

Program: ACS Chemistry (BT CHCT)  
Emphasis (optional):

Fall Semester				Spring Semester			
	Course	Requirement Met	SH	Course	Requirement Met	SH	
Year 1	ENG 111 College Rdg/Wrtg or CMST 191 Intro Pblc Spkg	GE Goal 1	3-4	CMST 191 Intro Pblc Spkg or ENG 111 College Rdg/Wrtg	GE Goal 1	3-4	
	MATH 212 Calculus I	GE Goal 4/Major	4	MATH 213 Calculus II	Major	4	
	CHEM 212 Principles of Chemistry I	GE Goal 3/Major	4	CHEM 213 Principles of Chemistry II	GE Goal 3/Major	4	
	General Education Course	GE Goal 5/6/7/8/9	3	HERS 204 Personal and Community Health	PDW/Major	3	
	OR 100 Intro to Higher Education	Recommended	1				
NOTE: 2.75 minimum overall GPA required. 2.50 minimum GPA required in major. Grade of "C" of better in Math 212. Grade of "C" of better in all major related courses. Students should see Teacher Education Unit Admissions Criteria at: <a href="http://www.winona.edu/teachered/resources.asp">http://www.winona.edu/teachered/resources.asp</a> . Make note of the NES Basic Skills Exam information or check out the ACT Plus Writing requirements. A grade of "B" or better is required in ENG 111 and CMST 191 or 192.				NOTE: Complete MES/MTLE Basic Skills Exam. Students must take 5 GEP courses that count in more than one Goal Area to complete GOALS 1-10 and remain at 120 earned credits.			
<b>First-Year Fall Semester Credit Hour Total</b>			<b>15-16</b>	<b>First-Year Spring Semester Credit Hour Total</b>			<b>14-15</b>
Year 2	CHEM 360 Chemical Information	Major/OI	2	CHEM 340 or CHEM 351 Organic Chemistry Survey	Major	4	
	CHEM 425 Analytical Chemistry I	Major	4	CHEM 460 Chemistry Research Proposal	Major/WI	1	
	PHYS 221 Univ. Phys or PHYS 201 Gen. Phys	Major	4	PHYS 222 Univ. Phys II or PHYS 202 Gen. Phys II	Major	4	
	SPED 300 Children and Youth with Exceptionalities	Major	3	EDFD 401 Human Dev/Learning: Secondary	Major	2	
	CHEM 350* Prin of Org Chemistry I OR	Major	4	EDFD 461 Multicultural Youth, Children & Families	Major	2	
	General Education Course	GE Goal 5/6/7/8/9	3	General Education Course	GE Goal 5/6/7/8/9	3	
NOTE: Apply for Spring admission to Teacher Education. Before admission to Teacher Education Program, take PPST (pre-professional skills test) and provide evidence of having passed Education Department Writing Proficiency Exam.				NOTE: 1) CHEM 350* and 351 may substitute CHEM 340. If CHEM 351 is taken, no add'l UL Chem Electives are required 2) EDFD 401 and 416 must be taken concurrently.			
<b>Second-Year Fall Semester Credit Hour Total</b>			<b>16-17</b>	<b>Second-Year Spring Semester Credit Hour Total</b>			<b>16</b>
Year 3	CHEM 311 Science Teaching Methods	Major	4	CHEM 312 Practical Considerations of Teaching Science	Major	2	
	CHEM 320 Environmental Chemistry	Major/GE Goal 10	4	CHEM 461 Chemistry Research (or CHEM 430)	Major	2	
	CHEM 412 Physical Chemistry I	Major/CAI	3	CHEM 475 Seminar in Chemistry	Major/OI	1	
	CHEM 413 Physical Chemistry I Laboratory	Major/WI	1	EDUC 429 Secondary Reading and Teaching Strategies	Major	3	
	EDFD 421 Classroom Mgt: K-12 & 5-12	Major	1	CHEM Elective or Gen Ed Course	Major Elective/GE C	2-3	
	EDFD 441 Curriculum, Instr, & Assessment	Major/CAI	3	General Education Course	GE Goal 5/6/7/8/9	3	
				General Education Course	GE Goal 5/6/7/8/9	3	
NOTE:				NOTE: Submit application for Student Teaching.			
<b>Third-Year Fall Semester Credit Hour Total</b>			<b>16</b>	<b>Third-Year Spring Semester Credit Hour Total</b>			<b>15-16</b>
Year 4	CHEM Elective or Gen Ed Course	Major Elective/GE C	2-3	EDST 465 - Student Teaching	Major	12	
	CHEM 405 Biochemistry I	Major	3				
	CHEM 406 Biochemistry I Laboratory	Major/WI	1				
	CHEM 450 Advanced Inorganic Chemistry I	Major	4				
	EDFD 459 The Professional Educator	Major/WI	3				
	EDFD 462 Multicult Youth, Children & Families	Major	1				
NOTE: Complete the MTLE Content and Pedagogy Exams.				NOTE: 1) To complete the degree, the following requirements must be fulfilled: a) Pass Praxis I Exam; b) Pass Praxis II - PLT Exam; c) Pass Praxis II - Chemistry Content Exam. 2) Students are encouraged to obtain dual licensure; suggestions include middle school science or PPST.			
<b>Fourth-Year Fall Semester Credit Hour Total</b>			<b>14-15</b>	<b>Fourth-Year Spring Semester Credit Hour Total</b>			<b>12</b>

