Curriculum Committee

FLORIDA SOUTHWESTERN STATE COLLEGE

Change of Course Proposal

School or Division	School of Pure and Applied Sciences
Program or Certificate	Associates in Science, Associates in Arts
Proposed by (faculty only)	Rebecca Page
Presenter (faculty only)	Rebecca Page
Note that the presenter (faculty) listed above must be present at the Curriculum Committee meeting or the proposal will be returned to the School or Division and be resubmitted for a later date.	
Submission date	8/30/2017
Current course prefix, number, and title	CHM 2045 General Chemistry I

Section I, Proposed Changes

Change to course prefix and number Lecture/lab course combined must include "C" / lab course must include "L"	List new course prefix and number
Provide justification for the proposed prerequisite(s).	
Change to course title	List new course title
Change of School, Division, or Department	List new school, division, or department
Change to course prerequisite(s) and minimum grade(s) (must include minimum grade if higher than a "D")	From: To:
Change to course co-requisites	From: To:
Provide justification for the proposed co-requisite(s).	
Is any co-requisite for this course listed as a co-requisite on its paired course? (Ex. CHM 2032 is a co-requisite for CHM 2032L, and CHM 2032L is a co-requisite for CHM 2032)	Choose an item. List the co-requisite
Change to course credits or clock hours	From: To:
Change to contact hours (faculty load)	From:

	To:
Change to grade mode	Choose an item.
Change to credit type	Choose an item.
Change to course description (provide below) This course is the first half of a two-semester general chemistry sequence. It deals, in depth, with the topics of matter, chemical measurement, stoichiometry, atomic theory, bonding, molecular geometry, gases, liquids, and solids.	
Type in entire new course description here	

Change to general topic outline (type in entire new outline below)
• Remove Properties of Solutions. •

Change to Learning Outcomes: For information purposes only.

IV. Course Competencies, Learning Outcomes and Objectives

A. General Education Competencies and Course Outcomes

1. Integral *General Education Competency or competencies*:

- Classify and balance chemical reactions and perform calculations based on chemical compounds and their reactions.
- Explain how the Bohr model of the atom relates to the modern description by quantum theory, and using terms of the quantum theory, relate atoms to the Periodic Table.
- Predict molecular shapes and other molecular properties utilizing the VSEPR method.
- Calculate changes in properties of gases, including reactions involving gases.
- Describe intermolecular attractive forces, explain their effect on selected physical properties of solids, liquids, and gases, and interpret phase diagrams.

2.

2. Supplemental *General Education Competency or competencies*:

B. In accordance with Florida Statute 1007.25 concerning the state's general education core course requirements, this course meets the general education competencies for ....
Part B would only be included in the course outlines of those courses are included in the FSW Catalog as a General Education Core Course. If this is not a core course, then outline letter C would become B.

C. Other Course Objectives/Standards

Section II (must complete each item below)

Should any major restrictions be listed on this course? If so, select "change" and list the appropriate major restriction codes or select no change.	Choose an item. List applicable major restriction codes
Change course to an "International or Diversity Focus" course?	Choose an item.
Change course to a General Education course?	Choose an item.
Change course from General Education to non-General Education?	Choose an item.
Change course to a Writing Intensive course?	Choose an item.
Change course from Writing Intensive to non-Writing intensive?	Choose an item.
Change course to repeatable? (A repeatable course may be taken more than one time for additional credits. For example, MUT 2641, a 3 credit hour course can be repeated 1 time and a student can earn a maximum of 6 credits). *Not the same as Multiple Attempts or Grade Forgiveness	Choose an item. If repeatable, list maximum number of credits

Impact of Change of Course Proposal	
Will this change of course proposal impact other courses, programs, departments, or budgets?	Yes
If the answer to the question above is "yes", list the impact on other courses, programs, or budgets?	One topic, solutions, will move from CHM 2045 to CHM 2046.
Have you discussed this proposal with anyone (from other departments, programs, or institutions) regarding the impact? Were any agreements made? Provide detail information below.	
Agreement of chemistry faculty (continuing and annual contract) through e-mail and during a meeting on Aug. 15, 2017 at the Lee campus.	

Section III, Justification for proposal

Provide justification (below) for each change on this proposed curriculum action.
To achieve more even distribution of the amount of material covered in CHM 2045 and CHM 2046.

Section IV, Important Dates and Endorsements Required

List all faculty endorsements below. (Note that proposals will be returned to the School or Division if faculty endorsements are not provided).
Qin Liu, Lisa McGarity, Kim Turner, Di Xue, Rebecca Page

NOTE: Course and Program changes must be submitted by the dates listed on the published Curriculum Committee Calendar. Exceptions to the published submission deadlines must receive prior approval from the Provost's Office.

