



**Bachelor of Applied Science in Applied Health Sciences
Biotechnology Specialization**

Associate Degree Awarded 60 Credit hours		
An AS or AA degree from a Regionally Accredited Institution is required for admission into EFSC BAS programs		
General Education Credit Requirement		
Students entering the program with an Associate in Arts degree from a Florida state institution will receive credit for all 36 general education credits. Students entering the program with an AS degree, or an AA degree from an institution other than a Florida state institution may need to complete additional general education credits.		
Support Courses Options		Credits: up to 8
General Biology 2	BSCC 1011 Required	4
Intro to BiotechMethods 1 & 2	BSCC 1426 & BSCC 1427 Required	4 Each
General Chemistry	CHM(L) 1045 & CHM(L) 1046 Required	4 Each
Organic Chemistry	CHM(L) 2210 & CHM(L) 2211 Required	4 Each
Calculus 1&2	MAC 1311 & MAC 2312	5 Each
General Physics 1&2	PHY(L) 2048 & PHY(L) 2049	5 Each
Common Required Core (complete both courses)		Credits: 6
HSC 3741	Writing for Healthcare Professionals (Appropriate test scores in reading and writing)	3
ISC 3523	Applied Scientific Thinking	3
Biotechnology Major Courses		Credits: 36
ATEC 4640	Laboratory Animals and the IACUC Prerequisite: HSC 3741 - <i>Writing for Healthcare Professionals</i>	4
BCH 4024	Introduction to Biochemistry & Molecular Biology Prerequisite: CHM 2211 - <i>Organic Chemistry II and Lab</i>	4
BCHC 4103	Biochemical Methods Prerequisites: HSCC 3543 - <i>Qualitative Biomedical Methods 1 Laboratory</i> BCH 4024 - <i>Methods & Applications in Biotechnology 3</i>	2
BSCC 4422	Methods & Applications in Biotechnology 3 Prerequisite: BSCC 1427 - <i>Intro to Biotechnology Methods II</i> Prerequisite - BSCC 1426 <i>Intro to Biotechnology Methods</i>	4
MCBC 3020	Biology of Microorganisms Prerequisites: BSCC 1010 - <i>General Biology I</i> CHM 2210 - <i>Organic Chemistry I and Lab</i> -OR- Completion of an AS degree in - Veterinary Technology, Dental Hygiene, Medical Laboratory Technology, Respiratory Technology, or Nursing.	5
HSC 3740	Quality Assurance for the Biomedical Sciences Laboratory Prerequisite: STA 2023 - <i>Statistics OR PHC 4094 Intro to Biostatistics for HS and PH</i>	3
HSCC 3543	Quantitative Biomedical Laboratory Methods Prerequisites: BSCC 1011 - <i>General Biology 2</i> CHM(L) 1046 - <i>General Chemistry 2 with lab</i>	4

