



MEMORANDUM

TO: Curriculum Committee

FROM: Jack Kirby 

DATE: March 7, 2013


SUBJECT: Curriculum Proposal #12-13-51, REVISION #2
BA Education Specialization, Chemistry
Final Faculty Senate Approval 3/5/2013

I recommend approval of the attached REVISION #2 of Curriculum Proposal #12-13-51 from the College of Science and Technology, Department of Biology, Chemistry, and Geoscience. This copy is the final draft of Proposal 12-13-51.





MEMORANDUM


TO: Curriculum Committee
FROM: Jack Kirby 
DATE: February 28, 2013
SUBJECT: Curriculum Proposal #12-13-51, REVISION #1

I recommend approval of the attached REVISION #1 of Curriculum Proposal #12-13-51 from the College of Science and Technology, Department of Biology, Chemistry, and Geoscience. The proposal is now ready for submission to Faculty Senate.





MEMORANDUM

TO: Curriculum Committee
FROM: Jack Kirby 
DATE: February 19, 2013
SUBJECT: Curriculum Proposal #12-13-51

I recommend approval of the attached Curriculum Proposal #12-13-51 from the College of Science and Technology, Department of Biology, Chemistry, and Geoscience.

This proposal reduces the required hours for the BA in Education with a certification in Chemistry from 128 hours to 120 hours. It also incorporates the new General Studies requirements. In addition it adds eight credits of major hours for NCATE Accreditation.

c: Dr. Christina Lavorata
Dr. Anthony Gilberti
Dr. Deb Hemler
Ms. Evie Brantmayer
Ms. Leslie Lovett



CURRICULUM PROPOSAL (Submit one hard copy and an electronic copy to the Associate Provost by the second Tuesday of the month.)

Proposal Number: 12-13-51

School/Department/Program: College of Science & Technology/BCG/Geoscience

Preparer/Contact Person: Dr. Deb Hemler

Telephone Extension: 4393

Date Originally Submitted: _____

Revision (Indicate date and label it Revision #1, #2, etc.): March 7, 2013, REVISION #2

Implementation Date Requested: Fall 2013

- I. **PROPOSAL.** Write a brief abstract, not exceeding 100 words, which describes the overall content of the proposal.

This proposal reduces the total hours needed for a B.A. degree in Education with a certification in Chemistry from 128 hours to 120 hours by eliminating free elective hours. This proposal also incorporates the new General Studies requirements. In addition, NCATE accreditation issues are addressed in the proposal adding 8 credits of required major courses to the program.

- II. **DESCRIPTION OF THE PROPOSAL.** Provide a response for each letter, A-H, and for each Roman Numeral II-V. If any section does not apply to your proposal, reply N/A.

- A. Deletion of course(s) or credit(s) from program(s)

16 hours of free electives have been eliminated from the program.

Total hours deleted. 16 hours

- B. Addition of course(s) or credit(s) from program(s)

Addition of Biological Principles 1 BIOL 1105 (4 credits) and Physical Geology GEOL 1101 (4 credits)

Total hours added. 8 hours

- C. Provision for interchangeable use of course(s) with program(s)

- D. Revision of course content. Include, as an appendix, a revised course description, written in complete sentences, suitable for use in the university catalog.

n/a

- E. Other changes to existing courses such as changes to title, course number, and elective or required status.

n/a

- F. Creation of new course(s). For each new course

1. Designate the course number, title, units of credit, prerequisites (if any), ownership (FSU or shared) and specify its status as an elective or required course. If you are creating a shared course, attach a memo from the Deans of the affected Schools explaining the rationale for the course being shared.

n/a

2. Include, as an appendix, a course description, written in complete sentences, suitable for use in the college catalog.
3. Include, as an appendix, a detailed course outline consisting of at least two levels.
4. In order to meet the requirements as outlined in Goal One of the Strategic Plan, please include Outcome Competencies and Methods of Assessment as an appendix. Examples are available upon request from the Chair of the Curriculum Committee.

n/a

- G. Attach an itemized summary of the present program(s) affected, if any, and of the proposed change(s).