Term in which approved action will take place	Fall 2018
Provide an explanation below for the requested exception to the effective date.	

Any exceptions to the term start date requires the signatures of the Academic Dean or Associate Vice President and the Provost prior to submission to the Dropbox.		
Dean or Associate Vice President	Signature	Date
Provost	Signature	Date
Dr. Jeff Stewart		

Required Endorsements	Type in Name	Select Date
Department Chair or Program Coordinator/Director	Peggy Romeo	Click here to enter a date. 9/6/17
Academic Dean or Associate Vice President	Martin McClinton	Click here to enter a date. 9/6/17

All Curriculum proposals require approval of the Curriculum Committee and the Provost. Final approval or denial of a proposal is reflected on the completed and signed proposal.

X Approve ☐ Do not approve

Mary L. Myers
Curriculum Committee Chair Signature

10/9/17
Date

X Approve Do not approve

Jeff Stewart
Provost Signature

10/16/17
Date

PROFESSOR:	**PHONE NUMBER:**
OFFICE LOCATION:	**E-MAIL:**
OFFICE HOURS:	**SEMESTER:**

I. COURSE NUMBER AND TITLE, CATALOG DESCRIPTION, CREDITS:

CHM 2045 GENERAL CHEMISTRY I (3 CREDITS)

This course is the first half of a two-semester general chemistry sequence. It deals, in depth, with the topics of matter, chemical measurement, stoichiometry, atomic theory, bonding, molecular geometry, gases, liquids, and solids. ~~, and properties of solutions.~~

II. PREREQUISITES FOR THIS COURSE:

{CHM 2025 and CHM 2025L with a grade of "C" or better in each course} or {CHM 2032 and CHM 2032L with a grade of "C" or better in each course} or Chemistry Department Test

CO-REQUISITES FOR THIS COURSE:

CHM 2045L

III. GENERAL COURSE INFORMATION: Topic Outline.

- Chemical reactions and stoichiometry
- Atomic theory
- Chemical bonding
- Gases
- Intermolecular forces and properties of solids,liquids,and gases
- ~~Properties of solutions~~

IV. ALL COURSES AT FLORIDA SOUTHWESTERN STATE COLLEGE CONTRIBUTE TO THE GENERAL EDUCATION PROGRAM BY MEETING ONE OR MORE OF THE FOLLOWING GENERAL EDUCATION COMPETENCIES:

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.
Engage meanings of active citizenship in one's community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.

General Education Competency:

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Classify and balance chemical reactions and perform calculations based on chemical compounds and their reactions.
- Explain how the Bohr model of the atom relates to the modern description by quantum theory, and using terms of the quantum theory, relate atoms to the Periodic Table.
- Predict molecular shapes and other molecular properties utilizing the VSEPR method.
- Calculate changes in properties of gases, including reactions involving gases.
- Describe intermolecular attractive forces, explain their effect on selected physical properties ~~, cal~~ of solids, liquids, and gases, and interpret phase diagrams.
- ~~Explain and evaluate the dissolution process (including the effects of pressure and temperature on solubility) and selected colligative properties, and calculate concentration units.~~

B. In accordance with Florida Statute 1007.25 concerning the state's general education core course requirements, this course meets the general education competencies for science.

- Students will demonstrate the ability to critically examine and evaluate scientific observation, hypothesis, or model construction, and to use the scientific method to explain the natural world.
- Students will successfully recognize and comprehend fundamental concepts, principles and processes about the natural world

V. DISTRICT-WIDE POLICIES:

PROGRAMS FOR STUDENTS WITH DISABILITIES
Florida SouthWestern State College, in accordance with the Americans with Disabilities Act and the College's guiding principles, offers students with documented disabilities programs to equalize access to the educational process. Students needing to request an accommodation in this class due to a disability, or who suspect that their academic performance is affected by a disability should contact the Office of Adaptive Services at the nearest campus. The office locations and telephone numbers for the Office of Adaptive Services at each campus can be found at http://www.fsw.edu/adaptiveservices.

REPORTING TITLE IX VIOLATIONS
Florida SouthWestern State College, in accordance with Title IX and the Violence Against Women Act, has established a set of procedures for reporting and investigating Title IX violations including sexual misconduct. Students who need to report an incident or need to receive support regarding an incident should contact the Equity Officer at equity@fsw.edu. Incoming students are encouraged to participate in the Sexual Violence Prevention training offered online. Additional information and resources can be found on the College's website at http://www.fsw.edu/sexualassault.

VI. REQUIREMENTS FOR THE STUDENTS:

List specific course assessments such as class participation, tests, homework assignments, make-up procedures, etc.

