BS – Microbiology with Biochemistry minor (PRE-PA) (SC-BS/MICR/BCHM/PPMI)  
2021 Catalog year: College of Science and Engineering

NOTE: Students in the pre-physician assistant concentration must complete BIO 3421 or 3426, BIO 4464, MATH 2328, PHIL 1320 and PSY 1300.

<table>
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<tr>
<th>Freshman Fall semester</th>
<th>Freshman Spring semester</th>
<th>Sophomore Fall semester</th>
<th>Sophomore Spring semester</th>
<th>Junior Fall semester</th>
<th>Junior Spring semester</th>
<th>Senior Fall semester</th>
<th>Senior Spring semester</th>
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| BIO 1330 (F,S,Su) & BIO 1130 (F,S,Su) 
   General Chemistry I  
   TCCNS: CHEM 1141 (F,S,Su) or 1142 (F,S,Su) | BIO 1331 (F,S) & BIO 1131 (F,S) 
   Organizational Biology  
   TCCNS: BIO 2416 or 2417 | BIO 2450 (F,S,Su) 
   General Chemistry II  
   TCCNS: BIO 2416 or 2516+2517 | BIO 2400 (F,S) 
   Microbiology  
   TCCNS: BIO 2421 | PHYS 1315 (F,S,Su) 
   & PHYS 1115 (F,S,Su) 
   General Physics I  
   TCCNS: PHYS 1301+1101 or 1401  
   (also allow PHYS 1430) | PHYS 1325 (F,S,Su) 
   & PHYS 1125 (F,S,Su) 
   General Physics II  
   TCCNS: PHYS 1302+1102 or 1402  
   (also allow PHYS 2425) | Elective hours  
   (as needed, see advisor) | BIO 4464 (F,S) 
   General Ecology |
| BIO 1341 (F,S,Su) & BIO 1141 (F,S,Su) 
   General Chemistry II  
   TCCNS: CHEM 1141 (F,S,Su) or 1142 (F,S,Su) | CHEM 1342 (F,S,Su) & CHEM 2141 (F,S,Su) 
   General Chemistry III  
   TCCNS: CHEM 2324+2325 or 2325+2326 | CHEM 2342 (F,S,Su) 
   Organic Chemistry I  
   TCCNS: CHEM 2324+2325 | CHEM 2375 (F,S,Su) 
   Biochemistry | BIO 3421 (S,F) 
   Vertebrate Physiology  
   OR | BIO 4345 (F,S) 
   Human Physiology | BIO 4416 (F,S) 
   General Ecology |
| CHEM 1342 (F,S,Su) & CHEM 2141 (F,S,Su) | CHEM 2341 (F,S,Su) & CHEM 2142 (F,S,Su) 
   Organic Chemistry I  
   TCCNS: CHEM 2324+2325 or 2423 | BIO 4446 (F) 
   Physical Chemistry  
   OR | 3 hours from:  
   CHEM 4385 (F,S) 
   Metabolism |

This is not an official degree audit and it is subject to change. This chart is intended to be used by students who start out at Texas State. Please contact the College of Science Undergraduate Advising Center for advising.

Note: In addition to major courses, students must also complete all core and minor requirements (if applicable) and any other requirements for graduation.

Key:
- Arrows indicate prerequisites.
- Arrows with dotted lines indicate co-requisites.
- Arrows with dash lines are recommended prerequisites.
- Courses taught specific semesters are indicated with the following codes:
  - F: Fall
  - S: Spring
  - Su: Summer Session I or II
- Required WI courses: BIO 4416
- Additional WI courses: BIO 3200, 3442, 4126, 4166, 4326, 4431, 4441, 4446, 4447, 4448

Core courses must be completed:
- Communication Component Code 010 (6 cr)
- Math/Writing Component Code 020 (3 cr)
- Life/Physical Science Component Code 030 (6 cr)
- Language, Philosophy, and Culture Component Code 040 (3 cr)
- Creative Arts Component Code 050 (3 cr)
- American History Component Code 060 (6 cr)
- Government/Political Science Component Code 070 (6 cr)
- Social and Behavioral Sciences Component Code 080 (3 cr)
- Component Area Option Codes 090, 091, 092, 093, and 094 (6 cr)

US 1100 may be required for some students. Some majors require specific courses to be chosen from a component area. Consult with an advisor to determine the most expedient way to complete core and major specific requirements.

See advisor for guidance.