MAJOR MAP FOR BACHELOR OF ARTS IN CHEMISTRY CONCENTRATION IN BIOCHEMISTRY (CHEMBA-BIOC) 2015-16 THROUGH 2024-25 CATALOG YEARS

Name: _____ **ID Number:** _____ **Date**: _____ **Anticipated Graduation Semester:** _____

CHEMBA-BIOC Degree Snapshot

University Perspectives (0-1 hr)
_____ **UNIV 10051**, University Perspectives or exemption

State Core English Composition (0-6 hrs)
_____ **ENGL 10103**, Composition 1 or exemption
_____ **ENGL 10203**, Composition 2 or exemption

State Core US History or Government (3 hrs)
_____ **US HIST/PLSC** _____

State Core Mathematics (0 hrs)
Requirement met with courses in major.

State Core Natural Sciences w/ labs (0 hrs)
Requirement met with courses in major.

State Core Social Sciences (9 hrs)
_____ **Social Science** _____
_____ **Social Science** _____
_____ **Social Science** _____

State Core Fine Arts (3 hrs)
_____ **Fine Art** _____

State Core Humanities (3 hrs)
_____ **Humanities** _____

Major World Language to 20103 level (3-9 hrs)
_____ Language _____ 10103 (or fluency)
_____ Language _____ 10203 (or fluency)
_____ **Language** _____ **20103 (or higher required)**

Biology (11-16 hrs)
_____ **BIOL** _____
_____ **BIOL** _____
_____ **BIOL** _____
_____ **BIOL 30000+**_____

Mathematics (3-11 hrs)
_____ MATH 11003**,** College Algebra (or math placement directly in to next math)
_____ MATH 13004, Precalculus or MATH 12003, Plane Trigonometry (only required if taking MATH 24004)
_____ **MATH 24004,** Calculus I **OR MATH 22003,** Survey of Calculus (**Required)**

Physics (8 hrs)
_____ **PHYS 20103/20101,** College Physics I **OR PHYS 20304,** University Physics I
_____ **PHYS 10103/20201,** College Physics II **OR PHYS 20404,** University Physics II

General Chemistry (8 hrs)
_____ **CHEM 12073/12071,** Chemistry for Majors I **OR CHEM 14103/14101,** University Chemistry I
_____ **CHEM 12283/12281,** Chemistry for Majors II **OR CHEM 14203/14201,** University Chemistry II

Analytical Chemistry (4 hrs)
_____ **CHEM 22673/22671,** Analytical Chemistry

Physical Chemistry (4-10 hrs)
_____ **CHEM 34603/34601,** Elements of Physical Chemistry
Or:
_____ **CHEM 35004,** Physical Chemistry I **AND**
_____ **CHEM 35204/35102,** Physical Chemistry II

Organic Chemistry (8-10 hrs)
_____ **CHEM 37073/37072,** Organic Chemistry for Majors I **OR CHEM 36053/36051,** Organic Chemistry I
_____ **CHEM 37203/37202,** Organic Chemistry for Majors II **OR CHEM 36203/36201,** Organic Chemistry II

Biochemistry (6-7 hrs)
_____ **CHEM 38103,** Elements of Biochemistry
_____ **CHEM 42203/42101,** Instrumental Analysis
Or:
_____ **CHEM 38103,** Elements of Biochemistry
_____ **CHEM 41203,** Advanced Inorganic Chemistry OR **CHEM 47203,** Experimental Methods in Organic Chemistry
Or:
_____ **CHEM 481H3,** Honors Biochemistry I **OR CHEM 58103,** Biochemistry I
_____ **CHEM 484H3,** Honors Biochemistry II **OR CHEM 58403,** Biochemistry II

Biomechanical Techniques or Independent Research (3 hrs)
_____ **CHEM 48503,** Biochemical Techniques (Spring only. Co- or pre-req: CHEM 38103 or CHEM 484H3)
Or (honors CHEM 400HV can count here too):
_____ **CHEM 4000V 1 hour** _____ **CHEM 4000V 1 hour**
_____ **CHEM 4000V 1 hour**

General Electives (9-44 hrs)

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Advising Notes

Graduation Plan

Use the following additional resources, in addition to this major map, to complete your graduation plan (Catalog, and your Degree Audit in UAconnect). Many students have more than one major, minor, or pre-professional goal that has additional required classes. This tool allows you to combine all your educational goals in to one plan.