Describe how this proposal affects the hours needed to complete this program. Specifically, what is the net gain or loss in hours? Use the format for Current and Proposed Programs in Appendix A.

**As directed, there has been a net loss of 8 credit hours from the program.
See Appendix A**

III. RATIONALE FOR THE PROPOSAL.

- A. **Quantitative Assessment:** Indicate the types of assessment data, i.e., surveys, interviews, capstone courses, projects, licensure exams, nationally-normed tests, locally developed measurements, accreditation reports, etc., that were collected and analyzed to determine that curricular changes were warranted. Quantitative data is preferred.


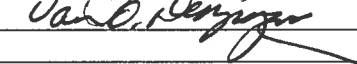
In 2011, all Special Program Areas (content specializations) in Education submitted review for NCATE accreditation. The National Science Teachers Association (NSTA) determines the SPA standards for this accreditation process in science fields. Standard 1 deals with content competency and provides competencies which all chemistry certified teachers must meet. Programs must cover 80% or more of the Content Analysis for Secondary Science outcomes in three areas: core, advanced, and supporting competencies. Fairmont State's alignment in 2011 fell within 80% compliance. In 2012, NSTA changed their teaching standards. The revised Content Analysis Form is available for review by visiting <http://www.nsta.org/pd/ncate/docs/SecondaryScienceContentAnalysisForm.pdf> Alignment of our program to these new standards was completed in January 2012. While our chemistry program aligns with the core and advanced chemistry outcomes, it falls short of the supporting competencies or 57% outcomes met through coursework. Our current program meets only the physics and mathematics supporting competencies and omits outcomes in the areas of earth science and biology. Addition of these two courses to the program will address all supporting competencies in science.

- B. **Qualitative Assessment:** Based upon the assessment data above, indicate why a curricular change is justified. Indicate the expected results of the change. Be sure to include an estimate of the increased cost, or reduction in cost of implementation. FOR EXAMPLE: Will new faculty, facilities, equipment, or library materials be required?

At 57% alignment with supporting science competencies, the science certification programs would be in jeopardy of receiving a "not met" on Standard 1 of the SPA report for NCATE. There will be no financial burden to the institution since these courses already exist and are required for other teaching certification areas. In the past, most chemistry education students have also taken the coursework to certify in the area of general science. Since these courses are required for that certification, there will be no significant increase in enrollment in these courses.

- IV. Should this proposal affect any course or program in another school, a memo must be sent to the Dean of each school impacted and a copy of the memo(s) must be included with this proposal. In addition, the Deans of the affected schools must sign below to indicate their notification of this proposal.

By signing here, you are indicating your college's/school's notification of this proposal.

College/School	Dean	Signature
Science & Technology	Dr. Anthony Gilberti	
School of Education	Dr. Van O. Dempsey	

- V. Should this proposal affect any course to be added or deleted from the general studies requirements, a memo from the chair of the General Studies Committee indicating approval of the change must be included with this proposal.

- VI. ADDITIONAL COMMENTS.

APPENDIX A
 B.A. Degree in Education Specialization in Chemistry (9-Adult)
 Current Program

Required Major Courses		HRS
CHEM 1105	Chemical Principles	5
CHEM 2200	Foundational Biochemistry	4
CHEM 2201	Organic Chemistry I	4
CHEM 3301	Physical Chemistry I	4
CHEM 3304	Inorganic Chemistry I	4
MATH 1185	Applied Calculus I	
OR	OR	4
MATH 1190	Calculus I	
PHSC 4430	Science Integration Seminar	1
PHYS 4431	Methods and Materials in Teaching Science	3
PHYS 1101/02	Introduction to Physics I,II	8
OR	OR	OR
PHYS 1105/06	Principles of Physics I,II	10
EDUC 2200	Intro to Education	3
EDUC 2201	Instructional Technology	3
EDUC 2203	Human Development, Learning and Teaching	3
EDUC 2240	High Incidence Disabilities for Educators	3
EDUC 2260	Instructional Design I	3
EDUC 2265	Field Experience I	1
EDUC 3331	Reading in the Content Areas	3
EDUC 3340	Instructional Design II	3
EDUC 3351	Inclusive Classroom Practices	3
EDUC 3365	Field Experience II	2
EDUC 4485	Action Research	1
EDUC 4486	Portfolio	1
EDUC 4496	Secondary Student Teaching	10
TOTAL Required Major Courses		68
Major Electives		0
Minor Electives		0
TOTAL HOURS FOR MAJOR		68

