

BAE Chemistry/Biology – Secondary Plan of Study

BAE Chem/Biol-Secondary	Fall	Winter	Spring
Year 1	CHEM 161 BIOL 204 ENG 101 <i>(or other BCOM or CCOM GUR)</i>	CHEM 162 BIOL 205 GUR GUR	CHEM 163 BIOL 206 MATH 124
Year 2	CHEM 351 CHEM 333 BIOL 321	CHEM 352 BIOL 324 BIOL 325 SCED 481	CHEM 353 BIOL 326 GUR GUR
Year 3*	BIOL 323 PHYS 114 GUR	CHEM 354 PHYS 115 GUR GUR	PHYS 116 SCED 370 GUR GUR
Must be admitted to Sec. Ed. Apply to Woodring/Secondary Education by 9/1 for Winter admission. See list of application requirements on last page			
Year 4	CHEM 471 CHEM 474 GUR	IT 344 SEC 303 SEC 310 SEC 410 SEC 430	SEC 411 SEC 425 SEC 431 SEC 435 SCED 491
Year 5	SEC 432 SEC 433 SEC 436 SPED 363 IT 444	SEC 495 (18 credits)	

- **ENG 101** may be substituted for another GUR in the BCOM or CCOM blocks, if transferred in with ENG 101 credit. If GUR's are complete, course loads per quarter will be smaller.
- **Analytical Chemistry** (CHEM 333) offered Fall and Winter quarters.
- **General Chemistry Honors** (CHEM 175, 176, 225) *substitutes* for General Chemistry sequence (CHEM 161, 162, 163) *plus* Analytical Chemistry (CHEM 333).
- **Honors Calculus** (MATH 134) *substitutes* for Calculus & Analytic Geometry (MATH 124).
- **Required Physics Series** is algebra based (PHYS 114-116) which may be substituted for calculus based (PHYS 161-163), but this substitution will require completion of MATH 125, which is not included in this recommended plan.
- *All **Woodring application** requirements must be completed and application materials received by the Teacher Education Admission Office in Miller Hall 150 on or before these deadlines: Fall—February 1 & Winter—September 1. Contact a Secondary Education advisor prior to beginning the program.
- **Participation in a research** project is highly recommended and usually takes place during the junior and/or senior year(s). Check out the undergraduate research section of the department website.

CHECKLIST OF REQUIRED COURSES FOR BAE-CHEMISTRY/PHYSICS SECONDARY

Grade	Course Number, Title [Prerequisites]	Cr.
<u>Chemistry</u>		
_____	161 General CHEM I Lecture/Lab [Prerequisite: Math 114 (or higher) or equivalent math placement test score]	5
_____	162 General CHEM II Lecture/Lab [Prerequisite: CHEM 161]	5
_____	163 General CHEM III Lecture/Lab [Prerequisite: CHEM 162] ~AND~	5
_____	333 Analytical CHEM Lecture/Lab [Prerequisite: CHEM 163] ~OR~	5
_____	175 General Chemistry I, Honors [Prerequisite: One year of high school chemistry; Math 114 (or higher) or equivalent math placement test score]	5
_____	176 General Chemistry II, Honors [Prerequisite: CHEM 175]	5
_____	225 General Chemistry III, Honors [Prerequisite: CHEM 176]	5
_____	351 Organic CHEM Lecture I [Prerequisite: CHEM 163 (or concurrent)]	4
_____	352 Organic CHEM Lecture II [Prerequisite: CHEM 351]	4
_____	353 Organic CHEM Lecture III [Prerequisite: CHEM 352]	3
_____	354 Organic CHEM Lab I [Prerequisite: CHEM 352 (or concurrent)]	3
_____	471 Biochemistry Lecture I [Prerequisite: CHEM 163 (or 225), 353 (or concurrent); BIOL 205]	4
_____	472 Biochemistry Lecture II [Prerequisite: CHEM 471]	4
_____	474 Biochemistry Lab [Prerequisite: CHEM 163 or CHEM 225; CHEM 354 or BIOL 324; CHEM or BIOL 471 (or concurrent)]	3
<u>Math</u>		
_____	124 Calculus & Analytic Geometry Lecture [Prerequisite: see catalog] ~OR~	5
_____	134 Calculus I, Honors [Prerequisite: see catalog]	5
<u>Biology</u>		
_____	204 Intro to Evolution, Ecology & Biodiversity Lecture/Lab [Prerequisite: CHEM 161 (or concurrent)]	5
_____	205 Intro to Cell/Molecular Biology Lecture/Lab [Prerequisite: BIOL 204; CHEM 162 (or concurrent)]	5
_____	206 Intro to Organismal Biology [Prerequisite: BIOL 205; CHEM 162/176; CHEM 163/225 (or concurrent)]	5
_____	321 Genetics [Prerequisite: BIOL 204, BIOL 205, BIOL 206]	4
_____	322 Genetics Lab [Prerequisite: BIOL 321] ~OR~	4
_____	324 Methods in Molecular Biology with Lab [Prerequisite: BIOL 321 or 323]	4
_____	323 Cell and Molecular Biology [Prerequisite: CHEM 351 and CHEM 352 (may be taken concurrently)]	4
_____	325 Ecology [Prerequisite: BIOL, 204, BIOL 205, BIOL 206]	3
_____	326 Ecology Lab [Prerequisite: BIOL 325 or concurrent; or ESCI 325]	3
_____	432 Evolutionary Biology [Prerequisite: BIOL 321]	4
<u>Physics & Astronomy</u>		
_____	114 Principles of Physics I OR 161 Physics w/ Calculus I Lecture [Prerequisite: MATH 124 (or concurrent)]	5
_____	115 Principles of Physics II OR 162 Physics w/ Calculus II Lecture [Prerequisite: PHYS 161; MATH 124]	5
_____	116 Principles of Physics III OR 163 Physics w/ Calculus III Lecture [Prerequisite: PHYS 162; MATH 124]	5
<u>Science Education</u>		
_____	370 Science & Society (WP3) [Prerequisite: Completion of science GUR's and 90 credits or instructor permission]	3
_____	481 Fundamentals of Teaching in Science [Prerequisite: CHEM 163 or 225, or GEOL 212, or BIOL 206, or PHYS 163]	2
_____	491 Methods in Secondary Education for Science Teachers [Prerequisite: Admission to Secondary Teaching program and a major or concentration in natural sciences; SEC 431 or 532; SCED 481]	5