VII. ATTENDANCE POLICY:

The professor's specific policy concerning absence. (The College policy on attendance is in the Catalog, and defers to the professor.)

VIII. GRADING POLICY:

Include numerical ranges for letter grades; the following is a range commonly used by many faculty:

90 - 100	=	A
80 - 89	=	B
70 - 79	=	C
60 - 69	=	D
Below 60	=	F

(Note: The "incomplete" grade ["I"] should be given only when unusual circumstances warrant. An "incomplete" is not a substitute for a "D," "F," or "W." Refer to the policy on "incomplete grades.)

IX. REQUIRED COURSE MATERIALS:

(In correct bibliographic format.)

X. RESERVED MATERIALS FOR THE COURSE:

Other special learning resources.

XI. CLASS SCHEDULE:

This section includes assignments for each class meeting or unit, along with scheduled Learning Resource Center (LRC) media and other scheduled support, including scheduled tests.

XII. ANY OTHER INFORMATION OR CLASS PROCEDURES OR POLICIES:

(Which would be useful to the students in the class.)

FLORIDA SOUTHWESTERN STATE COLLEGE

School of Pure and Applied Sciences

PROFESSOR:	**PHONE NUMBER:**
OFFICE LOCATION:	**E-MAIL:**
OFFICE HOURS:	**SEMESTER:**

I. **COURSE NUMBER AND TITLE, CATALOG DESCRIPTION, CREDITS:**

CHM 2046 GENERAL CHEMISTRY II (3 CREDITS)

This course is the second part of the two-semester general chemistry sequence. It covers thermodynamics, equilibrium, kinetics, oxidation-reduction, ~~and~~ electrochemistry, and properties of solutions.

II. **PREREQUISITES FOR THIS COURSE:**

CHM 2045 and CHM 2045L with a grade of "C" or better in each course

CO-REQUISITES FOR THIS COURSE:

CHM 2046L

III. **GENERAL COURSE INFORMATION:** Topic Outline.

- Thermochemistry and chemical thermodynamics
- Chemical kinetics
- Chemical equilibrium: homogeneous and heterogeneous; aqueous
- Oxidation-reduction reactions and electrochemistry
- Properties of solutions

IV. **ALL COURSES AT FLORIDA SOUTHWESTERN STATE COLLEGE CONTRIBUTE TO THE GENERAL EDUCATION PROGRAM BY MEETING ONE OR MORE OF THE FOLLOWING GENERAL EDUCATION COMPETENCIES:**

Communicate clearly in a variety of modes and media.
Research and examine academic and non-academic information, resources, and evidence.
Evaluate and utilize mathematical principles, technology, scientific and quantitative data.
Analyze and create individual and collaborative works of art, literature, and performance.
Think critically about questions to yield meaning and value.
Investigate and engage in the transdisciplinary applications of research, learning, and knowledge.
Visualize and engage the world from different historical, social, religious, and cultural approaches.

Engage meanings of active citizenship in one's community, nation, and the world.

A. General Education Competencies and Course Outcomes

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student's general education along with the general education competency it supports.

General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

- Using correct terminology, explain the laws of thermodynamics.
- Solve numerical problems involving enthalpy, entropy, and free energy changes for physical and chemical processes.
- Analyze the significance of the fundamentals of rates and mechanisms to chemical reactions.
- Solve numerical problems involving rates, rate laws, reaction orders, concentrations, activation energy, and temperature dependence of rate.
- Compare and contrast the fundamentals of chemical equilibrium.
- Solve equilibrium problems involving homogeneous and heterogeneous systems.
- Evaluate the Arrhenius, Bronsted-Lowry, and Lewis acid-base systems and classify acids and bases into the appropriate systems.
- Predict relative strengths of selected binary and ternary acids.
- Solve numerical problems involving acid-base and oxidation-reduction reactions in aqueous solutions.
- Use the concepts of pH/pOH to solve numerical problems involving strong and weak acids and bases and polyprotic acids.
- Recognize and appraise buffer systems and acid-base titration curves.
- Analyze chemical equilibria involving slightly soluble salts and complex ions.
- Solve numerical problems involving equilibria of sparingly soluble salts and complex ions.
- Describe the fundamentals of galvanic and voltaic electrochemical cells and the mathematical description of both electrolytic and galvanic cells in terms of spontaneity and electrode potentials.
- Balance oxidation reduction reactions.
- Solve numerical problems involving electrochemical cell potentials, concentrations of electroactive species, thermodynamic and
- equilibrium aspects of electrochemical cells
- Explain and evaluate the dissolution process (including the effects of pressure and temperature on solubility) and selected colligative properties, and calculate concentration units.

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