2013-2014 B.S. Chemistry-Professional Chemist Concentration

NAME _____**ID#**_____

CORE CURRICULUM – 43-44 Semester Hours (SH)

UNIVERSITY CORE

A. Core Foundations

CORE 101	_____	**3**
CORE 102	_____	**3**
CORE 103*	_____	**3**
CORE 201	_____	**3**
CORE 202	_____	**3**

NOTE: Courses listed in multiple areas can only be used to fulfill a single area requirement.

Students can use only one course with their major prefix to fulfill core requirements.

*** Honors course – will replace CORE 101 & 102 for those students in the RU honors program**

B. Core Skills & Knowledge

Courses must be from different disciplines:

MATHEMATICAL SCIENCES (3 SH)

MATH 138/MATH 151 **3**

NATURAL SCIENCES (4 SH)

CHEM 101 **4**

HUMANITIES (3 SH)

_____ _____ _____ **3**

One of the following: **ENGL** 200, **HIST** 101, 102 **PHIL** 111, 112, 114; **POSC** 110; **RELN** 111, 112, 200, 202, 206

VISUAL & PERFORMING ARTS (3 SH)

_____ _____ _____ **3**

One of the following: **ART** 111, 215, 216 **CVPA** 266, **DNCE** 111 **MUSC** 100, 121, 123 **THEA** 100, 180

SOCIAL/BEHAV. SCIENCES (3 SH)

_____ _____ _____ **3**

One of the following: **ANSC** 101, **APST** 200 **ECON** 105, 106 **GEOG** 101, 102, 103 **HIST** 111, 112 **POSC** 120 **PSYC** 121 **RELN** 205 **SOCY** 110, 121

COLLEGE CORE

A. National & International Perspectives

Courses must be from different disciplines:

U. S. PERSPECTIVES (3 SH)

_____ _____ _____ **3**

One of the following: **APST** 200 **ECON** 101, 105, 106, **ENGL** 203 **GEOG** 201, 202, 203 **HIST** 111, 112 **POSC** 120, **SOCY** 110

GLOBAL PERSPECTIVES (3 SH)

_____ _____ _____ **3**

One of the following: **CVPA** 266, **ENGL** 201, 202; **FORL** 103; **GEOG** 101, 102, 140, 280 **HIST** 101, 102 **INST** 101 **ITEC** 112 **PEAC** 200 **RELN** 112, 205, **SOCY** 121,**THEA** 180 **WMST** 101

B. Supporting Skills & Knowledge

NATURAL OR MATHEMATICAL SCI. (3-4 SH)

MATH 152 **4**

HUMANITIES, VISUAL & PERFORMING ARTS, OR FOREIGN LANGUAGES (3-4 SH)

_____ _____ _____ **3-4**

One of the following: **ENGL** 200 **HIST** 101, 102 **PHIL** 111, 112, 114; **POSC** 110; **RELN** 111, 112, 203, 206 **Or ART** 111, 215, 216; **CVPA** 266; **DNCE** 111 **MUSC** 100, 121, 123 **THEA** 100, 180 **Or CHNS** 101: 102, 201: 202 **FORL** 100, 109, 200,209, 210, 309, 409. **FREN** 100, 200:210, 300, 320 **GRMN** 100, 200: 210, 300 **LATN** 101, 201, 350; **RUSS** 100, 200, 210, 300; **SPAN** 101: 102, 201, 202

SOCIAL/ BEHAV. SCI. OR HEALTH & WELLNESS (3 SH)

_____ _____ _____ **3**

One of the following: **ANSC** 101**, APST** 200 **ECON** 105, 106 **GEOG** 101, 102, 103 **HIST** 111, 112 **POSC** 120 **PSYC** 121 **RELN** 205 **SOCY** 110**,** 121 **HLTH** 111,200 **NURS** 111 **NUTR** 214 **RCPT** 200

