

**BEACON PROGRAM CHECKLIST
SECONDARY
CHEMISTRY CERTIFICATION (Grades 9-12)**



Education department

GENERAL EDUCATION

38 – 47 hrs

The general education component is to be completed according to Columbia College degree requirements. (Please refer to your entrance year catalog for specific degree requirements.)

LIBERAL ARTS AND SCIENCE DEGREE

40 – 63 hrs

It is recommended that students seeking this certification choose a major that has similar course requirements in the degree. Your academic advisor can help you with your choice of major.

Students must complete the degree requirements as set forth by Columbia College. Hours required for completion will vary depending on area chosen. (Please refer to your entrance year catalog for specific degree requirements.)

CONTENT AREA COURSEWORK FOR CHEMISTRY

35 hrs minimum

Grade	Course #	Course Title	Cr Hrs
-------	----------	--------------	--------

History/Philosophy of Science and Technology (3 hrs min)

	Choose one:	HIST 303 – Science, Technology, and Humanity: A History or BIOL/CHEM/ENVS 105 – Essentials of Science	3
--	-------------	--	---

Twenty (20) hours in Chemistry coursework which must include:

	CHEM 322	Inorganic Chemistry (<i>Inorganic Chemistry</i>)	3
	CHEM 335	Quantitative Analysis (<i>Analytical Chemistry</i>)	3
	CHEM 310	Organic Chemistry I (<i>Organic Chemistry</i>)	3
	CHEM 401	Introduction to Physical Chemistry/Chemical Physics (<i>Physical Chemistry</i>)	3
	CHEM 420	Biochemistry (<i>Biochemistry</i>)	3
	Electives:	Chemistry Electives to complete the 20-hr minimum (Contact the Education Department for options)	5

Twelve (12) hours of additional Science coursework which must include:

	BIOL 110	Principles of Biology I (<i>Biology</i>)	3
	PHYS 111	College Physics (<i>Physics</i>)	3
	GEOL 110	Introduction to Physical Geology (<i>Earth Science</i>)	3
	ENVS 115	Introduction to Environmental Science (<i>Environmental Science</i>)	3

PROFESSIONAL EDUCATION COURSEWORK

57 hrs

Grade	Course #	Course Title	Cr Hrs	Field Experience (observation hrs) included
	SOCI 270	Diversity and Society	3	none
	EDUC 100	Introduction to Education	3	15 hrs

[The College reserves the right to alter at any time requirements to meet state certification regulations.]

	EDUC 200	Law, Ethics, and Education	3	none
	EDUC 220	Methods of Teaching English Learners	3	none
	EDUC 230	Educational Psychology	3	none
	EDUC 300	Techniques of Teaching	3	15 hrs
	EDUC 311	Classroom Management Techniques	3	15 hrs
	EDUC 390	Education & Psychology of the Exceptional Child	3	none
	Choose option	EDUC 396 – Child and Adolescent Development; or EDUC 391 – Child Psychology and EDUC 392 – Adolescent Psychology	3	none
Admission to the Teacher Certification Program (See Teacher Certification Program Checklist)				
	EDUC 322	Educational Measurement and Assessment	3	none
	EDUC 338	Content Reading and Writing	3	15 hrs
	EDUC 365	Teaching Middle School and Secondary Science	3	15 hrs
	EDUC 375	Advanced Content Methods	3	15 hrs
	EDUC 376	Adolescent Literacy	3	
	EDUC 400	Senior Seminar	3	none
Approval for Student Teaching (See Student Teaching checklist)				
	EDUC 425	Undergraduate Student Teaching	12	16 weeks
		Total Credit Hours	57	
Approval for DESE Certification recommendation (See DESE Certification checklist)				

Retention Criteria:

- Complete at least 6 hours of professional education each year
- Complete Field Experiences and receive favorable evaluations from cooperating teachers and college supervisors
- Maintain a cumulative GPA of 3.0 or above in professional education courses and content area courses

Other requirements for certification that must be completed prior to graduation:

- Successful completion/passing of appropriate Missouri Content Assessment (MoCA) (must be passed prior to student teaching)
- Successful completion of program certification performance assessment - MEES

*This is not a degree checklist
Rev. 8/2023

[The College reserves the right to alter at any time requirements to meet state certification regulations.]