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OFFICE OF THE SENATE COUNCIL

Courses	Distance Learning	Syllabus	Request Tracking	UG Program	Masters Program	Doctoral Program	Program Suspension/Close
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New Course Form

Open in full window.

Attachments:

Browse... [REDACTED]

ID	Attachment
Delete 150	Memo to Bosch - CHE 110.pdf
Delete 165	SY110_recitation_FA12_updated.doc
Delete 181	Course Review Form CHE 109_110_111.doc

First 1 2 Last

Select saved project to retrieve... [REDACTED]

(*denotes required fields)

1. General Information

- a. * Submitted by the College of: COLLEGE OF ARTS & SCIENCES Today's Date: 4/16/2012
- b. * Department/Division: Chemistry
- c.
 - * Contact Person Name: Mark Meier Email: meier@uky.edu Phone: 7-7082
 - * Responsible Faculty ID (if different from Contact): Stephen Testa Email: testa@uky.edu Phone: 7-7081
- d. * Requested Effective Date: Semester following approval OR Specific Term/Year ¹ Spring 2013
- e. Does the change make the course a UK Core course? Yes No

If YES, check the areas that apply:

- Inquiry - Arts & Creativity
- Composition & Communications - II
- Inquiry - Humanities
- Quantitative Foundations
- Inquiry - Nat/Math/Phys Sci
- Statistical Inferential Reasoning
- Inquiry - Social Sciences
- U.S. Citizenship, Community, Diversity
- Composition & Communications - I
- Global Dynamics

2. Designation and Description of Proposed Course.

- a. * Will this course also be offered through Distance Learning? Yes ⁴ No
- b. * Prefix and Number: CHE 110
- c. * Full Title: General Chemistry II
- d. Transcript Title (if full title is more than 40 characters):
- e. To be Cross-Listed ² with (Prefix and Number):
- f. * Courses must be described by at least one of the meeting patterns below. Include number of actual contact hours³ for each meeting pattern type.

<input checked="" type="checkbox"/> 3 Lecture	<input type="checkbox"/> Laboratory ¹	<input checked="" type="checkbox"/> 1 Recitation	<input type="checkbox"/> Discussion
<input type="checkbox"/> Indep. Study	<input type="checkbox"/> Clinical	<input type="checkbox"/> Colloquium	<input type="checkbox"/> Practicum
<input type="checkbox"/> Research	<input type="checkbox"/> Residency	<input type="checkbox"/> Seminar	<input type="checkbox"/> Studio
<input type="checkbox"/> Other	If Other, Please explain:		
- g. * Identify a grading system: Letter (A, B, C, etc.) Pass/Fail
- h. * Number of credits: 4
- i. * Is this course repeatable for additional credit? Yes No
 - If YES: Maximum number of credit hours:
 - If YES: Will this course allow multiple registrations during the same semester? Yes No
- j. * Course Description for Bulletin:

The second half of a sequence (with CHE 109) in which the material of CHE 105 is covered in two semesters.

k. Prerequisites, if any:

l. Supplementary teaching component, if any: Community-Based Experience Service Learning Both

3. * Will this course be taught off campus? Yes No

If YES, enter the off campus address:

4. Frequency of Course Offering.

a. * Course will be offered (check all that apply): Fall Spring Summer Winter

b. * Will the course be offered every year? Yes No

If No, explain:

5. * Are facilities and personnel necessary for the proposed new course available? Yes No

If No, explain:

6. * What enrollment (per section per semester) may reasonably be expected? 120

7. Anticipated Student Demand.

a. * Will this course serve students primarily within the degree program? Yes No

b. * Will it be of interest to a significant number of students outside the degree pgm? Yes No

If YES, explain:

This course will be of interest to all students who need CHE 105 but do not have sufficient background to be successful in CHE 105.

