

Guided Pathways Program Map

NAME OF PROGRAM OF STUDY: **BIOLOGICAL SCIENCES**

EXPECTED CERTIFICATE/DEGREE (Total Number of Units):
ASSOCIATE OF SCIENCE-60 CREDIT HOURS-FULL TIME

DEVELOPMENT EDUCATION OPTIONS: At EPCC, some students need to take developmental courses in Reading, Writing, Math, and/or ESOL based on their placement scores. Designed to prepare students for their college level courses, developmental courses are also offered in accelerated formats to help students reach this level faster. There are many support services available to help students succeed on their developmental paths. Students should enroll in any required developmental coursework their first semester in order to meet college course requirements and not delay degree completion. Scan the QR code below to learn more about EPCC's different developmental options. QR Scan reader required. You can also visit [Developmental Education](http://www.epcc.edu/developmental-education) webpage at epcc.edu to access the information.



PROGRAM DESCRIPTION: The two-year Biological Science program prepares students to transfer directly into a Bachelor's degree program in Biology at a four-year institution. Students are responsible for completing all prerequisite courses within the program. Students planning to transfer to a four-year institution should check degree requirements of the college or university to which they plan to transfer.

CAREER OPPORTUNITIES: According to the American Institute of Biological Sciences, studying biology teaches us to ask questions, make observations, evaluate evidence, and solve problems. In general, the Biological Sciences teach us to work in a team environment, and allows opportunities to make decisions; solve problems; communicate verbally with a diverse audience; plan, organize, and prioritize work; obtain and process information; analyze quantitative and qualitative data; create and/or edit written reports; and influence others on important societal issues. Work in Biology increases our understanding about the natural world in which we live and helps us address issues of personal well-being and global concern, such as environmental degradation, threats to human health, and maintaining viable and abundant food supplies. In general, there are several career paths a biologist can take, which include:

- 1. Research-** Study various biological topics in a lab setting and/or in the natural environment in order to better understand how natural systems work.
- 2. Health Care-** Develop public health campaigns to warn about various illnesses/diseases and help to prevent their spread throughout the world. With more education and training, biologists can become veterinarians, nurses, doctors, dentists, and other health care professionals.
- 3. Environmental Management & Conservation-** Solve environmental problems and conserve the natural world for future generations. Jobs include national, state, and local park rangers; zoo and aquarium biologists; land management offices; and wildlife rehabilitation centers.

4. Education- Work with various people and educate them about the natural world in the classroom, lab setting, or outdoors and include primary and secondary public schools, colleges, universities, science museums, zoos, aquariums, parks, and nature centers.

If biologists combine their training and education with that from other fields of study, other directions in biological career pathways may include:

- 1. Biotechnology-** Work in genetic engineering, pharmaceutical development, medical technologies, or as lab technicians/technologists.
- 2. Forensic Science-** Work with law enforcement agencies to discover and process evidence used to solve crimes. With additional education and training, a biologist in this field can be a medical examiner.
- 3. Politics and Policy-** Work with lawmakers to create new legislation on topics such as biomedical research and environmental protection. Professional biologists can serve as policy advocates and political advisors.
- 4. Business and Industry-** Work with drug companies and providers of scientific products and services to research and test new products.
- 5. Economics-** Work with the government and other organizations to study and address the economic impacts of biological issues, like species extinctions, forest protection, and environmental pollution.
- 6. Mathematics-** Bioinformatics and computational biology apply math techniques to model ecosystem processes or model gene sequences.
- 7. Science Writing & Communication-** Work as journalists and writers to inform the public about relevant/emerging biological issues. These biologists can work for high-profile journals such as Nature or Science magazine, or in print/media networks such as National Geographic or Discovery.
- 8. Art-** Can draw illustrations with scientific accuracy and may be employed by magazines and journals (Scientific American), museums and aquariums, hospitals and medical training centers, state and local government agencies, or illustrators of science textbooks.

Salaries for Associate of Science Biology degrees range from \$28,860--\$55,000, depending on job type, years of experience, and location. Salaries for Bachelor of Science Biology degrees range from \$39,740-\$72,414, depending on job type, years of experience, and location. Salaries for Masters of Science Biology degrees range from \$39,740--\$133,400, depending on job type and location. Salaries for Doctorate of Science Biology degrees range from \$59,000-\$197,920, depending on job type and location.

Information on employment opportunities is limited because not all opportunities are listed here, and opportunities listed here could require an associates, bachelors, masters, or doctorate degree, a graduate degree and/or specialization/training in another field. Students are encouraged to explore job titles in more detail to learn about recommended degrees and coursework, as well as additional licenses, training, or other degrees that may be required.

Potential job titles for those with an Associates of Science Biology degree include Biology Technician, Forest/Conservation Technician, Medical/Clinical Lab Technician, Clinical Research Associate, Food Inspector, Biofuel Technician, Genomics Technician, Molecular Biology Technician, Quality Assurance Specialist, Water Quality Technician, Technical Services Representative, Lab Assistant, Biological Monitor, Research Technician, Cell Culture Technician, Cardiovascular Technician, Dental Hygienists, Diagnostic Medical Sonographers, Environmental Science & Protection Technicians, Funeral Service Managers, MRI

Technologists, Medical Equipment Repairers, Morticians, Occupational Therapy Assistants, Physical Therapy Assistants, Veterinary Technologists/Technicians, or Radiologic Technologists.

