



To: Kathy Turner, Chair, Undergraduate Curriculum Committee  
Via: Gordon Nelson, Dean, College of Science  
And Michael Babich, Head, Department of Chemistry  
From: Clayton Baum, Chemistry  
Re: Proposed Changes in Chemistry Programs  
Date: April 18, 2008

The Department of Chemistry proposes to change the graduation requirements for our undergraduate programs. The detailed changes are listed below along with our rationale for requesting these changes. There are no new courses involved and the total number of credit hours remains the same as well as the number of credit hours each semester. Attached are the appropriate forms along with the current and proposed program plans for each major. The changes are highlighted in bold.

1. For the General Chemistry and Chemical Management options, replace 3 credits of Technical Elective in the Fall semester of the Senior year with CHM 4800 Undergraduate Research 1 (3 credits). CHM 4800 has been approved by the QEPIC as meeting the QEP requirement.
2. For the Premedical Chemistry option, replace 3 credits of Restricted Elective (CHM) in the Fall semester of the Senior year with CHM 4800 Undergraduate Research 1 (3 credits). CHM 4800 has been approved by the QEPIC as meeting the QEP requirement.
3. For the Premedical Chemistry option, drop the choice of BIO 3210 Mammalian Physiology (4 credits) instead of BIO 4010 Biochemistry 1 (4 credits). BIO 4010 is the preferred course for medical school and also is required for our Biochemistry and our Research Chemistry majors.
4. For the Premedical Chemistry option, move CHM 3301 Analytical Chemistry 1 (3 credits) from Fall of the Junior year to Fall of the Sophomore year. CHM 3301 currently conflicts with BIO 2110 General Genetics, another required course for the major, and CHM 3301 is already listed in the Fall of the Sophomore year for our other chemistry options. This change would require moving HUM 2051 Civilization 1 from Fall to Spring of the Sophomore year and HUM 2052 Civilization 2 from Spring of the Sophomore year to Fall of the Junior year.
5. For the General Chemistry, Research Chemistry, and Chemical Management options, interchange COM 2223 Scientific and Technical Communications (3 credits), currently in the Fall or Spring of the Senior year, with the Free Elective (3 credits), currently in the Spring of the Sophomore year. Moving COM 2223 to the Sophomore year will provide our majors with these communication skills earlier in their studies.

The addition or removal of any graduation requirement in a major or minor requires that this form, accompanied by any supporting documentation, be completed and approved as indicated below.

College Science Department Chemistry

Degree level BS Program title General Chemistry, 7031

To be initiated with catalog year 20 08 / 20 09 Change requested for  major program  minor program

Brief description of requested changes (attach a more detailed description and any supporting documentation)

1. Replace 3 credits of Technical Elective in Fall, Senior Year with CHM 4800 Undergraduate Research 1(3 credits). CHM 4800 has been approved by the QEPIC as meeting the QEP requirement.
2. Move COM 2223 Scientific and Technical Communications (3 credits) from Spring, Senior Year to Spring, Sophomore Year.
3. Move the Free Elective (3 credits) from Spring, Sophomore Year to Spring, Senior Year.

APPROVALS

On completion of appropriate department approvals, submit form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee, for approval below and forward to the Office of the Registrar.

J. Clayton Burns 4/17/08  
Originator Date Chair, Graduate Council Date

W. Gull 4/18/08  
Department Head/ Major Program Chair Date OR

\_\_\_\_\_  
Department Head/ Minor Program Chair Date

Mela \_\_\_\_\_  
Dean or Associate Dean Date Chair, Undergraduate Curriculum Committee Date

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CURRENT GENERAL CHEMISTRY OPTION (7031)