Secondary Education

_____	303 Teaching Adolescents: Development and Identity [Prerequisite: Admission to Woodring or permission of instructor or chair]	4
_____	310 Education, Culture, and Equity [Prerequisite: Admission to Woodring or permission of instructor or chair]	4
_____	410 Dynamics of Teaching [Prerequisite: Admission to Secondary Education]	2
_____	411 Philosophical Foundations of Education [Prerequisite: SEC 410]	4
_____	425 Developmental Reading, Writing & Learning in Secondary Schools [Prerequisite: SEC 431]	4
_____	430 Secondary School Methods [Prerequisite: Admission to Secondary Education , SEC 410 concurrent]	4
_____	431 Secondary School Methods II [Prerequisite: SEC/EDUC 301; SEC 410, 430 or equiv., SEC 435 concurrent]	4
_____	432 Secondary School Methods III [Prerequisite: SEC 430, 431 and SEC 433 & 436 concurrent]	4
_____	433 Teaching Laboratory [Prerequisite: SEC 431 or 533 or instructor permission, SEC 436 concurrent]	1
_____	435 Secondary Practicum I [Prerequisite: Concurrent registration in SEC 431 or 533, or instructor permission]	2
_____	436 Secondary Practicum II [Prerequisite: SEC 433 concurrent & SEC 432 or 534, or instructor permission]	1
_____	IT 444 Supporting Teaching & Learning w/Technology [Prerequisite: SEC 430; IT 344 or portfolio of basic technology skills, SEC 431 and 435 concurrent]	2
_____	495 Internship – Secondary [Prerequisite: Recommendation for supervised teaching]	18

Special Education

_____	363 Secondary Students w/Special Needs [Prerequisite: Admission to Woodring or permission of instructor]	4
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Please note that several Secondary Education, Science Education and Special Education courses require admission to Woodring. Application deadlines are ***February 1st for Fall quarter and October 1st for Winter quarter***. Below is a very general list of their application requirements, it is ***not*** all inclusive. Please see the [Woodring College of Education](#) website and [application](#) for more details. You can reach Teacher Education Admissions by email at TeacherEd.Admissions@wwu.edu or by phone at 360-650-3310. Their office is located in Miller Hall 150. The [Secondary Education Department](#) is located in Miller Hall 400 and can be reached by phone at 360-650-3327.

Make sure you are or have:

- a WWU student or applied to WWU;
- an APPROVED ACADEMIC MAJOR that leads to a teaching endorsement;
- Undergraduate applicants - 60% of major endorsement coursework must be completed to apply;
- Post-baccalaureate applicants - most endorsement coursework needs to be completed to apply; please request an endorsement evaluation prior to applying to the program by emailing unofficial transcripts to: TeacherEd.Admission@wwu.edu;
- a list of approved academic majors that lead to an endorsement are at: wce.wwu.edu/admissions/approved-endorsement-programs-secondary-education;
- ENCLOSED a completed endorsement evaluation document. See above website for the evaluation forms;
- two letters of recommendation addressing your potential for success in teacher education. One letter must be from someone who can attest to your academic ability and knowledge in your academic major;
- Recommendations may be submitted with the application in an enclosed envelope; OR
- Mailed, faxed, or emailed to the below contact numbers;
- a minimum 2.75 GPA overall or for the last 45 graded credits (Does not include: S/U graded credits or a repeated course. Does include, with credit, failing grades. GPA is calculated using the WWU grade point system. Upon request, we will evaluate GPA prior to applying to the program);
- met the English composition course requirement with a minimum grade of B;
- met the West-B requirement;
- enclosed copies of all UNOFFICIAL college transcripts;
- signed the Student Conduct Requirements and Agreement & the Application Review and Decisions page;
- completed ALL portions of the application and provide TWO COPIES of your written essay responses.