8. * Check the category most applicable to this course:

Traditional – Offered in Corresponding Departments at Universities Elsewhere

Relatively New – Now Being Widely Established

Not Yet Found in Many (or Any) Other Universities

9. Course Relationship to Program(s).

a. * Is this course part of a proposed new program? Yes No

If YES, name the proposed new program:

b. * Will this course be a new requirement ⁵ for ANY program? Yes No

If YES ⁵, list affected programs:

10. Information to be Placed on Syllabus.

a. * Is the course 400G or 500? Yes No

If YES, the *differentiation for undergraduate and graduate students must be included* in the information required in 10.b. You must include: (i) identification of assignments by the graduate students; and/or (ii) establishment of different grading criteria in the course for graduate students. (See SR 3.1.4.)

b. * The syllabus, including course description, student learning outcomes, and grading policies (and 400G-/500-level grading differentiation if applicable, from 11 above) are attached.

¹¹ Courses are typically made effective for the semester following approval. No course will be made effective until all approvals are received.

¹² The chair of the cross-listing department must sign off on the Signature Routing Log.

¹³ In general, undergraduate courses are developed on the principle that one semester hour of credit represents one hour of classroom meeting per week for a semester, exclusive of any laboratory meeting. Laboratory meeting, generally, represents at least two hours per week for a semester for one credit hour. (from SR 5.2.1)

¹⁴ You must also submit the Distance Learning Form in order for the proposed course to be considered for DL delivery.

¹⁵ In order to change a program, a program change form must also be submitted.

MEMORANDUM

TO: Anna Bosch, Assoc. Dean of Undergraduate Education
FROM: Professor Dr. Stephen Testa, Chemistry Department
DATE: 11-3-11
RE: Spring 2013, A&S 100

We propose to offer an experimental course as A&S 100 in the Spring of 2013. This course has not been offered before and [may] be offered [again] as an experimental course. Some details regarding the course are listed below. Our current plan necessitates four sections of A&S100. All sections meet in the same room at the same time for the lecture (3 times/week) and in groups of 30 for a once a week recitation. A complete course syllabus based on the University Senate Syllabi Guidelines is attached.

Crs: sub-title: Special Intro Course: [General Chemistry II]

Crosslisted: [NA]

Enrollment: [120]

E/W: [No]

Off campus: [NA]

Distance/Lrng: [No]

Instructor(s): Stephen Testa, ID 00010894

Credit Hr: [4]

Day/Time: Lecture: MWF/2:00PM-2:50PM

Recitation: M/3:00PM-3:50PM

M/4:00PM-4:50PM

W/3:00PM-3:50PM

W/4:00PM-4:50PM

Session: [Spring 2013]

Room: CP-320

Spec. Note: [This is the second half of a new course where the material in CHE 105 is covered in two semesters (CHE 109 and then CHE 110). Taking CHE 109, CHE 110, and CHE 111 satisfies a UKcore requirement for the Natural Sciences. Note: CHE 111 and CHE 110 are corequisites, so CHE 109 students cannot take CHE 111.]

Pre-reqs: [CHE 109 (with a grade of C or better)]

UKCore: [Yes, if students also take CHE 110 and CHE 111]

Grade: [Letter]

Final Exam: [Yes]

Format: [Lecture + Recitation]

Resources: [Tuition-based]

Rationale: [This course will fill a gap that exists in the chemistry curriculum. There are students who need CHE 105 for their majors, but do not have sufficient background to do well in the course. The only option for these students that the department offers is for the students to take CHE 104 to enhance their chemistry background. Unfortunately, this is a General, Organic, and Biochemistry survey course, which is not a good course for CHE 105 remediation. CHE 109 and CHE 110 (together) will fill this void by having the exact same material as CHE 105, but it will give the students twice the time to learn it, thereby allowing for time and instruction to overcome background deficiencies.]

]

CHE 110 GENERAL CHEMISTRY II

Sections 001-004 RECITATION

UNIVERSITY OF KENTUCKY

Semester: Spring 2013
Course: CHE 110, Sections 001-004
Time: M, or W at 3:00-3:50, or 4:00-4:50 PM
Location: 220 Chemistry-Physics Building (CP-220)
Textbook: Nivaldo J. Tro, *Chemistry: A Molecular Approach, 2nd Edition*, Pearson, 2011.
Instructor: TBD

Teaching Assistants: TBD

Course policies will be identical to that in the CHE 110 syllabus.