High School credit	List all Advanced Placement, International Baccalaureate, Dual or Concurrent credit			
Year	**Fall**	**Spring**	**Summer**	**Total**
Year 1				**Total 1st year credit hours (aim for 30):**
Year 2				**Total 2nd year credit hours (aim for 60):**
Year 3				**Total 3rd year credit hours (aim for 90):**
Year 4				**Total 4th year credit hours (Must be at least 120):**

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Graduation Checklist (does your plan include the following):

- ☐ 2.0 minimum overall UofA GPA (Courses taken at other colleges or universities are not factored into this GPA)
- ☐ All state minimum core requirements
- ☐ All Major(s)/Minor(s) requirements
- ☐ Writing requirement complete
- ☐ At least 50% of each major/minor taken from UofA
- ☐ 24 hours of 30000+ classes exclusively from Fulbright College of Arts and Sciences classes
- ☐ 30 hours of 30000+ classes exclusively from the University of Arkansas. This can include courses taken for the 24-hour rule.
- ☐ 40 hours of upper-level classes. (30000+ or 20000+ with a pre-requisite. Can include transfer credit.) This can include courses taken for the 24-hour and 30-hour rules.
- ☐ 120 total eligible credit hours (see below for a list of ineligible classes)

Please visit https://catalog.uark.edu/undergraduatecatalog for an extensive list of core, major, graduation, and pre-requisite requirements. To read more about individual classes, visit the courses of instruction page for course descriptions.

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Degree Requirement Breakdown by Category

The following information is designed to help you navigate your experience in your degree and answer common questions that may come up for each requirement.

Category	Degree Requirements	Curriculum Notes
UNIVERSITY PERSPECTIVES **0-1 hr**	• **UNIV 10051**, University Perspectives (or **UNIV 100H1**)	Or equivalent from another University of Arkansas college. (AFLS 102H3, ARSC 12001, GNEG 11101, GNEG 111H1, HIST 1003(H), HIST 10001, HIST 100H1, PLSC 10003, PLSC 100H3, BUSI/WCOB 11101, WCOB/BUSI 111H1) **Note**: students who transfer to the University of Arkansas with at least 24 credit hours will have this requirement waived.
STATE CORE COMPOSITION **0-6 hrs**	• **ENGL 10103,** Composition 1 or SAT/ACT exemption (or **ENGL 101H3)** • **ENGL 10203**, Composition 2 or SAT/ACT exemption (or **ENGL 102H3)**	See Catalog for information about placement and/or exemption.
STATE CORE US HISTORY or GOVERNMENT **3 hrs**	**Choose 1: *** • HIST 20003, History of the American People to 1877 • HIST 20103, History of the American People 1877 to Present • PLSC 20003, American National Government (or PLSC 200H3)	*Some courses may appear as options in multiple areas of the State Core. You can only count each course 1 time in the State Core and will need unique courses in each of the content areas below.
STATE CORE MATHEMATICS **0 hrs**	Met with requirements in major.	Based on ACT/SAT or other math placement scores, students may need to enroll in additional remediation related courses. See catalog or math placement website for additional information.
STATE CORE NATURAL SCIENCES CORE **9 hrs**	Met with requirements in major	
STATE CORE SOCIAL SCIENCES **9 hrs**	**Choose 2:** (each class will have a required lecture and lab component): • ANTH 10143/ANTH 10141, Intro to Biological Anthropology (or ANTH 101H3/101H1) • ASTR 20003/20001, Survey of the Universe (or ASTR 200H3/200H1) • BIOL 10004, Biological Principles • BIOL 10103/10101, Principles of Biology (or BIOL 154H3/154H1) • BIOL 10104, Biology for Majors • BIOL 10303/10301, Plant Biology • BIOL 10503/10501, Principles of Zoology • BIOL 24003/24001, Human Anatomy • BIOL 24103/24101, Human Physiology • CHEM 10003/10001, Chemistry in the Modern World • CHEM 12103/12101, Fundamentals of Chemistry • CHEM 12073/12071, Chemistry for Majors I • CHEM 12283/12281, Chemistry for Majors II • CHEM 14103/14101; University Chemistry I • CHEM 14203/14201, University Chemistry II (or CHEM 142H3/142H1)	Some classes will have pre-requisites