<u>Freshman Year</u>	<b>Fall</b>	<u>Credits</u>		<u>Junior Year</u>	<b>Fall</b>	<u>Credits</u>
BUS 1301	Basic Economics	3		CHM 3001	Physical Chemistry 1	3
CHM 1101	General Chemistry 1	4		CHM 3011	Physical Chem. Lab 1	2
COM 1101	Comp & Rhetoric	3		MTH 2201	Diff. Equa./Lin. Alg.	4
MTH 1001	Calculus 1	4		COM 2012	Res. Sources & Sys.	1
ASC 1000	University Experience	<u>1</u>			Humanities Elective	3
		15			Technical Elective	<u>3</u>
						16
	<b>Spring</b>				<b>Spring</b>	
CHM 1102	General Chemistry 2	4		CHM 3002	Physical Chemistry 2	3
COM 1102	Writing about Lit.	3		CHM 3012	Physical Chem Lab 2	2
MTH 1002	Calculus 2	4		CHM 3302	Analytical Chemistry 2	3
PHY 1001	Physics 1	4		CHM 3312	Analyt. Chem. Lab 2	2
PHY 2091	Physics 1 Lab	<u>1</u>			Social Science Elective	3
		16			Technical Elective	<u>3</u>
						16
	<u>Sophomore Year</u>					
	<b>Fall</b>					
CHM 2001	Organic Chemistry 1	3		<u>Senior Year</u>	<b>Fall</b>	
CHM 2011	Organic Chem. Lab 1	2		CHM 4001	Inorganic Chemistry 1	3
CHM 3301	Analytical Chem. 1	3		CHM 4900	Chemistry Seminar	0
CHM 3311	Analyt. Chem. Lab 1	2			Humanities Elective	3
HUM 2051	Civilization 1	3			Res. Elec. (Chem.)	3
MTH 2001	Calculus 3	<u>4</u>			<b>Technical Elective</b>	<b>3</b>
		17			Technical Elective	<u>3</u>
						15
	<b>Spring</b>				<b>Spring</b>	
CHM 2002	Organic Chemistry 2	3		CHM 4611	Adv. Lab. Tech.2	
CHM 2012	Organic Chem. Lab 2	2		CHM 4900	Chemistry Seminar	0
CHM 2100	Comp. Appl. Chem.	2		<b>COM 2223</b>	<b>Scientific Tech. Com.</b>	<b>3</b>
PHY 2002	Physics 2	4			Technical Elective	3
PHY 2092	Physics Lab 2	1			Res. Elec. (Chem)	3
HUM 2052	Civilization 2	3			Res. Elec. (Chem)	<u>3</u>
	<b>Free Elective</b>	<u>3</u>				14
		<b>18</b>				
				TOTAL		127 Credits



The addition or removal of any graduation requirement in a major or minor requires that this form, accompanied by any supporting documentation, be completed and approved as indicated below.

College Science Department Chemistry

Degree level BS Program title Chemical Management, 7032

To be initiated with catalog year 2008 / 2009 Change requested for  major program  minor program

Brief description of requested changes (attach a more detailed description and any supporting documentation)

1. Replace 3 credits of Technical Elective in Fall, Senior Year with CHM 4800 Undergraduate Research 1(3 credits). CHM 4800 has been approved by the QEPIC as meeting the QEP requirement.
2. Move COM 2223 Scientific and Technical Communications (3 credits) from Spring, Senior Year to Spring, Sophomore Year.
3. Move the Free Elective (3 credits) from Spring, Sophomore Year to Spring, Senior Year.

**APPROVALS**

On completion of appropriate department approvals, submit form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee, for approval below and forward to the Office of the Registrar.

J. Clayton Burns 4/17/08  
 Originator Date Chair, Graduate Council Date

MW Ball 4/18/08  
 Department Head/ Major Program Chair Date **OR**

\_\_\_\_\_  
 Department Head/ Minor Program Chair Date

Meh  
 Dean or Associate Dean Date Chair, Undergraduate Curriculum Committee Date

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CURRENT CHEMICAL MANAGEMENT OPTION (7032)