Total Credit Hours (SH): 120

Notes: If 350\* then 351 must be taken as an elective or if CHEM 340, then any additional 400-level course not required (above)

Guide to 4 Year Major Maps

- 4 Year Major Maps are intended to show a recommended four-year pathway to a degree. Students must be full-time, college ready, and ready to declare a major to follow the map exactly as shown. Maps are only a sample; there may be other pathways that lead to completion of the degree in four years.
- Major Maps are NOT intended to take the place of meetings with advisors.
- Major Maps are NOT intended to take the place of the Degree Audit (DARs/uAchieve).

All courses listed on a major map will be labelled as one or more of the following:

GE Goal	General Education Goal Area	Indicates that the course meets one of the 10 General Education Goals
Gen Elec	General Elective	Indicates that the course does not meet a General Education, Major or Minor requirement but does count toward the degree
Major	Major Requirement	Indicates that the course meets a Major requirement
Major Elec	Major Elective	Indicates that the course counts toward the major as an elective, must be chosen from list of approved courses
Minor	Minor Requirement	Indicates that the course meets a Minor requirement
CAI	Critical Analysis Intensive	Indicates that the course counts as a Critical Analysis Intensive
OI	Oral Intensive	Indicates that the course counts as an Oral Intensive
WI	Written Intensive	Indicates that the course counts as a Written Intensive
PDW	Personal Development and Wellness	Indicates that the course counts as a Personal Development and Wellness Requirement

General Education Goal Areas:

		Minimum credits required
Goal 1	Communication	7 credits
Goal 2	Critical Thinking (Met with completion of all other goal areas)	--
Goal 3	Natural Science	7 credits
Goal 4	Mathematics	3-4 credits
Goal 5	History, Social/Behavioral Sciences	9 credits
Goal 6	Humanities and Fine Arts	9 credits
Goal 7	Human Diversity	3 credits
Goal 8	Global Perspective	3 credits
Goal 9	Ethic and Civic Responsibility	3 credits
Goal 10	People and the Environment	3 credits

Graduation Requirements:

- Minimum of 120 total credits (semester hours) required for Bachelors' Degree
- Minimum of 40 General Education credits required
- Minimum of 40 Upper Division credits required
- Minimum of 30 Residence credits required in Junior/Senior years
- Minimum WSU cumulative grade point average of 2.00; some programs require higher grade point averages

Major Maps are not contracts. Winona State University reserves the right to make changes at any time, without prior notice, to programs, policies, procedures, and information described in this major map. Students should consult the appropriate academic department or college for currently accurate program information.