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	• ENSC 10003/10001, Environmental Science (or ENSC 100H3/100H1) • ENTO 10203/10201, Insects, Science, and Society • GEOL 11103/11101, Physical Geology (or GEOL 111H3/111H1) • GEOL 11203/11201, Earth Science • GEOS 11504, Introduction to Geology for Science Majors • PHYS 10243/10241, Physics and Human Affairs (or PHYS 102H3/102H1) • PHYS 10304, Physics for Elementary Education Majors • PHYS 10404, Physics for Architects I • PHYS 10504, Physics for Architects II • PHYS 20103/20101, College Physics I • PHYS 20203/20201, College Physics II • PHYS 20304, University Physics I (or PHYS 203H4) • PHYS 20404, University Physics II (or PHYS 204H4)	
STATE CORE FINE ARTS **3 hrs**	**Choose 1: *** • ARCH 10003, Architecture Lecture (or ARCH 100H3) • ARHS 10003, Art Lecture (or ARHS 100H3) • COMM 10003, Film Lecture (or COMM 100H3) • DANC 10003, Movement and Dance • ENGL 20103, Creative Writing 1 • HUMN 211H4, Honors Birth of Modern Culture 1600-1900 (honors only) • LARC 10003, The American Landscape (or LARC 100H3) • MLIT 10003, Experiencing Music (or MLIT 100H3) • MLIT 10103, Music and Society (music majors only. Or MLIT 101H3) • MLIT 13303, Popular Music • THTR 10003, Theatre Appreciation (or THTR 100H3) • THTR 10103, Musical Theatre Appreciation (or THTR 101H3) • THTR 16803, Acting I • THTR 18803, Acting 1 for Theatre majors	*Some courses may appear as options in multiple areas of the State Core. You can only count each course 1 time in the State Core and will need unique courses in each of the content areas below.
STATE CORE HUMANITIES **3 hrs**	**Choose 1: *** • AAST 20203, The African American Experience • ANTH 10303, Introduction to Archeology • ARCH 10103, Diversity and Design (or ARCH 101H3) • CLST 10003, Introduction to Classical Studies: Greece (or CLST 100H3) • CLST 10103, Introduction to Classical Studies: Rome (or CLST 101H3) • COMM 12303, Media, Community and Citizenship (or COMM 123H3) • DANC 10003, Dance Appreciation • DASC 21303, Data Privacy & Ethics • ENGL 11103, World Literature: Beginnings to 1650 CE (or ENGL 111H3) • ENGL 11203, World Literature: 1650 CE to Present (or ENGL 112H3) • ENGL 12103, Introduction to Literature (or ENGL 121H3) • ENGL 20103, Creative Writing I	*Some courses may appear as options in multiple areas of the State Core. You can only count each course 1 time in the State Core and will need unique courses in each of the content areas below.

