Soil Science (4 credits) ● ANR 286N Water Resources (4 credits) ● ANR 290N Wildlife Conservation (4 credits) • ● ANR 128N Plant Ecology of the Sonoran Desert (4 credits) ● GEO217 Introduction to Global Positioning (2 credits) ● GEO 267 Introduction to Geographic Info Systems (3 credits) ● GEO 277 Advanced Geographic Information Systems (3 credits) ● BIO 254N Global Change Biology (4 credits)
<p style="text-align: center;">Environmental Science</p> <ul style="list-style-type: none"> ● CHM 151N General Chemistry I (5 credits) ● CHM 152N General Chemistry II (5 credits) ● PHY 121N Fundamentals of Physics I (5 credits) ● ANR 221N Soil Science (4 credits) 	
<p>Health Science</p> <ul style="list-style-type: none"> ● CHM 151N General Chemistry I (5 credits) ● CHM 152N General Chemistry II (5 credits) ● PHY 121N Fundamentals of Physics I (5 credits) ● BIO 160N Intro to Human Anatomy & Physiology or BIO 127N Human Nutrition & Biology (4 credits) 	

Associate of Science in Life Science

TOCC’s Science and Health programs include an Associate of Science in Life Science degree for transfer with the following concentrations: Agriculture, Health Science, and Natural Resources. All options in the AS Life Science are designed for students who plan to transfer to four-year colleges and universities after they graduate from TOCC. The AS Life Science degree can help a student attain admission to one of Arizona’s public universities as a junior and prepares students for transfer to fields such as allied health, public health, medicine, veterinary studies, agriculture, natural resources, and science education.

Program Learning Outcomes:

1. Demonstrate knowledge of scientific concepts and vocabulary.
2. Design and conduct a research project.
3. Display a sense of place, by being able to identify health and environmental issues and propose a culturally-appropriate solution.
4. Apply critical and creative thinking skills to solve problems.

Areas of Focus

Health Sciences: This area is designed for transfer to four-year programs in health-related fields such as allied health, medicine, or veterinary science. Allied health careers include all non-nurse and non-physician health care fields and some examples include audiologists, speech language pathologists, physical therapists, occupational therapists, diagnostic medical personnel (medical laboratory scientists), nutritionists, and dietitians.

Natural Resources: This area is designed for transfer to four-year programs in environmental science and, in particular, the area of environmental science that is involved in identifying, controlling, or eliminating sources of pollutants or hazards affecting the environment or public health. Some professions include soil conservationist, hydrologist, water quality specialist, environmental toxicologist, and air pollution analyst.

Environmental Sciences: This area is designed for transfer to four-year programs in the agricultural sciences which includes the study of the technologies of soil cultivation, crop cultivation and harvesting, animal production, and the processing of plant and animal products for human consumption and use. Careers include agronomist, animal scientist, crop production manager, agricultural education, agricultural extension agent, and horticulturist.

Agriculture Sciences: This area is designed for transfer to four-year programs in the agricultural sciences which includes the study of the technologies of soil cultivation, crop cultivation and harvesting, animal production, and the processing of plant and animal products for human consumption and use. Careers include agronomist, animal scientist, crop production manager, agricultural education, agricultural extension agent, and horticulturist.

Students:

You must secure official approval by your advisor(s) before submitting the **final** Program of Study. By signing or entering your name below, you agree to the following statement: “Students are responsible for complete knowledge of Academic Catalog requirements in their degree plan and for adhering to all policies in Academic Catalog and Student Handbook.”

Signature Panel:

Please indicate approval of the curriculum on the Program of Study by placing your signature (formal electronic signatures are permitted) in the space provided.

Student:	Date:
Academic Advisor:	Date:
Faculty Advisor:	Date:
Registrar:	Date:
Dean of Academics:	Date: