Students need to meet the following requirements to be admitted to the Bachelor of Science (BS) - Biology degree program:

☐ 60 credits of lower division college level coursework from a regionally accredited institution including:
  o 15 credits of transferrable general education courses
  o ENC 1101 - Composition I (or equivalent) with a grade of C or higher
  o College math - any MAC, MAP, MGF, MTG, MAS math prefix, such as STA 2023, STA 2023H, MAC 1147, MAC 1033, MAC 1140, MAC 1114 with a grade of C or higher
  o The following state-mandated prerequisite courses with a grade of C or higher:
    ▪ BSC 2010 Biology I Cellular Processes and BSC 2010L Biology I Lab
    ▪ BSC 2011 Biology II Organisms and Ecology and BSC 2011L Biology II Lab
    ▪ CHM 2045 General Chemistry I and CHM 2045L General Chem I Lab
    ▪ CHM 2046 General Chemistry II and CHM 2046L General Chem II Lab
    ▪ MAC 2311 Calculus with Analytical Geometry I (OR MAC 2233 Applied Calculus I)*
    ▪ MAC 2312 Calculus with Analytical Geometry II (OR MAC 2234 Applied Calculus II OR STA 2023 Elementary Statistics)

  • *Note: We do not recommend MAC 2233 (Applied Calculus I) for your Mathematics requirement since it will require another math course for Physics.
  • 8 credits of Organic Chemistry I and II, OR Physics I and II, OR General Physics I and II with labs, from the following options. Please Choose ONE:
    ▪ CHM 2210 Organic Chemistry I and CHM 2210L Organic Chem I Lab
    ▪ CHM 2211 Organic Chemistry II and CHM 2211L Organic Chem I Lab
    OR
    ▪ PHY 2048 Physics I and PHY 1048L Physics I Lab
    ▪ PHY 2049 Physics II and PHY 1049L Physics II Lab
    OR
    ▪ PHY 1053 General Physics I and PHY 1048L Physics I Lab
    ▪ PHY 1054 General Physics II and PHY 1049L Physics II Lab

**NOTE ON PHYSICS REQUIREMENT:**
• PHY 1054 and PHY 1053 are Trig-based Physics and require MAC 1114 or MAC 1147 as a pre-requisite
• PHY 2048 and PHY 2049 are Calculus-based Physics and require MAC 2311 as a pre-requisite

**NOTE ON PHYSICS & CHEMISTRY REQUIREMENT:**
Effective Fall 2018, students may receive early admission into the program if they have completed General Chemistry 1 and 2. ORGANIC CHEMISTRY 1 and 2 (with labs) AND PHYSICS 1 & 2 (with labs) are still required for graduation from the BS Biology program but can be taken after admission to the program.
□ A cumulative 2.0 GPA or higher

Admissions Checklist (continued)

□ Students New to SPC: Complete the St. Petersburg College Admission Application and pay the non-refundable fee.

Students Returning to SPC (not enrolled in SPC courses within the last six semesters): Complete the online Readmission Application in MySPC.

Current SPC Students (enrolled within the last six semesters): Submit the application for the Bachelor of Science (BS)-Biology - log in to MySPC and at the bottom of the page, select Apply for a Bachelor’s Program.

□ Submit official (sealed) high school transcript or GED transcript. (Transcripts that have been opened are not accepted.) Applicants who have earned an associate, bachelor, or higher degree from a regionally accredited institution are waived from this requirement. Students who have completed 2 years/credits of a foreign language in high school will need to submit official high school transcripts.

Note: Transcripts from schools outside the U.S. must be evaluated by a NACES approved agency.

□ Submit official (sealed) transcripts from all regionally accredited colleges/universities currently or previously attended. (Transcripts that have been opened are not accepted.)

Note: Transcripts from schools outside the U.S. must be evaluated by a NACES approved agency.

□ Students offered admission will be notified in their student email account in MySPC and their personal email. If offered admission, the student needs to electronically submit the Intent to Participate online survey as soon as possible for their admissions to be completed and to be eligible to enroll in classes.

Students who are currently enrolled in their final admission requirement(s) are encouraged to apply to this program before registration starts for the next semester. In doing so, the student may be able to register for the following upper division courses: BOT 3015, BOT 3015L, BSC 3017, PCB 3043, and PCB 3043L. Students do not need to wait for grades or degrees to post before they apply to this program. Their application will remain open until they have satisfied all admission requirements. Once completed, an offer of admission will be emailed to both the student email and personal email.
ADMISSION GUIDE
Bachelor of Science in Biology
Spring & Summer 2019 Term 0560

Admission Information
• All qualified students will be offered admission and eligible to start in the next applicable semester: Fall, Spring, and/or Summer.
• Students offered admission will be notified in their student email account in MySPC and their personal email. They should submit the Intent to Participate online survey as soon as possible.
• If a student has not fulfilled all admission requirements to this program, they will need to complete the missing requirements.
  o The student should check their To Do List and student email in MySPC to see what they are missing.
  o Once requirements are completed, the student’s application will automatically be reviewed again and a letter of admission will be sent to their student email and personal email.
  o The student should submit the Intent to Participate online survey as soon as possible.
• Once the Intent to Participate has been submitted by the student, an orientation packet will be sent to the student’s MySPC email along with information about the mandatory orientation. The student may then enroll in courses.

Application Process
1. Student applies to the Biology-BS program
2. Student will receive e-mail communication to both their personal email and student email in MySPC verifying receipt of application
3. Admission requirements will appear in student’s To Do List in MySPC. As they are completed, they will be removed from the To Do List.
4. Once all requirements have been satisfied, student’s application will be processed for admission
5. Student will receive e-mail offer of admission sent to SPC and personal e-mail accounts
6. Student submits Intent to Participate online survey (sent in email)
7. Once Intent to Participate is received, degree-seeking status will be updated to Biology-BS
8. E-mail confirmation that degree-seeking status has been updated sent to SPC and personal e-mail accounts
9. Student is now eligible to register for program classes

Program Information
• This program requires 52 upper division (3000-4000 level) credits.
• This program requires 12 credits of Physics or Organic Chemistry depending on which courses student took as part of admissions. (i.e., If a student took 4 credits of Organic Chemistry to meet admission requirements, then 4 credits of Organic Chemistry AND 8 credits of Physics are needed as part of the Biology-BS graduation requirements.)
• Graduation from this program requires a minimum of 120 credits earned from courses that satisfy the requirements of the program.
• This program requires a minimum grade of “C” in all upper division courses and state-mandated prerequisites. Students who have not already earned an AA or higher degree must meet SPC’s minimum grade requirements for their general education courses.

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• Courses are typically offered in 16-week semesters Fall/Spring and a 10-week semester in summer.
• This is primarily a face-to-face program on the Clearwater Campus.
  o Exception: BSC 3932 is offered in an online format as well as other electives.
  o *Enrollment in an online course must be completed by the Tuesday at the start of the term.*
• Not all courses are offered every semester.
  o Refer to the Academic Pathway on the website.
  o Students should meet with their Faculty Advisor (listed under Points of Contact below) in or prior to their first semester to plan their courses.
• A student may choose to go full-time or part-time, daytime or evening. Check on class offerings each semester.
• Approximate study and homework time outside of class is estimated at 3 hours per credit hour.
• Non-attendance for six or more semesters will require the student to reapply for this program and may require a change to the newest catalog requirements.
• This program has enough face-to-face courses for international and veteran students with precise planning and early registration.

**Senior Seminar in Biology**
• This program has a Senior Seminar course, BSC 4931.
  o The Senior Seminar in Biology course is offered as a 1 credit course.
  o Enrollment process: Student must be approved and enrolled in course by the Academic Chair or Dean
  o It will be a full semester long and is offered in Fall, Spring, and Summer.
  o It must be taken at the end of the program in the last semester (preferred)
  o Students in this course will present a compilation of research projects developed throughout their program of study. This course will also present opportunities for discussion with biology faculty and students regarding current biological research and bio-ethical concerns.

**Special Information**
• Students must complete all state-mandated prerequisites before being admitted into the program.
• There is not a standard course load for our students. The course load is dependent upon the student’s situation (personal, work, etc.). The **recommended course load is 12 credits** per semester for fall and spring *(this is full-time)* and 6 credits for summer.
• In their first semester, the student is recommended to take BSC 3017, BSC 3932, PCB 3043, PCB 3043L.
• In their last semester, the student is required to take BSC 4931-Senior Seminar Biology and recommended to take BSC 4940 Internship in Biology (elective).
• The program regularly holds information, enrollment and planning sessions. Contact Jocelyn Blevins, Administrative Services Specialist for dates and times.
• Student should meet with their Biology Faculty Advisor to create their path to graduation.
• The student should complete courses from their “early admission” status in the first semester.
• Student are encouraged to focus on CORE courses early in the program to increase flexibility and timely graduation.

**Foreign Language Requirements**
A minimum of two consecutive years of a foreign language in high school OR two semesters of a foreign language at the college level must be completed in order to graduate from this program. If high school credits are being used to meet this requirement, the student needs to be sure their official high school transcripts have been submitted and that SPC transcripts reflect their foreign language has been met. Contact an advisor, if needed.

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Transfer Credit
This program accepts a maximum of 22 upper division transfer credits from regionally accredited institutions. Each course must be separately approved by submitting course descriptions and supporting material to document similarities in major learning objectives and core competencies.

Direct questions regarding transfer credit evaluation to transcript.evaluator@spcollege.edu.

**Students need to send an email from their SPC email address and include the following information when contacting Admissions & Records:**
- Student Name
- SPC Student ID Number
- Course prefix, number, title, and term/year completed as it appears on student’s original transcript
It is the student’s responsibility to make sure transfer coursework meets the course requirements for SPC.

Students must complete at least 30 upper division (3000/4000 level) credits in residence (at SPC) in order to earn their degree.

Alternate Satisfactions
Courses that transfer in as 1999, 2999, 3999, or 4999 count as electives and do not satisfy specific course requirements. The student may request an Alternate Satisfaction for the specific course. If approved, the course may be used to meet the specific course requirement.

Ex: If an ethics course transfers in as “PHI 1999” it does not meet the requirement for ethics. An Alternate Satisfaction would need to be requested and approved for PHI 1600.

To initiate the Alternate Satisfaction request/review process:

Students need to submit an Alternate Satisfaction Survey to the appropriate Dean and include the following information when submitting the survey: [https://web.spcollege.edu/survey/21215](https://web.spcollege.edu/survey/21215)

- Student Name
- SPC Student ID Number
- Which SPC degree/program they are seeking
- SPC course for which student wants credit
- Course number at previous school and credit amount
- Course description from previous school’s catalog
- Syllabus from previous school
- When course was completed

Contact Information for Deans (Alternate Satisfaction)
*Communications & Foreign Language:* Dean, Joe Leopold – leopold.joseph@spcollege.edu
*Computer & Information Technology:* Dean, John Long – long.john@spcollege.edu
*Ethics:* Dean, Dr. Susan Demers – Demers.Susan@spcollege.edu
*Humanities/Fine & Applied Arts:* Dean, Dr. Jonathan Steele – Steele.Jonathan@spcollege.edu
*Mathematics:* Dean, Jimmy Chang – Chang.Jimmy@spcollege.edu
*Natural Science:* Dean, Dr. Natavia Middleton- Middleton.natavia@spcollege.edu
*Natural Science:* Administrative Specialist, Maureen Hourigan Hourigan.Maureen@spcollege.edu
*Social & Behavioral Science:* Dean, Dr. Joseph Smiley – Smiley.Joseph@spcollege.edu
Points of Contact
Maureen Hourigan
Seminole Campus, LI 280
Hourigan.Maureen@spcollege.edu
(727) 394-6047

Angelina Capobianco, Administrative Services Specialist
Clearwater Campus, NM 215
capobianco.angelina@spcollege.edu
(727) 791-5955

Dr. Linae Boehme, Professor (Faculty Advisor for A-L by student’s last name)
Clearwater Campus, NM 129
Boehme.Linae@spcollege.edu
(727) 791-2424
Contact for: Alternate Satisfactions/Course Substitutions, Approving MLP’s, Course Scheduling/Offerings, Graduation Checks, Overrides

Dr. Michelle Osovitz, Professor (Faculty Advisor for M-Z by student’s last name)
Clearwater Campus, NM 127
Osovitz.Michelle@spcollege.edu
(727) 302-6456
Contact for: Alternate Satisfactions/Course Substitutions, Approving MLP’s, Internship, Course Scheduling/Offerings, Graduation Checks, Overrides

Dr. Linda Gingerich, Academic Chair
Clearwater Campus, NM 211
Gingerich.Linda@spcollege.edu
(727) 791-2538
Contact for: Alternate Satisfactions/Course Substitutions, Senior Seminar, Course Scheduling/Offerings, ELP, Overrides

Dr. Natavia Middleton, Dean
Natural Science
Seminole Campus, LI 281
Middleton.Natavia@spcollege.edu
(727) 394-6995
Contact for: Appeals - 4th Attempts/Grade Appeals/Admission After Suspension from Program, etc. and ELP

Estimated Cost *** Includes 52 upper level credits (does not include lower division state-mandated prerequisites, 8 credits of lower division Organic Chemistry or Physics, general education, lab fees, other fees, or foreign language coursework). Any additional required credits will increase the total cost of the program. ***

<table>
<thead>
<tr>
<th>Type of Student</th>
<th>Tuition</th>
<th>Textbooks</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florida Resident</td>
<td>$ 6,381</td>
<td>$ 3,500</td>
<td>$ 9,881</td>
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<tr>
<td>Non-FL Resident</td>
<td>$ 22,142</td>
<td>$ 3,500</td>
<td>$ 25,642</td>
</tr>
</tbody>
</table>

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MLP (My Learning Plan)
My Learning Plan is a tool inside MySPC that helps students plan which courses they take each semester through graduation. Students can use the Course Listing received via email to help map out their courses. Students receive this email each semester prior to registration once they've been admitted to the program.

When Courses are Offered
Students are strongly encouraged to meet with an advisor to utilize the Academic Pathway associated with the Biology-BS degree. The Academic Pathway is a guide to assist students in planning their courses. It lists the recommended order in which the courses should be taken and when the courses are offered.

PLEASE NOTE, ALL INFORMATION IN THIS GUIDE IS SUBJECT TO CHANGE

BIOLOGY ADVISING 2019
Updated 2/1/2019

F = offered in Fall
Sp = offered in Spring
Su^e = offered in Summer during even years
Su^o = offered in Summer during odd years

REQUIRED MAJOR COURSES (38 credits) - Grade of C or higher required

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCH 4024</td>
<td>BIOCHEMISTRY AND MOLECULAR BIOLOGY</td>
<td>4</td>
<td>F, Sp</td>
</tr>
<tr>
<td>BOT 3015/3015L</td>
<td>PLANT BIOLOGY WITH LAB</td>
<td>4</td>
<td>F, Sp, Su</td>
</tr>
<tr>
<td>BSC 3017</td>
<td>THEORY AND PRACTICE IN THE BIOLOGICAL SCIENCES</td>
<td>2</td>
<td>F, Sp, Su</td>
</tr>
<tr>
<td>BSC 4931</td>
<td>SENIOR SEMINAR IN BIOLOGY</td>
<td>1</td>
<td>F, Sp, Su</td>
</tr>
<tr>
<td>PCB 3043/3043L</td>
<td>ECOLOGY WITH LAB</td>
<td>4</td>
<td>F, Sp, Su</td>
</tr>
<tr>
<td>PCB 3063/3063L</td>
<td>GENETICS WITH LAB</td>
<td>4</td>
<td>F, Sp</td>
</tr>
<tr>
<td>PCB 4674</td>
<td>EVOLUTIONARY BIOLOGY</td>
<td>3</td>
<td>F, Sp, Su</td>
</tr>
<tr>
<td>PCB 4723/4723L</td>
<td>COMPARATIVE ANIMAL PHYSIOLOGY WITH LAB</td>
<td>4</td>
<td>F, Sp</td>
</tr>
<tr>
<td>PHY 1053</td>
<td>GENERAL PHYSICS I</td>
<td>3</td>
<td>F, Sp, Su</td>
</tr>
<tr>
<td>OR PCB 2048</td>
<td>PHYSICS I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 1048L</td>
<td>PHYSICS LABORATORY I</td>
<td>1</td>
<td>F, Sp, Su</td>
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<tr>
<td>PHY 1054</td>
<td>GENERAL PHYSICS II</td>
<td>3</td>
<td>F, Sp, Su</td>
</tr>
<tr>
<td>OR PHY 2049</td>
<td>PHYSICS II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHY 1049L</td>
<td>PHYSICS LABORATORY II</td>
<td>1</td>
<td>F, Sp, Su</td>
</tr>
<tr>
<td>aMCB 3020/3020L</td>
<td>GENERAL MICROBIOLOGY WITH LAB</td>
<td>4</td>
<td>F, Sp, Su</td>
</tr>
<tr>
<td>OR aPCB 3023/3023L</td>
<td>CELL BIOLOGY WITH LAB</td>
<td>4</td>
<td>Sp</td>
</tr>
</tbody>
</table>

Biology-BS
http://www.spcollege.edu/biology/
SUGGESTED ELECTIVES BASED ON BIOLOGY ADVISING FOCUS GROUPS

These are recommended electives for various academic paths.

FOCUS 1: HEALTH SCIENCES: Choose 22 elective credits from recommended list below

BSC 3931 (& 3931L) – Special Topics in Biology (& Lab) (may be repeated; content varies)  F, Sp, Su
BSC 3932 - Scientific Communication (2)                                                                                        F, Sp, Su
BSC 4940 - Internship (1-6)                                                                                                             F, Sp, Su
PCB 3023/3023L - Cell Biology with Lab (4)                                                                                               Sp
Or MCB 3020/3020L - Microbiology with Lab (4)                                                                                        F, Sp, Su
Note: all students must take 1 of the above as part of their course. Students in this track would then end up taking BOTH; many pre-professional schools want both