Required General Studies Courses			
First Year Experience			15-16
ENGL	1104	Written English I	3
ENGL	1108	Written English II	3
INFO	1100	Computer Concepts and Applications	3
MATH			X
COMM	2200, 2201, OR 2202	Communication	3
Scientific Discovery			X
Cultural / Civilization Exploration			9
Society / Human Interactions			6

TOTAL GENERAL STUDIES HOURS	41-43
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TOTAL FREE ELECTIVES	17-19
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TOTAL HOURS	128
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B.A. Degree in Education Specialization in Chemistry (9-Adult)
Proposed Program

Required Major Courses	HRS	
CHEM 1105	Chemical Principles	5
CHEM 2200	Foundational Biochemistry	4
CHEM 2201	Organic Chemistry I	4
CHEM 3301	Physical Chemistry I	4
CHEM 3304	Inorganic Chemistry I	4
MATH 1185	Applied Calculus I	
OR	OR	4
MATH 1190	Calculus I	
PHSC 4430	Science Integration Seminar	1
PHYS 4431	Methods and Materials in Teaching Science	3
GEOL 1101	Physical Geology	3
PHYS 1101/02	Introduction to Physics I,II	8
OR	OR	OR
PHYS 1105/06	Principles of Physics I,II	10
BIOL 1105	Principles of Biology	4
EDUC 2200	Intro to Education	3
EDUC 2201	Instructional Technology	3
EDUC 2203	Human Development, Learning and Teaching	3
EDUC 2240	High Incidence Disabilities for Educators	3
EDUC 2260	Instructional Design I	3
EDUC 2265	Field Experience I	1
EDUC 3331	Reading in the Content Areas	3
EDUC 3340	Instructional Design II	3
EDUC 3351	Inclusive Classroom Practices	3
EDUC 3365	Field Experience II	2
EDUC 4485	Action Research	1
EDUC 4486	Portfolio	1
EDUC 4496	Secondary Student Teaching	10
TOTAL MAJOR HOURS		83-85
Major Electives		0
Minor Electives		
(note: MATH 1185 or 1190 is a required for general studies. A second certification area in science is strongly recommended)		0
TOTAL HOURS FOR MAJOR		83-85

Required General Studies Courses		
Attribute IA – Critical Analysis		3
	ENGL 1108 (required)	
Attribute IB – Quantitative Literacy		4
	MATH 1185 or 1190	
Attribute IC – Written Communication		3
	ENGL 1104 (required)	
Attribute ID - Teamwork		3
	COMM 2200 or any other ID	
Attribute IE – Information Literacy		X(IA)
	ENGL 1108 or any other IE	
Attribute IF – Technology Literacy		X
	EDUC 2201	
Attribute IG – Oral Communication		X(ID)
	COMM 2200 or any other IG	
Attribute III – Citizenship		3
	POLI 1103 or any other III	
Attribute IV – Ethics		3
	ENGL 2220 or Any course in IV	
Attribute V – Health		2
	PHED 1100 or any other V	
Attribute VI - Interdisciplinary		X (III)
	POLI 1103 or any course in VI	
Attribute VIIA - Arts		3
	Any course in VIIA	
Attribute VIIB - Humanities		X(IV)
	ENGL 2220 or Any course in VIIB	
Attribute VIIC – Social Sciences		3
	GEOG 2210 or any other VIIC	
Attribute VIID - Natural Science		X
	CHEM 1105	
Attribute VIII – Cultural Awareness		3
	Any course in VIII	
Additional General Studies hours		X
	CHEM 3301	
	EDUC 3331	
	EDUC 3351 Writing Intensive Courses	
TOTAL GENERAL STUDIES HOURS		30
TOTAL FREE ELECTIVES		5-7
TOTAL HOURS		120