SUGGESTED SEQUENCE FOR BS CHEMISTRY/MS CHEMISTRY DUAL DEGREE

FALL SEMESTER

Year 1	CR
CHEM 151 Atomic & Molec Principles	4
CHEM 151L Intro to Chemistry Lab	1
BIOL 111 / 111L Biology I / Lab	4
BRDG 101 Writing and Analysis	3
MATH 115 Calculus I	4
CHEM 153 Career Op in Chem and Biochem I	1
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Year 2	CR
CHEM 228 Structure, Mech & React	4
CHEM 228L Org Struct & Properties Lab	1
PHYS 211/R Gen Analy Phys I/Rec	3
PHYS 211L GAP I Lab	1
MATH 215 Calculus III	4
EQ xxx Essential Questions Seminar	3
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Year 3	CR
CHEM 328 Quantum Chemistry	3
CHEM 340 Instrumental Analysis	3
CHEM 419 Adv Biochemistry I	3
CHEM 305L/R Adv Lab Skills/R	1
General Elective	3
Bridges Course - Critical Think & Prob Solv	3
	16

YEAR 4	CR
CHEM 426L/R Adv Exp Tech/Applct	4
CHEM 544 Inorganic Chemistry II	3
CHEM 503 Advanced Organic	3
CHEM Graduate Course*	3
Bridges Course - Social & Hist Reasoning	3
	16

SPRING SEMESTER

Year 1	CR
CHEM 152 Quantitative Analysis	4
CHEM 152L Quantitative Analysis Lab	1
BIOL 112 / 112L Biology II / Lab	4
BRDG 102 Writing and Literature	3
MATH 116 Calculus II	4
BRDG 100 Research & Info Skills	1
	17

Year 2	CR
CHEM 229 Reacts, Synths & Spectrscpy	4
CHEM 229L Organic Synthesis Lab	1
PHYS 212/R Gen Analy Phys II/Rec	3
PHYS 212L GAP II Lab	1
ENGL 302W Scientific Writing	3
CHEM 154 Career Op in Chem and Biochem II	1
CHEM 452 Env Chemistry (Chem Elective)	3
	16

Year 3	CR
CHEM 329 Thermodynamics	3
CHEM 312 Inorganic Chemistry I	3
CHEM 436 Adv Biochem II (Chem Elective)	3
SPRG 108 Service Learning in Science	0-1
Bridges Course - Cultural Fluency	3
General Elective (Theology)	3
CHEM 155 Career Op in Chem and Biochem III	1
	16

YEAR 4	CR
CHEM Graduate Course*	3
CHEM _____ Chemistry/Math Elective	3
CHEM _____ Capstone (CHEM 488 or 499/H)	1
Bridges Course - Ethical Reasoning	3
General Elective (Philosophy)	3
BRDG 105 Intro to Ethical Reasoning	3
	16

TOTAL = 121 Credits BS Chemistry (130 Credits total)

YEAR 5 - Graduate Year/Graduate Tuition

CHEM 516 Research Experience I	3	CHEM 518 Research Experience II	3
CHEM 513 Scientific Communication I	1	CHEM 515 Scientific Communication II	1
CHEM 542 Adv Data Analysis & Stats	2	CHEM 575 Ethics II	1
CHEM 573 Ethics I	1	CHEM Graduate Course*	3
CHEM Graduate Course*	3	CHEM Graduate Course*	3
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TOTAL = 151 MS Chemistry/BS Chemistry

Orange highlighting denotes courses counting towards 30 credits of Master's degree

Additional Notes

Students who wish to earn an ACS certified degree in Chemistry must take CHEM 528 Polymer Science, as well as at least one semester of CHEM 490W Undergraduate Research.

The University will offer various courses each semester to satisfy the Bridges requirements. BRDG courses can be taken in any sequence throughout the undergraduate curriculum.

Various mandatory and elective courses in this curriculum can be used toward fulfilling minor(s) (e.g. math, biology).

All prerequisites must be met with a C or better.

ENGL 302W Scientific Writing is recommended before CHEM senior year lab-intensive courses.

SPRG 108 Science/Service Learning can be taken for 0-1 credit anytime during JR/SR year.

A graduate level course cannot be counted as both a CHEM elective to satisfy the BS major requirements and a grad level course to satisfy the MS requirements.

Students must have a QPA of 3.0 or above and be in their Junior year in order to register for graduate level (5XX) courses.

CHEM Graduate Courses*

CHEM 508 Biomolecular Structure Function
CHEM 519 Dynamics, Kinetics, Spectroscopy
CHEM 527 Biophysical and Biochemical Char of Macro
CHEM 528 Polymer Chemistry
CHEM 529 Enzyme Kinetics and Mechanisms
CHEM 540 Molecular Visualization and Sim Methods
CHEM 541 Structural Proteomics
CHEM 543 Protein Nucleic Acid Interactions
CHEM 547 Reactions Mechanisms
CHEM 549 Single Crystal X-ray Crystallography
CHEM 565 Adv Instrumental Analysis
CHEM 566 Mass Spect Instrumental Analysis
CHEM 567 Statistical Thermodynamics
CHEM 590 Green Chemistry
CHEM 598 Special Topics

Mathematics Electives

MATH 310 Linear Algebra
MATH 314 Differential Equations
MATH 335 Biostatistics II
Other science/math electives must be at the 300 - 500 level

Curriculum sheet is subject to change
4/22