<u>Freshman Year</u>	<b>Fall</b>	<u>Credits</u>		<u>Junior Year</u>	<b>Fall</b>	<u>Credits</u>	
BUS	2303	Macroeconomics	3	BUS	2211	Intro Financial Acct.	3
CHM	1101	General Chemistry 1	4	CHM	3001	Physical Chemistry 1	3
COM	1101	Comp & Rhetoric	3	CHM	3011	Physical Chem. Lab 1	2
MTH	1001	Calculus 1	4	MTH	2201	Diff. Equa./Lin. Alg.	4
ASC	1000	University Experience	<u>1</u>	MTH	2401	Probability Statistics	<u>3</u>
			15				15
		<b>Spring</b>				<b>Spring</b>	
CHM	1102	General Chemistry 2	4	BUS	2212	Intro Managerial Acct.	3
COM	1102	Writing about Lit.	3	CHM	3002	Physical Chemistry 2	3
MTH	1002	Calculus 2	4	CHM	3012	Physical Chem Lab 2	2
PHY	1001	Physics 1	4	CHM	3302	Analytical Chemistry 2	3
PHY	2091	Physics 1 Lab	<u>1</u>	CHM	3312	Analyt. Chem. Lab 2	2
			16			Social Science Elective	<u>3</u>
							16
<u>Sophomore Year</u>	<b>Fall</b>			<u>Senior Year</u>	<b>Fall</b>		
CHM	2001	Organic Chemistry 1	3	BUS	2601	Legal Social Env. Bus.	3
CHM	2011	Organic Chem. Lab 1	2	CHM	4001	Inorganic Chemistry 1	3
CHM	3301	Analytical Chem. 1	3	CHM	4900	Chemistry Seminar	0
CHM	3311	Analyt. Chem. Lab 1	2	COM	2012	Res. Sources & Sys.	1
HUM	2051	Civilization 1	3			Humanities Elective	3
MTH	2001	Calculus 3	<u>4</u>			Res. Elec. (Chem.)	3
			17			<b>Technical Elective</b>	<u>3</u>
		<b>Spring</b>					16
CHM	2002	Organic Chemistry 2	3			<b>Spring</b>	
CHM	2012	Organic Chem. Lab 2	2	BUS	3501	Management Principles	3
CHM	2100	Comp. Appl. Chem.	2	BUS	3601	Marketing Principles	3
PHY	2002	Physics 2	4	CHM	4900	Chemistry Seminar	0
PHY	2092	Physics Lab 2	1	<b>COM 2223</b>	<b>Scientific Tech. Com.</b>	<b>3</b>	
HUM	2052	Civilization 2	3			Humanities Elective	3
		<b>Free Elective</b>	<u>3</u>			Res. Elec. (Chem)	<u>3</u>
			18				15
				TOTAL		128 Credits	

PROPOSED CHEMICAL MANAGEMENT OPTION (7032)

<u>Freshman Year</u>	<b>Fall</b>	<u>Credits</u>		<u>Junior Year</u>	<b>Fall</b>	<u>Credits</u>	
BUS	2303	Macroeconomics	3	BUS	2211	Intro Financial Acct.	3
CHM	1101	General Chemistry 1	4	CHM	3001	Physical Chemistry 1	3
COM	1101	Comp & Rhetoric	3	CHM	3011	Physical Chem. Lab 1	2
MTH	1001	Calculus 1	4	MTH	2201	Diff. Equa./Lin. Alg.	4
ASC	1000	University Experience	<u>1</u>	MTH	2401	Probability Statistics	<u>3</u>
			15				15
		<b>Spring</b>				<b>Spring</b>	
CHM	1102	General Chemistry 2	4	BUS	2212	Intro Managerial Acct.	3
COM	1102	Writing about Lit.	3	CHM	3002	Physical Chemistry 2	3
MTH	1002	Calculus 2	4	CHM	3012	Physical Chem Lab 2	2
PHY	1001	Physics 1	4	CHM	3302	Analytical Chemistry 2	3
PHY	2091	Physics 1 Lab	<u>1</u>	CHM	3312	Analyt. Chem. Lab 2	2
			16			Social Science Elective	<u>3</u>
							16
<u>Sophomore Year</u>	<b>Fall</b>			<u>Senior Year</u>	<b>Fall</b>		
CHM	2001	Organic Chemistry 1	3	BUS	2601	Legal Social Env. Bus.	3
CHM	2011	Organic Chem. Lab 1	2	CHM	4001	Inorganic Chemistry 1	3
CHM	3301	Analytical Chem. 1	3	CHM	4900	Chemistry Seminar	0
CHM	3311	Analyt. Chem. Lab 1	2	COM	2012	Res. Sources & Sys.	1
HUM	2051	Civilization 1	3			Humanities Elective	3
MTH	2001	Calculus 3	<u>4</u>			Res. Elec. (Chem.)	3
			17	<b>CHM 4800</b>	<b>Undergraduate Res.</b>		<u>3</u>
							16
		<b>Spring</b>				<b>Spring</b>	
CHM	2002	Organic Chemistry 2	3	BUS	3501	Management Principles	3
CHM	2012	Organic Chem. Lab 2	2	BUS	3601	Marketing Principles	3
CHM	2100	Comp. Appl. Chem.	2	CHM	4900	Chemistry Seminar	0
PHY	2002	Physics 2	4			<b>Free Elective</b>	<b>3</b>
PHY	2092	Physics Lab 2	1			Humanities Elective	3
HUM	2052	Civilization 2	3			Res. Elec. (Chem)	<u>3</u>
COM	2223	Scientific Tech. Com.	<u>3</u>				15
			18				
				TOTAL		128 Credits	

The addition or removal of any graduation requirement in a major or minor requires that this form, accompanied by any supporting documentation, be completed and approved as indicated below.