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	• GNST 20003, Introduction to Gender Studies (or GNST 200H3) • HIST 11193, Institutions and Ideas of World Civilizations I (or HIST 111H3) • HIST 11293, Institutions and Ideas of World Civilizations II (or HIST 112H3) • HIST 20003, History of the American People to 1877 • HIST 20103, History of the American People 1877 to Present • HUMN 112H4, Honors Equilibrium of Cultures 500-1600 (Honors only) • HUMN 22103, Introduction to World Religions • LALS 20103, Introduction to Latin American and Latino Studies • MRST 20103, Introduction to Medieval and Renaissance Studies • MUSY 20003, Music in World Cultures (or MUSY 200H3) • PHIL 20003, Introduction to Philosophy (or PHIL 200H3) • PHIL 21003, Introduction to Ethics • PHIL 22003, Logic • PHIL 23003, Human Nature and the Meaning of Life • PHIL 31003, Ethics and the Professions • THTR 10003, Theatre Appreciation (or THTR 100H3) • THTR 10103, Musical Theatre Appreciation (or THTR 101H3) • Any Intermediate level foreign language numbered at the 20000 level	
MAJOR LANGUAGE REQUIREMENT **3-9 hrs**	**Get to the Intermediate I (20103) level or higher of a world language:** This may be completed by taking only the 20103 level, if the student has previous fluency, but is most commonly completed by taking three classes (ARAB and CHIN both also offer intensive formats for accelerated study): • Elementary I (10103) • Elementary II (10203) • Intermediate I (20103)	**Language Options:** See the catalog for complete list **Language Placement:** See the WLLC website for a list of available placement exams for certain languages as well as information about credit by exam for Spanish.
BIOLOGY **11-16 hrs**	**Take four courses from BIOL, at least 3 hrs must be 30000+ (hour per class may vary).**	Many BIOL courses will require either BIOL 10103/10101 or BIOL 10104 as a pre-requisite, so this should be 1 of the 4 courses. Most BIOL courses will have additional pre-requisites, including some CHEM classes. Check course descriptions to determine how to plan pre-requisites.
MATHEMATICS **3-11 hrs**	• **MATH 1103,** College Algebra (or math placement directly in to next math) • **MATH 13004,** Precalculus **or MATH 12003,** Plane Trigonometry (only required if taking MATH 2554) • **MATH 24004,** Calculus I (pre-req: MATH 13004, 12003, or math placement)* **OR MATH 22003,** Survey of Calculus (Pre-req: MATH 11003, 12003, 13004, or MATH 20503 or math placement)	**Students need to earn a C or higher in MATH classes to use them as pre-requisites for other classes.** *MATH 24005, Calculus I with Review, may also count here. **Students should start on their math sequence as early as possible, since many of these classes will be pre-requisites for future CHEM classes.** Choice here will impact which CHEM options will be available later.

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		Based on ACT/SAT or other math placement scores, students may need to enroll in additional remediation related courses. See catalog or math placement website for additional information.
PHYSICS **8 hrs**	**Choose 1 sequence:** • **PHYS 20103/20101,** College Physics I (Fall and summer only. pre-req MATH 11003 and 12003 or MATH 13004 or MATH 22003 or MATH 24004 or see course description for math placement) • **PHYS 20203/20201,** College Physics II (Spring and summer only. pre-req: PHYS 20103 or 20304) • **OR** • **PHYS 20304,** University Physics I (pre-req: MATH 24004) • **PHYS 20404,** University Physics II (pre-req: MATH 25004)	These Physics II will be a pre-requisite to some future CHEM courses. **Choice here will impact which CHEM options will be available later**.
GENERAL CHEMISTRY **8 hrs**	**Choose 1 sequence:** • **CHEM 12073/12071,** Chemistry for Majors I (Fall only. pre-req: MATH 11003 or higher or see course description for math placement) • **CHEM 12283/12281,** Chemistry for Majors II (Spring only. Co- or pre-req: MATH 13004 or higher. Pre-req: CHEM 12073/12071 or CHEM 14103/14101) • **Or** • **CHEM 14103/14101,** University Chemistry I (pre-req: MATH 1103 or see course description for math placement) • **CHEM 14203/14201,** University Chemistry II (pre-req: CHEM 14103 and MATH 11003 or see course description for math placement)	Students cannot receive degree credit for both CHEM 12073 and 14103 or CHEM 12283 and CHEM 14203. If a student changes to this major after having taken CHEM 1113, Chemistry for Engineers I and CHEM 1133/1131L, Chemistry for Engineers II, they can count those courses in this category, with substitution, if they also take CHEM 14101 or CHEM 14201. (CHEM 1113, 1133, and 1131L are no longer taught, but the above policy applies to students who may have taken them previously)
ANALYTICAL CHEMISTRY **4 hrs**	• **CHEM 22673/22671**, Analytical Chemistry (pre-req: CHEM 14203 or 12283 and MATH 11003 or see course description for math placement)	While not a required co-requisite in the course descriptions, chemistry majors should take the lecture and the lab in the same semester. This class will be a pre-requisite to future physical chemistry classes.
PHYSICAL CHEMISTRY **4-10 hrs**	**Choose 1 option:** • **CHEM 34603/34601,** Elements of Physical Chemistry (Fall only. Pre-req: CHEM 22673 and PHYS 20203 or 20404 and MATH 24004) • **Or** • **CHEM 35004,** Physical Chemistry I (Fall only. Co- or pre-req: MATH 2564c. Pre-req: CHEM 22673 and PHYS 20404) • **CHEM 35204/35102,** Physical Chemistry II (Spring only. Pre-req: CHEM 35004)	Students cannot receive credit for both Elements of Physical Chemistry and Physical Chemistry I & 2.
ORGANIC CHEMISTRY **8-10 hrs**	**Choose 1 sequence:** • **CHEM 37073/37072,** Organic Chemistry for Majors I (Fall only. Pre-req: CHEM 14203 or 12283) • **CHEM 37203/37202,** Organic Chemistry for Majors II (Spring only. Pre-req: CHEM 37073) **Or:**	Honors students may also automatically count CHEM 360H3/360H2 and CHEM 362H3/362H2.