PCB 4024 - Molecular Biology (4)                                                                                                             Sp
PCB 4233 - Immunology (3)                                                                                                                 F, Su^0
PCB 4253C - Developmental Biology with Lab (4)                                                                                           Sp
PCB 4454C – Biostatistics (4)                                                                                                              F
ZOO 3733C - Human Anatomy with lab (4)                                                                                                   F
ZOO 4905C - Undergraduate Research (2-6)                                                                                                 F, Sp, Su

FOCUS 2: VETERINARY & ANIMAL SCIENCES: Choose 22 elective credits from recommended list below

ANS 3006 - Introduction to Animal Science (3)                                                                                           F, Sp, Su
ANS 3440 – Principles of Animal Nutrition (3)                                                                                           F, Sp, Su
Note: these first 2 are REQUIRED for UF’s College of Vet Med

ATE 3605 - Small Animal Nutrition (2)                                                                                                   F, Sp, Su
ATE 3510 – Understanding the Human Animal Bond (2)                                                                                       F
BSC 3931 (& 3931L) – Special Topics in Biology (& Lab) (may be repeated; content varies)                                          F, Sp, Su
BSC 3932 - Scientific Communication (2)                                                                                                 F, Sp, Su
BSC 4905C - Undergraduate Research (2-6)                                                                                               F, Sp, Su
BSC 4940 - Internship (1-6)                                                                                                             F, Sp, Su
PCB 3023C - Cell Biology with Lab (4)                                                                                                   F, Sp
Or MCB 3020/3020L - Microbiology with Lab (4)                                                                                        F, Sp, Su
Note: all students must take 1 of the above as part of their course. Students in this track would then end up taking BOTH

NOTE: We also have an AS and BS degree in Veterinary Technology. Depending on the student’s specific career plan, they may need to be directed to the Vet Tech program.

PCB 4233 - Immunology (3)                                                                                                                 F, Su^0
PCB 4253C - Developmental Biology with Lab (4)                                                                                           Sp
PCB 4454C – Biostatistics (4)                                                                                                              F
ZOO 4513/4513L - Animal Behavior with Lab (4)                                                                                           Sp
FOCUS 3: BIOTECHNOLOGY: Choose 22 elective credits from recommended list below

BSC 3931 (& 3931L) – Special Topics in Biology (& Lab) (may be repeated; content varies) F, Sp, Su
BSC 3932 - Scientific Communication (2) F, Sp, Su
BSC 4422C - Methods & Applications in Biotechnology (4) Su
BSC 4905C - Undergraduate Research (2-6) F, Sp, Su
BSC 4940 - Internship (1-3) F, Sp, Su
PCB 3023/3023L - Cell Biology with Lab (4) Sp

Note: MCB 3020/3020L - Microbiology with Lab (4) will ALSO be taken in this focus group as part of the Core

PCB 4024 - Molecular Biology (4) Sp
PCB 4233 - Immunology (3) F, Su
PCB 4253C - Developmental Biology with Lab (4) Sp
PCB 4454C – Biostatistics F
BSC 4905C - Undergraduate Research (2-6) F, Sp, Su

FOCUS 4: Ecology, Evolution & Organismal Biology: Choose 22 elective credits from recommended list below

BOT 3143C - Field Botany with lab (4) F
BOT 3052 - Conservation Biology (3) Su
BSC 3312C - Marine Biology with lab (4) Su
BSC 3931 (& 3931L) – Special Topics in Biology (& Lab) (may be repeated; content varies) F, Sp, Su
BSC 3932 - Scientific Communication (2) F, Sp, Su
BSC 4422C - Methods & Applications in Biotechnology (4) Su
BSC 4905C - Undergraduate Research (2-6) F, Sp, Su
BSC 4940 - Internship (1-6) F, Sp, Su
PCB 4363C - Physiological Ecology (4) F
PCB 4454C – Biostatistics with Lab (4) F
ZOO 3307/3307L - Vertebrate Zoology with lab (4) F
ZOO 4513/4513L - Animal Behavior with Lab (4) Sp
ATE 3510 – Understanding the Human Animal Bond (2) F

NOTE: Semester offerings for elective courses may change based on enrollment

NOTE: Special Topics courses can be repeated if the topic is different. BSC 3931 can be repeated 3 times for a maximum of 9 credits; BSC 3931L can be repeated 4 times for a maximum of 8 credits
## COMPREHENSIVE COURSE LISTING FOR BACCALAUREATE BIOLOGY

### REQUIRED MAJOR COURSES (Degree requirements = 38 credits with a Grade of C or higher)

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
<th>Sem* offered</th>
<th>Pre-reqs or Co-reqs</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSC 3017</td>
<td>THEORY AND PRACTICE IN THE BIOLOGICAL SCIENCES</td>
<td>2</td>
<td>123</td>
<td>BSC 2011/2011L. STRONGLY encouraged for 1st semester in UD</td>
</tr>
<tr>
<td>PCB 3043</td>
<td>ECOLOGY</td>
<td>3</td>
<td>123</td>
<td>BSC 2011/2011L; CoReq = PCB 3043L; Co or Pre-req = BSC 3017</td>
</tr>
<tr>
<td>PCB 3043L</td>
<td>ECOLOGY LAB</td>
<td>1</td>
<td>123</td>
<td>BSC 2011/2011L; CoReq = PCB 3043; Co or Pre-req = BSC 3017</td>
</tr>
<tr>
<td>PCB 3063</td>
<td>GENETICS</td>
<td>3</td>
<td>12</td>
<td>BSC 2010/2010L or BSC 2010CH; ;CHM 2046/2046L; CoReq = PCB 3063L</td>
</tr>
<tr>
<td>PCB 3063L</td>
<td>GENETICS WITH LAB</td>
<td>1</td>
<td>12</td>
<td>BSC 2010/2010L or BSC 2010CH; ;CHM 2046/2046L; CoReq = PCB 3063</td>
</tr>
<tr>
<td>BOT 3015</td>
<td>PLANT BIOLOGY</td>
<td>3</td>
<td>123</td>
<td>BSC 2011/2011L; Coreq = BSC 3015</td>
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<tr>
<td>BOT 3015L</td>
<td>PLANT BIOLOGY LAB</td>
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<td>123</td>
<td>BSC 2011/2011L; Coreq = BSC 3015</td>
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<tr>
<td>MCB 3020</td>
<td>MICROBIOLOGY</td>
<td>3</td>
<td>12</td>
<td>BSC 2010/BSC 2010L, or BSC 2010CH, CHM 2210/2210L, CoReq = MCB 3020L</td>
</tr>
<tr>
<td>MCB 3020L</td>
<td>MICROBIOLOGY LAB</td>
<td>1</td>
<td>12</td>
<td>BSC 2010/BSC 2010L, or BSC 2010CH, CHM 2210/2210L, CoReq = MCB 3020L</td>
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<tr>
<td>PCB 3023</td>
<td>CELL BIOLOGY</td>
<td>3</td>
<td>2</td>
<td>BSC 2010/BSC 2010L, or BSC 2010CH, CHM 2210/2210L, CoReq = PCB 3023L</td>
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<td>PCB 3023L</td>
<td>CELL BIOLOGY LAB</td>
<td>1</td>
<td>2</td>
<td>BSC 2010/BSC 2010L, or BSC 2010CH, CHM 2210/2210L, CoReq = PCB 3023L</td>
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<tr>
<td>PCB 4674</td>
<td>EVOLUTIONARY BIOLOGY</td>
<td>3</td>
<td>123</td>
<td>PCB 3043/3043L OR PCB 3063/3063L</td>
</tr>
<tr>
<td>BCH 4024</td>
<td>BIOCHEMISTRY</td>
<td>4</td>
<td>12</td>
<td>CHM 2211, PCB 3063/3063L ALL with a minimum grade of C</td>
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<tr>
<td>PCB 4723</td>
<td>COMPARATIVE ANIMAL PHYSIOLOGY</td>
<td>3</td>
<td>12</td>
<td>PCB 3043/3043L and PCB 3063/3063L; Coreq = PCB 4723L;</td>
</tr>
<tr>
<td>PCB 4723L</td>
<td>COMPARATIVE ANIMAL PHYSIOLOGY LAB</td>
<td>1</td>
<td>12</td>
<td>PCB 3043/3043L and PCB 3063/3063L; Coreq = PCB 4723L;</td>
</tr>
<tr>
<td>BSC 4931</td>
<td>SENIOR SEMINAR IN BIOLOGY</td>
<td>1</td>
<td>123</td>
<td>Permission of Academic Chair or Dean. Intended for last semester</td>
</tr>
</tbody>
</table>