Professional Chemist CONCENTRATION

					Prerequisites
CHEM	101	_____ (4)	General Chemistry	F/SU	CHEM 101
CHEM	102	_____ (4)	General Chemistry	S/SU	CHEM 101
CHEM	216	_____ (3)	Inorganic Chemistry	S	CHEM 102
CHEM	301	_____ (4)	Organic Chemistry	F	CHEM 102
CHEM	302	_____ (4)	Organic Chemistry	S	CHEM 301
CHEM	324	_____ (4)	Analytical Chemistry	F	CHEM 102
CHEM	401	_____ (4)	Physical Chemistry I	F	CHEM 102, MATH 152, PHYS 112 or 222
CHEM	402	_____ (4)	Physical Chemistry II	S	CHEM 401
CHEM	424	_____ (4)	Instrumental Analysis	S	CHEM 102
CHEM	471	_____ (4)	Biochemistry	F	BIOL 105 or 131; CHEM 302
BIOL	132	_____ (4)	Biology of Cells and Microorganisms		BIOL 131 or CHEM 101 C or better
MATH	151	_____ (3)	Calculus & Analytic Geometry I	F/S	Math SAT ≥ 550,or college pre-calc ≥ "C" or ALEKS exam
MATH	152	_____ (3)	Calculus & Analytic Geometry II	F/S	MATH 151

Additional Requirements needed for completion of the Professional Chemist Concentration:

CHEM	481:482	_____ (3)	Undergraduate Research	F/S	Consent of Instructor

**Chemistry 474 (Biochemistry Laboratory) may substitute for one hour of undergraduate research*

Two additional 200 or higher level courses with CHEM prefix

CHEM	2XX	_____ (3-4)			
CHEM	2XX	_____ (3-4)			
MATH	251	_____ (3)	Calculus and Analytic Geometry III		

B.S. (Non Teaching) Requirements (8 hours):

PHYS	111	_____ (4)	General Physics I	F/S	MATH 137 or equivalent
PHYS	112	_____ (4)	General Physics II	F/S	PHYS 111
OR					
PHYS	221	_____ (4)	Physics I	F	MATH 151
PHYS	222	_____ (4)	Physics II	S	PHYS 221

Sample Schedule B.S. Chemistry Professional Chemist Concentration – 13/14

Fall Semester		Spring Semester	
Freshman Year	**Cr.**	**Freshman Year**	**Cr.**
CORE 101	3	CORE 102 CORE 101	3
CHEM 101	4	CHEM 102 CHEM 101	4
MATH 151 Math SAT ≥ 550,or college pre-calc ≥ "C" or ALEKS exam	3	MATH 152 MATH 151	3
UNIV 100	2	BIOL 132 C or better in CHEM 101	4
CORE	3	CORE	3
	1		
	16		**17**
The Professional Chemist Concentration provides an excellent foundation for graduate study in chemistry or related fields and will prepare students for careers in industrial, academic or governmental settings.			
Sophomore Year	**Cr.**	**Sophomore Year**	**Cr.**
CORE 201 CORE 101& 102	3	CORE 202 CORE 101, 102 & 201	3
CHEM 301 (F ONLY) CHEM 102	4	CHEM 302 (S ONLY) CHEM 301	4
CHEM 324 (F ONLY) CHEM 102	4	CHEM 424 (S ONLY) CHEM 102	4
B.S. requirement: PHYS 111 MATH 137 or equivalent **OR** PHYS 221 (F ONLY) MATH 151	4	B.S. requirement: PHYS 112 MATH 137 or equivalent **OR** PHYS 222 (S ONLY) MATH 151	4
MATH 251	3		
	18		**15**
CORE 101, 102, 201, and 202 must be completed in succession. Students should complete CORE 202 prior to their junior year. Students that do not wish to take 18 hours their sophomore year may elect to take Phys 111 & 112 or Core 201 & 202 during the summer.			
Junior Year	**Cr.**	**Junior Year**	**Cr.**
CHEM 401 (F ONLY) CHEM 102, MATH 152, PHYS 112 or 222	4	CHEM 402 (S ONLY) CHEM 401	4
Required 2XX or above Chemistry Elective	3-4	CHEM 216 (S ONLY) CHEM 102	4
Required 2XX or above Chemistry Elective	3	CHEM 481	1
CORE	3	CORE	3
		CORE	3
	13-14		**15**
Senior Year	**Cr.**	**Senior Year**	**Cr.**
CHEM 471 (F ONLY) BIOL 105 or 131; CHEM 302	4	CHEM 474 OR 482	4
CHEM 481	1-3	CHEM 481	1-3
CORE	3	FREE ELECTIVE to reach 120 credit hrs if needed	*
FREE ELECTIVE to reach 120 credit hrs	3	FREE ELECTIVE to reach 120 credit hrs if needed	*
	TBD		**TBD**

All students must have 120 credit hours to graduate