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	• **CHEM 36053/36051,** Organic Chemistry I (Pre-req: CHEM 1123 or 1223) • **CHEM 36203/36202,** Organic Chemistry II(Pre-req: CHEM 3603 or 3703)	
BIOCHEMISTRY **6-7 hrs**	**Choose 1 sequence:** **CHEM 38103,** Elements of Biochemistry (Pre-req: CHEM 36203 or 37203) **CHEM 42203/42101,** Instrumental Analysis (Pre-req: CHEM 22673 and CHEM 36203 or 37203) **Or:** **CHEM 38103,** Elements of Biochemistry (Pre-req: CHEM 36203 or 37203) **CHEM 41203,** Advanced Inorganic Chemistry (Fall only. Pre-req: CHEM 3453 or CHEM 3514) **Or:** **CHEM 38103,** Elements of Biochemistry (Pre-req: CHEM 36203 or 37203) **CHEM 47203,** Experimental Methods in Organic Chemistry (Fall only. Pre-req: CHEM 36203 or 37203) **Or:** **CHEM 481H3,** Honors Biochemistry I (pre-req: honors candidacy and CHEM 36203 or 37203) **CHEM 484H3,** Honors Biochemistry II (pre-req: honors candidacy and CHEM 481H3) **Or:** **CHEM 58103,** Biochemistry I (Fall only. Pre-req: instructor consent to enroll in grad class and CHEM 36203 or 37203) **CHEM 58403,** Biochemistry II (Pre-req: instructor consent to enroll in graduate class and CHEM 58103)	Students cannot receive credit for both Elements of Biochemistry and Honors Biochemistry I & II
BIOCHEMICAL THECHNIQUES OR INDEPENDENT RESEARCH **3 hrs**	**Choose 1:** • **CHEM 48503,** Biochemical Techniques (Spring only. Co- or pre-req: CHEM 38103 or CHEM 484H3) **Or:** • **Completion of a senior thesis based on independent research wherein at least 1 hour of CHEM 4000V (or CHEM 400HV) is earned during three different semesters.**	**Note**: Students in the honors program completing CHEM 400HV for this requirement are also required to register for **CHEM 401H1** in the spring of both Junior and Senior year.
GENERAL ELECTIVES **9-44 hrs**	Hours will vary depending on math placement, language placement, choice within chemistry major, and whether a student is exempt from ENGL 10103 and 10203.	Some general electives may need to be upper level to meet college and university residency requirements. See Graduation Checklist on page 3 for more information.
WRITING REQUIREMENT	The college writing requirement may be satisfied in one of two ways: • Completion of CHEM 34601 or CHEM 35102 • Successful honors thesis defense	

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HONORS	**Minimum Requirements for Honors:** • Maintain cumulative grade point average of 3.5 in all coursework. • Complete a minimum of 12 hours of honors courses from the UofA **(which includes CHEM 401H1 taken once in Junior year and once in Senior year)** • Complete and defend Honors Thesis See Catalog for full description of requirements.	**Honors Thesis Timeline:** Honors students should consistently check the honors thesis timeline to stay on track to complete your honors thesis. **College Honors:** Students who also are following the College Honors Plan need to complete additional requirements. Those can be found on the advising website (consult with an academic advisor if you have questions about your catalog year): Academic Planning Resources

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