### PHYSICS AND ORGANIC CHEMISTRY COURSES MUST BE COMPLETED FOR THE DEGREE

**BUT MAY BE TAKEN AFTER ADMISSION**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
<th>Sem* offered</th>
<th>Pre-reqs or Co-reqs</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM 2210 and 2210L</td>
<td>ORGANIC CHEMISTRY 1 W/LAB</td>
<td>3/1</td>
<td>123</td>
<td>PHY 1053 REQUIRES MAC 1114 OR MAC 1147</td>
</tr>
<tr>
<td>CHM 2211 and 2211L</td>
<td>ORGANIC CHEMISTRY 2 W/LAB</td>
<td>3/1</td>
<td>123</td>
<td>PHY 1054 REQUIRES MAC 1114 OR MAC 1147</td>
</tr>
<tr>
<td>PHYS 1053 OR 2048</td>
<td>GENERAL PHYSICS I (trig based) OR PHYSICS I (calc based)</td>
<td>3</td>
<td>123</td>
<td>PHY 1054 REQUIRES MAC 1114 OR MAC 1147</td>
</tr>
<tr>
<td>PHYS 1048L</td>
<td>PHYSICS LABORATORY I</td>
<td>1</td>
<td>123</td>
<td>please check college catalog for physics pre-reqs</td>
</tr>
<tr>
<td>PHYS 1054 OR 2049</td>
<td>GENERAL PHYSICS II (trig based) OR PHYSICS II (calc based)</td>
<td>3</td>
<td>123</td>
<td>math courses needed depend on which physics you take</td>
</tr>
<tr>
<td>PHYS 1049L</td>
<td>PHYSICS LABORATORY II</td>
<td>1</td>
<td>123</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Elective courses are listed in order of increasing pre-reqs needed, which will approximately reflect the order they can be taken.

Special Topics courses may be taken multiple times as long as the topics differ. *Semester offered reflects typical current rotational schedule when courses will be available:

1 = Fall, 2 = Spring, 3 = Summer; Superscript e = even years and o = odd years;

Special topics with different content may be repeated for credit towards major.

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Biology-BS
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Updated 2/1/2019
## ELECTIVES (Degree requirements = Select 22 credits with Grade of C or higher)

<table>
<thead>
<tr>
<th>course num</th>
<th>course title</th>
<th>credits</th>
<th>pre-reqs</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSC 3932</td>
<td>SCIENTIFIC COMMUN - online</td>
<td>2</td>
<td>ENC 1101; BSC 2010 and 2010L OR BSC 2010CH OR BSC 2011 and 2011L</td>
</tr>
<tr>
<td>ZOO 3733C</td>
<td>HUMAN ANAT WITH LAB</td>
<td>4</td>
<td>BSC 2011/BSC 2011L</td>
</tr>
<tr>
<td>PCB 4454C</td>
<td>BIOSTATS WITH LAB</td>
<td>4</td>
<td>STA 2023 OR MAC 2234 OR PERMISSION OF INSTRUCTOR</td>
</tr>
<tr>
<td>BSC 3931</td>
<td>SPECIAL TOPICS IN BIOLOGY</td>
<td>1-3</td>
<td>Permission of Department (LAB = Co-req)</td>
</tr>
<tr>
<td>BSC 3931L</td>
<td>SPECIAL TOPICS IN BIOL LAB</td>
<td>1-2</td>
<td>Permission of Department (lecture = Co-req)</td>
</tr>
<tr>
<td>BSC 4905C</td>
<td>UNDERGRAD RESEARCH IN BIOLOGY</td>
<td>2</td>
<td>Permission of Acad Dept Chair or Dean. 2 credits per semester (up to 3 semesters; max = 6); coursework relevant to research</td>
</tr>
<tr>
<td>BSC 4940</td>
<td>INTERNSHIP IN BIOLOGY</td>
<td>1-2</td>
<td>Approval of College Internship Office</td>
</tr>
<tr>
<td>BSC 3312C</td>
<td>MARINE BIO WITH LAB</td>
<td>4</td>
<td>BSC 2011/2011L</td>
</tr>
<tr>
<td>ZOO 3307</td>
<td>VERTEBRATE ZOOLOGY</td>
<td>3</td>
<td>BSC 2011/2011L; co-Req = ZOO 3307L</td>
</tr>
<tr>
<td>ZOO 3307L</td>
<td>ZOOLOGY LAB</td>
<td>1</td>
<td>BSC 2011/2011L; co-Req = ZOO 3307</td>
</tr>
<tr>
<td>ZOO 3713</td>
<td>FUNCTIONL VERT ANATOMY</td>
<td>3</td>
<td>BSC 2011/BSC 2011L; COREQ = ZOO3307L</td>
</tr>
<tr>
<td>ZOO 3713L</td>
<td>FUNCT VERT ANATOMY LAB</td>
<td>1</td>
<td>BSC 2011/BSC 2011L; COREQ = ZOO3307</td>
</tr>
<tr>
<td>BOT 3143C</td>
<td>FIELD BOTANY</td>
<td>4</td>
<td>1 BSC 2010/2010L OR BSC 2010CH; and BSC 2011/2011L</td>
</tr>
<tr>
<td>MCB 3020</td>
<td>MICROBIOLOGY</td>
<td>3</td>
<td>BSC 2010/BSC 2010L, or BSC 2010CH, CHM 2210/2210L; CoReq = MCB 3020L</td>
</tr>
<tr>
<td>MCB 3020L</td>
<td>MICROBIOLOGY LAB</td>
<td>1</td>
<td>BSC 2010/BSC 2010L, or BSC 2010CH, CHM 2210/2210L; CoReq = MCB 3020</td>
</tr>
<tr>
<td>PCB 3023</td>
<td>CELL BIOLOGY</td>
<td>3</td>
<td>2 BSC 2010/BSC 2010L or BSC 2010CH; CHM 2210/2210L; CoReq = PCB 3023L</td>
</tr>
<tr>
<td>PCB 3023L</td>
<td>CELL BIOLOGY LAB</td>
<td>1</td>
<td>2 BSC 2010/BSC 2010L, or BSC 2010CH, CHM 2210/2210L; CoReq = PCB 3023</td>
</tr>
<tr>
<td>MCB 3020C</td>
<td>OR PCB 3023C must be taken as part of the Core curriculum. The other can then be used as an elective.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Either MCB 3020C OR PCB 3023C must be taken as part of the Core curriculum. The other can then be used as an elective.