PROGRAM REQUIREMENTS: Texas State Legislature mandates that institutions assess entering undergraduate students who seek a degree or level two certificate for college-level course readiness mathematics, writing, and reading (TSI), and to provide individualized developmental education programs to those students not demonstrating readiness. The Texas Higher Education Coordinating Board (THECB) requires the reporting of developmental progression and outcome of all students engaged in developmental education. Students will complete the TSI upon passing the reading, writing, and math sections of TSI Assessment, or when they have received a passing grade in the last level of developmental education or a college level course in reading, writing, and math. Students that are not TSI complete must take the developmental course prior to taking a college level course.

Bring in this degree plan every time you meet with a counselor for advising and updating.

2018 - 2019
AS-BIOL

Expires in 5 years

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**EXPECTED CERTIFICATE/DEGREE (Total Number of Units):
ASSOCIATE OF SCIENCE-60 CREDIT HOURS-FULL TIME**

Student Name _____ ID# _____ VA Student _____

Student Signature _____ Date _____

Counselor Name _____ Counselor Signature _____

^This is a preferred course

FIRST YEAR

FIRST SEMESTER

Code	Course Name	Units	Milestones	Policies/structures needed to support student progression	Semester Completed	Grade
BIOL 1306	General Biology- Science Majors I	3		Core Curriculum Course		
BIOL 1106	General Biology- Science Majors Laboratory I	1				
EDUC 1300	Learning Framework	3		Core Curriculum Course		
ENGL 1301	Expository English Composition	3		Core Curriculum Course		
^Select one of the following courses to take: SPCH 1315 or SPCH 1321	Fundamental of Effective Speech or Organizational & Professional Communication	3	Please visit your counselor/ advised to discuss your next semester courses.	Core Curriculum Course		
^Select one Mathematics block course to take		3				
Total		16				

^SPCH 1315 is the preferred course for Biology. However, you may take SPCH 1321 if it better suits you. Check the [course catalog](#) for all possible courses and information and/or visit your counselor/advisor to review your options.

^MATH 1314 is the preferred course for Biology. However, you may take MATH 2412 or MATH 2413 if one of these options better suits you. Check the [course catalog](#) for all possible courses and information and/or visit your counselor/advisor to review your options.

SECOND SEMESTER

Code	Course Name	Units	Milestones	Policies/structures needed to support student progression	Semester Completed	Grade
BIOL 1307	General Biology- Science Majors II	3		Core Curriculum Course		
BIOL 1107	General Biology- Science Majors Laboratory II	1				
ENGL 1302	Research Writing & Literary Analysis	3		Core Curriculum Course		
HIST 1301	History of the United States to 1877	3	Please visit your counselor/ advisor to discuss your next semester courses	Core Curriculum Course		
CHEM 1311	General Chemistry I	3		Core Curriculum Course		
CHEM 1111	General Chemistry Laboratory I	1				
Total		14				

SUMMER SESSION ONE

Code	Course Name	Units	Milestones	Policies/structures needed to support student progression	Semester Completed	Grade
HIST 1302	History of the United States since 1877	3	Please visit your counselor/advisor to discuss your next semester courses	Core Curriculum Course		
GOVT 2305	American Government & Politics	3		Core Curriculum Course		
Total		6				

SECOND YEAR

THIRD SEMESTER

Code	Course Name	Units	Milestones	Policies/structures needed to support student progression	Semester Completed	Grade
^Select one Biology elective option to take		4				
CHEM 1312	General Chemistry II	3		Core Curriculum Course		
CHEM 1112	General Chemistry Laboratory II	1				
^Select one Creative Arts elective to take		3	Please visit your counselor/	Core Curriculum Course		
^Select one Language,		3		Core Curriculum Course		

Philosophy, & Culture block course to take			advisor to discuss next semester courses			
Total		14				

^**BIOL 2421** is the preferred course for Biology. However, you may take another Biology Option elective that better suits you. Check the [course catalog](#) for all possible courses and information and/or visit your counselor/advisor to review your options.

^**MUSI 1306** is the preferred course for Biology. However, you may take another Creative Arts elective that better suits you. Check the [course catalog](#) for all possible courses and information and/or visit your counselor/advisor to review your options.

^**PHIL 2306** is the preferred course for Biology. However, you may take another Language, Philosophy, & Culture block course that better suits you. Check the [course catalog](#) for all possible courses and information and/or visit your counselor/advisor to review your options.

FOURTH SEMESTER

Code	Course Name	Units	Milestones	Policies/structures needed to support student progression	Semester Completed	Grade
^Select one Biology option elective to take		4				
GOVT 2306	State & Local Government	3		Core Curriculum Course		
^Select one Social & Behavioral Science block course to take		3	Completion of the Associate of Science in Biology	Core Curriculum Course		
Total		10				

^Select one of the following Biology electives to take: BIOL 1411, BIOL 1313 (w/ BIOL 1113 lab), BIOL 1413, BIOL 2421 (if not taken already), or ENVR 1401. Check the [course catalog](#) for course information and/or visit your counselor/advisor to review your options.

^**PSYC 2301** is the preferred course for Biology. However, you may take another Social & Behavioral Science block course that better suits you. Check the [course catalog](#) for all possible courses and information and/or visit your counselor/advisor to review your options.

TRANSFER PATHS AND REQUIREMENTS: Students who plan to transfer are encouraged to obtain requirements for the transfer school and to work with an Advisor or Counselor to ensure transferability of EPCC courses to the transfer school. Students who complete the entire EPCC Core Curriculum (42 credit hours) can transfer the whole block to any public higher education institution in Texas without having to take additional Core Curriculum courses at the transfer institution. Students who do not complete the EPCC Core Curriculum can transfer the complete courses but may still need additional Core Curriculum courses at the transfer institution.