

BS in Allied Health with Integrated Single Subject (Science) Teaching Credential

96 units

This program is offered collaboratively by the Department of Biology and Chemistry in the College of Liberal Arts and Sciences and the Division of Teacher Education (<http://catalog.apu.edu/academics/college-education-behavioral-sciences/school-education/teacher-education/>) in the School of Education. Students earn a bachelor of science degree in allied health and a teaching credential in a total of four years. Full program details and requirements are available on the Integrated Bachelor's/Credential Program (<http://catalog.apu.edu/academics/college-education-behavioral-sciences/school-education/teacher-education/integrated-bachelors-credential/>) page of this catalog.

BS in Allied Health Requirements

All of the following requirements must be met to continue as an allied health, biological sciences, biochemistry, or chemistry major. A student's failure to maintain these requirements will result in him or her being dropped from the major. Reentry to the major is by petition only.

- Must maintain a minimum cumulative GPA of 2.0 in all biology, chemistry, biochemistry, math, and physics courses required for the major.
- Must complete each course required for the major with a C- or higher for the course to meet a degree requirement in the Department of Biology and Chemistry.
- Any single course within the major can be taken only two times at APU; students must change to a major outside the department after two unsuccessful (below C-) attempts in a single required course.
- Only two courses total within the major can be repeated; students must change to a major outside the department after unsuccessful (below C-) attempts in any three required courses.

Code	Title	Units
Biology		
BIOL 151	General Biology I ¹	4
BIOL 240	Biology of Microorganisms	4
BIOL 250	Human Anatomy	4
BIOL 251	Human Physiology	4
BIOL 280	Cell Biology	4
BIOL 300	Genetics	4
BIOL 396	Topics in Biology and Christian Thought ²	1
BIOL 496	Ethics and the Sciences	3
Chemistry		
CHEM 151	General Chemistry I ^{1, 3}	4
CHEM 152	General Chemistry II ³	4
CHEM 240	Introduction to Organic and Biochemistry ⁴	4
Mathematics		
MATH 130	Introduction to Statistics ⁵	3
Note: MATH 130 does not meet the math prerequisite for BIOL 151 or CHEM 151. MATH 95, ALEKS 45 or equivalent is the math prerequisite for BIOL 151. MATH 110 (B-), ALEKS 65 or equivalent is the math prerequisite for CHEM 151.		
Physics		
PHYC 155	Physics for Life Sciences I ^{1, 3}	3
PHYC 145	Physics Laboratory I ^{1, 3}	1
PHYC 156	Physics for Life Sciences II	3
PHYC 146	Physics Laboratory II	1
Psychology		
PSYC 110	General Psychology ⁶	3
or PSYC 290	Human Growth and Development	

Sociology		
SOC 120	Introduction to Sociology ⁶	3
Electives		
Select one of the following:		4
BIOC 360	Principles of Biochemistry ⁷	
BIOC 270	Biomolecular Chemistry ⁷	
BIOC 370	Biomolecular Metabolism ⁷	
BIOL 320	Ecology	
BIOL 326	Neurobiology	
BIOL 336	Vertebrate Biology	
BIOL 346	Regional Human Anatomy	
BIOL 350	Mammalian Physiology	
BIOL 365	Plant Biology	
BIOL 410	Molecular Biology	
BIOL 465	Practicum and Topics in Allied Health	
BIOL 494	Advanced Topics in Biology	
Select at least 3 units from the following: ²		3
BIOL 311	Teaching and Learning in STEM ⁸	
BIOL 312	STEM Education Research Seminar ⁸	
BIOL 313	STEM Teaching Practicum ⁸	
BIOL 342	Medical Microbiology	
BIOL 390	Pre-health Seminar ⁸	
BIOL 391	Medical Missions Practicum ⁸	
BIOL 394	Directed Research Internship ⁸	
BIOL 395	Biological Science Internship ⁸	
BIOL 435	Stewardship Ecology	
BIOL 440	Developmental Biology	
BIOL 490	Biology Seminar ⁸	
BIOL 495	Advanced Topics in Biology	
BIOL 497	Readings ⁸	
or an additional 4-unit course from the previous electives list above		
Total Units		64

¹ Meets the APU Core: Natural Science general education requirement.

² BIOL 152 meets this requirement if taken at APU.

³ This course may be waived with an appropriate Advanced Placement test score.

⁴ CHEM 251, CHEM 261, CHEM 252, CHEM 262, and BIOC 360 taken together meet the requirements for CHEM 240 and a 4-unit BIOL upper-division lab course.

⁵ Meets the APU Core: Quantitative Reasoning general education requirement.

⁶ Meets the APU Core: Social Science general education requirement.

⁷ Students should take BIOC 360 if taking only one semester of biochemistry. For a two-semester sequence, BIOC 270 and BIOC 370 should be taken. Credit will not be given for both BIOC 360 and BIOC 270, nor for both BIOC 360 and BIOC 370. BIOC 360 is an elective option only for students who have completed CHEM 252 and CHEM 262.

⁸ Students may take a maximum of 3 units total from BIOL 311, BIOL 312, BIOL 313, BIOL 390, BIOL 391, BIOL 394, BIOL 395, BIOL 490, or BIOL 497 for elective credit.

Integrated Single Subject (Science) Teaching Credential Requirements

Code	Title	Units
TESP 501	Art of Teaching I: Foundations of Teaching	3
TESP 502	Science of Teaching I: How Students Learn	3
TESP 507	Multilingual Learners and Literacy Development	3
TEP 511	Art of Teaching II: Pedagogy and Instructional Design	3
TEP 512	Science of Teaching II: Effective Assessment Strategies for All Learners	3

TEP 537	Teaching for Equity: Differentiation and Literacy in the Secondary Classroom	3
TEP 538	Pedagogy and Practice in the Secondary Classroom	3
TESP 553	Schools and Educational Systems	2
TEP 563	Clinical Practice: Single Subject ¹	8
TEP 577	CalTPA Support Course: Single Subject	2
Total Units		33

¹ Refer to the [Clinical Practice Clearance \(https://catalog.apu.edu/academics/college-education-behavioral-sciences/school-education/teacher-education/steps-to-credential/clearance/\)](https://catalog.apu.edu/academics/college-education-behavioral-sciences/school-education/teacher-education/steps-to-credential/clearance/) requirements.

The following courses meet the undergraduate APU Core general education requirements within the Integrated Bachelor's/Credential Program:

- TESP 502 meets the APU Core: Social Science general education requirement.
- TESP 503 meets the APU Core: Intercultural Competence general education requirement.

Program Learning Outcomes

BS in Allied Health

Program Learning Outcomes

Students who successfully complete this program shall be able to:

1. Demonstrate a broad knowledge base in their chosen field.
2. Effectively communicate scientific ideas and research orally.
3. Effectively communicate scientific ideas and research in writing.
4. Demonstrate proficiency in problem solving and applying the scientific method to scientific questions.
5. Demonstrate laboratory skills and techniques.
6. Express a Christian worldview that integrates faith with their vocation.

Integrated Single Subject (Science) Teaching Credential

Program Learning Outcomes

Students who successfully complete this program shall be able to:

1. Engage and support all students in learning.
2. Create and maintain effective environments for student learning.
3. Understand and organize subject matter for student learning.
4. Plan instruction and design learning experiences for all students.
5. Assess student learning.
6. Develop as a professional educator.