<table>
<thead>
<tr>
<th>course num</th>
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<th>credits</th>
<th>pre-reqs</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCB 4233</td>
<td>IMMUNOLOGY</td>
<td>3</td>
<td>BSC 2010/BSC 2010L, or BSC 2010CH, and CHM 2210; and MCB 3020/3020L OR PCB 3023/3023L</td>
</tr>
<tr>
<td>PCB 4024</td>
<td>MOLECULAR BIOLOGY</td>
<td>3</td>
<td>CHM 2046; PCB 3063/L; MCB 3020/L or PCB3023/L recommended</td>
</tr>
<tr>
<td>BSC 3052</td>
<td>Conservation Biology</td>
<td>3</td>
<td>3 BSC 2011/2011L; PCB 3043/3043L</td>
</tr>
<tr>
<td>PCB 4363C</td>
<td>PHYSIOLOGICAL ECOLOGY</td>
<td>4</td>
<td>2 BSC 2011/2011L; PCB 3043/3043L</td>
</tr>
<tr>
<td>PCB 4253C</td>
<td>DEVELOP. BIOLOGY WITH LAB</td>
<td>4</td>
<td>2 PCB 3063/3063L; PCB 3023/3023L is recommended.</td>
</tr>
<tr>
<td>ZOO 4513</td>
<td>ANIMAL BEHAVIOR</td>
<td>3</td>
<td>2 PCB 3043/3043L; PCB 3063/3063L; Coreq = ZOO 4513</td>
</tr>
<tr>
<td>ZOO 4513L</td>
<td>ANIMAL BEHAVIOR LAB</td>
<td>1</td>
<td>PCB 3043/3043L or PCB 3063/3063L; Coreq = ZOO 4513</td>
</tr>
<tr>
<td>BSC 4422C</td>
<td>METHODS &amp; APPS IN BIOTECH</td>
<td>4</td>
<td>PCB 3063/3063L; MCB 3020/3020Lor PCB 3023/3023L recommended</td>
</tr>
<tr>
<td>ANS 3006</td>
<td>INTRO TO ANIMAL SCIENCE</td>
<td>3</td>
<td>Admission into the Vet Tech BAS program or Biology BS program - permission from Department Chair/Dean of Vet Tech.</td>
</tr>
<tr>
<td>ANS 3440</td>
<td>PRINCIPLES OF ANIMAL NUTRITION</td>
<td>3</td>
<td>Admission into the Vet Tech BAS program or Biology BS program - permission from Department Chair/Dean of Vet Tech.</td>
</tr>
<tr>
<td>ATE 3605</td>
<td>SMALL ANIM NUTRITION</td>
<td>3</td>
<td>Admission into the Vet Tech BAS program or Biology BS program - permission from Department Chair/Dean of Vet Tech.</td>
</tr>
<tr>
<td>ATE 3510</td>
<td>UNDERSTANDING THE HUMAN-ANIMAL BOND</td>
<td>3</td>
<td>Admission into the Vet Tech BAS program or Biology BS program - permission from Department Chair/Dean of Vet Tech.</td>
</tr>
<tr>
<td>HSC 3201</td>
<td>COMM HLTH AND EPIDEMY</td>
<td>3</td>
<td>Admission into the Biology BS program. Need permission from Department Chair/Dean of HSC program</td>
</tr>
</tbody>
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