HSCC 4544	Quantitative Biomedical Laboratory Instrumentation Prerequisite: HSCC 3243 - <i>Quantitative Biom Lab Methods</i>	4
PCB 3063	Genetics Prerequisites: BSCC 1011 - <i>General Biology II</i> -OR- BSCC 1426- <i>Intro to Biotech Methods</i> AND CHM 1046- <i>Chemistry II and lab</i> -OR- Completion of an AS degree in - Veterinary Technology, Dental Hygiene, Medical Laboratory Technology, Respiratory Technology, or Nursing.	3
HSC 4851	Health Sciences Internship (Must be taken in last semester) (Registration will require Advisor permission) (Background check may be required)	3
-OR-		
HSA 4910	Capstone: Case Studies in Biomedical Science (Must be taken in last semester) (Registration will require Advisor permission)	2
HSC 3801	Clinical Observation/Volunteer Work	1
Biotechnology Electives		8-18 credits
ANS 3440	Principles of Animal Nutrition Prerequisite: CHM 1045 - <i>General Chemistry I & lab</i>	4
ANS 4911	Individual Mentored Research Animal Science Prerequisites: Bachelor level biology/biotech course with 'C' or higher Recommended prior: BSCC 2910 - <i>Biological Research (prereq BSCC 1010 -Gen Bio I</i> CHMC 2910 - <i>Chem Rsrch (prereq CHM 1045 -Gen Chm w/ lab)</i> IDH 2009 - <i>Liberal Arts Research Methods</i> IDS 2911 - <i>Undergrad Research(previous 3 classes recommended prior)</i>	1
ANSC 3006	Introduction to Animal Science	4
BSC 3424	Nanotechnology Prerequisite: CHM(L) 2211 - <i>Organic Chemistry II & Lab</i>	3
BSC 4434	Bioinformatics Prerequisite: PCB 3063 - <i>Genetics</i>	3
BSC 4870	Principles of Pharmacology Prerequisites: BSCC 1010 - <i>General Biology I</i> BSCC 2094 - <i>Human Anat & Physiology II</i> CHM 2210 - <i>Organic Chemistry I</i> -OR- Completion of an AS degree in - Veterinary Technology, Dental Hygiene, Medical Laboratory Technology, Respiratory Technology, or Nursing.	3
BSC 4911	Individual Mentored Research in Biology/Biotechnology Prerequisites: See prerequisites for ANS 4911	1
HSA 3502	Healthcare Risk Management	3
HSA 3702	Healthcare Research	3
HSC 3201	Community Health	3
HSC 3537	Health & Medical Terminology	3
HSC 3820	Transcultural Biomedical Science Study Abroad	4
HSC 4184	Healthcare Leadership	3
HSC 4404	Medical Disaster Management	3
MCB 4203	Bacterial and Viral Pathogenesis Prerequisite: MCBC 3020 - <i>Biology of Microorganisms</i>	3
PCB 3134	Cell Biology Prerequisites: BSCC 1010 - <i>General Biology I</i> CHM 1046 - <i>Chemistry II and Lab</i>	3

PCB 4234	Biology of Cancer Prerequisites: BSCC 2094 - <i>Human Anat & Physiology II</i> PCB 3063 - <i>Genetics</i> -OR- Completion of an AS degree in - Veterinary Technology, Dental Hygiene, Medical Laboratory Technology, Respiratory Technology, or Nursing.	3
PHC 4094	Biostatistics for Public Health Prerequisite: STA 2023 - <i>Statistics</i>	3
ZOO 4911	Individual Mentored Research in Zoology Prerequisites: See prerequisites for ANS 4911	1
ZOOC 4232	Comparative Parasitology Prerequisite: BSCC 1010 - <i>General Biology I</i> -OR- Completion of an AS degree in - Veterinary Technology or Medical Laboratory Technology	4
ZOOC 4603	Developmental Biology Prerequisites: BSCC 1010 - <i>General Biology I</i> CHM 1046 - <i>Chemistry II and Lab</i> -OR- Completion of an AS degree in - Veterinary Technology, Dental Hygiene, Medical Laboratory Technology, Respiratory Technology, or Nursing.	5
Total Credits		120
Notes:		
-Successfully complete the Florida foreign language requirement: two high school credits or at least eight college credits or demonstration of proficiency in a single foreign language. American Sign Language is acceptable. Foreign language taken at the college level does not satisfy the General Education or Technical Concentration credits.		
- All prerequisites must be completed with a grade of "C" or higher		
- Students may earn the BAS/HSBS degree once, choosing one specialization from available tracks. If BAS graduates wish to take courses from another specialization within this degree, they may do so as a non-degree student The official curriculum in the current online EFSC catalog supersedes this document. EFSC reserves the right to make changes in the online and printed versions of the curriculum as circumstances require. It is expected that the only changes will be the correction of errors and the inclusion of new courses and programs approved during the academic year.		
- This planning guide is valid only if initial courses are taken during the term noted at the top of the guide.		

Revised - 6/7/21 - Fall 2021 catalog