College Science Department Chemistry

Degree level BS Program title Research Chemistry, 7034

To be initiated with catalog year 2008 / 2009 Change requested for  major program  minor program

Brief description of requested changes (attach a more detailed description and any supporting documentation)

1. Move COM 2223 Scientific and Technical Communications (3 credits) from Fall, Senior Year to Spring, Sophomore Year.
2. Move the Free Elective (3 credits) from Spring, Sophomore Year to Fall, Senior Year.
3. CHM 4910/CHM4911 have been approved by the QEPIC as meeting the QEP requirements.

APPROVALS

On completion of appropriate department approvals, submit form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee, for approval below and forward to the Office of the Registrar.

J. Clayton Bunn 4/17/08  
Originator Date Chair, Graduate Council Date

Michael W. All 4/18/08  
Department Head/ Major Program Chair Date OR

\_\_\_\_\_  
Department Head/ Minor Program Chair Date

MR \_\_\_\_\_  
Dean or Associate Dean Date Chair, Undergraduate Curriculum Committee Date

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CURRENT RESEARCH CHEMISTRY OPTION (7034)

<u>Freshman Year</u>	<b>Fall</b>	<u>Credits</u>		<u>Junior Year</u>	<b>Fall</b>	<u>Credits</u>
BUS 1301	Basic Economics	3		CHM 3001	Physical Chemistry 1	3
CHM 1101	General Chemistry 1	4		CHM 3011	Physical Chem. Lab 1	2
COM 1101	Comp & Rhetoric	3		MTH 2201	Diff. Equa./Lin. Alg.	4
MTH 1001	Calculus 1	4		COM 2012	Res. Sources & Sys.	1
ASC 1000	University Experience	<u>1</u>			Humanities Elective	3
		15			Technical Elective	<u>3</u>
						16
	<b>Spring</b>				<b>Spring</b>	
CHM 1102	General Chemistry 2	4		CHM 3002	Physical Chemistry 2	3
COM 1102	Writing about Lit.	3		CHM 3012	Physical Chem Lab 2	2
MTH 1002	Calculus 2	4		CHM 3302	Analytical Chemistry 2	3
PHY 1001	Physics 1	4		CHM 3312	Analyt. Chem. Lab 2	2
PHY 2091	Physics 1 Lab	<u>1</u>			Social Science Elective	3
		16			Technical Elective	<u>3</u>
						16
<u>Sophomore Year</u>	<b>Fall</b>					
CHM 2001	Organic Chemistry 1	3				
CHM 2011	Organic Chem. Lab 1	2		<u>Senior Year</u>	<b>Fall</b>	
CHM 3301	Analytical Chem. 1	3		BIO 4010	Biochemistry 1	4
CHM 3311	Analyt. Chem. Lab 1	2		CHM 4001	Inorganic Chemistry 1	3
HUM 2051	Civilization 1	3		CHM 4900	Chemistry Seminar	0
MTH 2001	Calculus 3	<u>4</u>		CHM 4910	Senior Thesis	3
		17		<b>COM 2223</b>	<b>Scientific Tech. Com.</b>	<b>3</b>
					Res. Elec. (Chem.)	<u>3</u>
	<b>Spring</b>					16
CHM 2002	Organic Chemistry 2	3			<b>Spring</b>	
CHM 2012	Organic Chem. Lab 2	2		CHM 4002	Adv. Inorganic Chem.	3
CHM 2100	Comp. Appl. Chem.	2		CHM 4611	Adv. Lab. Tech.2	
PHY 2002	Physics 2	4		CHM 4901	Senior Research Sem.	1
PHY 2092	Physics Lab 2	1		CHM 4911	Senior Thesis	3
HUM 2052	Civilization 2	3			Res. Elec. (Chem)	3
	<b>Free Elective</b>	<u>3</u>			Res. Elec. (Chem)	<u>3</u>
		18				15
				TOTAL		129 Credits



The addition or removal of any graduation requirement in a major or minor requires that this form, accompanied by any supporting documentation, be completed and approved as indicated below.

College Science Department Chemistry

Degree level BS Program title Premedical Chemistry, 7036

To be initiated with catalog year 2008 / 2009 Change requested for [X] major program [ ] minor program

Brief description of requested changes (attach a more detailed description and any supporting documentation)

- 1. Replace 3 credits of Restricted Elective (CHM) in Fall, Senior Year with CHM 4800 Undergraduate Research 1(3 credits). CHM 4800 has been approved by the QEPIC as meeting the QEP requirement.
2. In Fall, Junior Year, delete the option of BIO 3210 Mammalian Physiology (4 credits) in place of BIO 4010 Biochemistry 1 (4 credits).
3. Move CHM 3301 Analytical Chemistry 1 (3 credits) from Fall, Junior Year to Fall, Sophomore Year.
4. Move HUM 2051 Civilization 1 (3 credits) from Fall, Sophomore Year to Spring, Sophomore Year.
5. Move HUM 2052 Civilization 2 (3 credits) from Spring, Sophomore Year to Fall, Junior Year.

APPROVALS

On completion of appropriate department approvals, submit form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee, for approval below and forward to the Office of the Registrar.

J. Clayton Brown 4/17/08
Originator Date Chair, Graduate Council Date

M. DeFoor 4/15/08
Department Head/ Major Program Chair Date OR

Department Head/ Minor Program Chair Date

M. DeFoor
Dean or Associate Dean Date Chair, Undergraduate Curriculum Committee Date

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PROPOSED PREMEDICAL CHEMISTRY OPTION (7036)

<u>Freshman Year</u>	<b>Fall</b>	<u>Credits</u>	<u>Junior Year</u>	<b>Fall</b>	<u>Credits</u>		
BIO	1010	Biological Discovery 1	4	BIO	2110	General Genetics	4
CHM	1101	General Chemistry 1	4	BIO	4010	Biochemistry 1	4
COM	1101	Comp & Rhetoric	3	CHM	3001	Physical Chemistry 1	3
MTH	1001	Calculus 1	4	<b>HUM 2052</b>	<b>Civilization 2</b>	<b>3</b>	
ASC	1000	University Experience	<u>1</u>	CHM	3311	Analyt. Chem. Lab 1	<u>2</u>
			16				16
		<b>Spring</b>				<b>Spring</b>	
BIO	1020	Biological Discovery 2	4	CHM	3002	Physical Chemistry 2	3
BIO	1200	Intro Health Profess.	1	CHM	3302	Analytical Chemistry 2	3
CHM	1102	General Chemistry 2	4	CHM	3312	Analyt. Chem. Lab 2	2
COM	1102	Writing about Lit.	3	COM	2012	Res. Sources & Sys.	1
MTH	1002	Calculus 2	<u>4</u>	COM	2223	Scientific Tech. Com.	3
			16	MTH	2201	Diff. Equa./Lin. Alg.	<u>4</u>
							16
<u>Sophomore Year</u>	<b>Fall</b>			<u>Senior Year</u>	<b>Fall</b>		
CHM	2001	Organic Chemistry 1	3	CHM	3011	Physical Chem. Lab 1	2
CHM	2011	Organic Chem. Lab 1	2	CHM	4001	Inorganic Chemistry 1	3
<b>CHM 3301</b>	<b>Analytical Chem. 1</b>	<b>3</b>		CHM	4900	Chemistry Seminar	0
MTH	2001	Calculus 3	4	<b>CHM 4800</b>	<b>Undergraduate Res.</b>	<b>3</b>	
PHY	1001	Physics 1	4		Liberal Arts Elective	3	
PHY	2091	Physics Lab 1	<u>1</u>		Technical Elective	3	
			17		Soc. Sci. Elective	<u>3</u>	
							17
		<b>Spring</b>			<b>Spring</b>		
CHM	2002	Organic Chemistry 2	3	CHM	3012	Physical Chem Lab 2	2
CHM	2012	Organic Chem. Lab 2	2	CHM	4900	Chemistry Seminar	0
CHM	2100	Comp. Appl. Chem.	2		Humanities Elective	3	
<b>HUM 2052</b>	<b>Civilization 1</b>	<b>3</b>			Liberal Arts Elective	3	
PHY	2002	Physics 2	4		Res. Elec. (Chem)	3	
PHY	2092	Physics Lab 2	<u>1</u>		Res. Elec. (Chem)	3	
			15		Free Elective	<u>3</u>	
							17
				TOTAL		130 Credits	