The overall grade you receive for recitation will count as 13% of your final grade for CHE 110. In this way, you will always receive the same grade for the CHE 110 lecture course (3 credits) as you do for the A&S 100 recitation course (1 credit). Your overall grade for the recitation will be calculated as follows:

Homework	50%
Quizzes	40%
<u>Class Participation</u>	<u>10%</u>
Total	100%

For most of the recitation classes, you will have one homework assignment due at the beginning of class. Each assignment comprises assigned 'for practice' problems in the Tro textbook. You must legibly handwrite your solutions, showing every step, in order to get credit. It would be easiest for you and the grader if you followed the solution scheme for each individual problem shown in the textbook. If the grader cannot follow your work, it will be irreversibly counted as incorrect. Some classes will be class discussions of 'modern' topics as they relate to the course material. The teaching assistants (TAs) will note who is participating in these discussions (and who is not), and this will be a major factor in your class participation grade. You will have a quiz during each class over the material covered for that class period, including the discussion days. Scientific calculators that have storage capacity are not to be used during the quizzes.

Please go to your recitation TA for help with the recitation homework problems, or with concepts related to the recitation homework problems. The TAs, however, are not obligated to help you with the *Mastering Chemistry* homework problems. For that you are to go to the Help Center in CP-25. Your two lowest quiz grades will be dropped. This is done solely to deal with absences. There will be no make-up quizzes. In addition, you can turn in your homework up to 24 hours late, but the grade will be reduced by 41%.

COURSE SCHEDULE

DATE	CHAPTER	QUIZ #	TOPICS
Week 1	Intro		Introduction to Recitation
Week 2	Math	1	Math Review
Week 3	CH 6	2	Chemistry in Your Day Lecture <i>Discussion: Renewable Energy (p. 266)</i>
Week 4	CH 6	3	Thermochemistry <i>Due: CH 6 "For Practice" problems (all except 6.5, 6.8)</i>
Week 5	CH 7	4	Chemistry in Your Day Lecture <i>Discussion: Radiation Treatment for Cancer (p. 282)</i>
Week 6	CH 7	5	The Quantum-Mechanical Model of the Atom <i>Due: CH 7 "For Practice" problems</i>
Week 7	CH 8	6	Chemistry in Your Day Lecture <i>Discussion: Nerve Signal Transmission (pp. 315-316),</i>
Week 8	CH 8	7	Periodic Properties of the Elements <i>Due: CH 8 "For Practice" problems</i>
Week 9	CH 6-8	8	Review. Midterm
Week 10	CH 9	9	Chemistry in Your Day Lecture <i>Discussion: Free Radicals and the Atmospheric Vacuum Cleaner (p. 383)</i>
Week 11	CH 9	10	Chemical Bonding I: Lewis Theory <i>Due: CH 9 "For Practice" problems</i>
Week 12	CH 9	11	Review and Questions
Week 13	CH 10	12	Chemistry in Your Day Lecture <i>Discussion: Artificial Sweeteners: Fooled by Molecular Shape (pp. 399-400)</i>
Week 14	CH 10	13	Chemical Bonding II: Molecular Shapes, Valence Bond Theory, and Molecular Orbital Theory <i>Due: CH 10 "For Practice" problems</i>
Week 15	CH 10	14	Review and Questions
Week 16	CH 5-10	15	Review for Final

**Course Review Form
Inquiry in the Natural/Mathematical/Physical Sciences**

Reviewer Recommendation

Accept Revisions Needed

Course: Combination of CHE 109, CHE 110, and CHE 111

Using the course syllabus as a reference, identify when and how the following learning outcomes are addressed in the course. Since learning outcomes will likely be addressed multiple ways within the same syllabus, please identify a representative example (or examples) for each outcome.

Course activities that enable students to demonstrate an understanding of methods of inquiry that lead to scientific knowledge and distinguish scientific fact from pseudoscience.

Example(s) from syllabus:

We cover The Scientific Method in Chapter 1, and we cover methods of inquiry that led to the discovery of atoms and electrons in Chapter 2. These topics are shown in the 'Course Schedule' section of the CHE 109 syllabus. We distinguish scientific fact from pseudoscience in the discussion of global warming in Chapter 4, and in the discussion of energy and the environment in Chapter 6. These topics are shown in the 'Current Topics for Class Discussion' sections of the CHE 109 and CHE 110 syllabi. Students will demonstrate their understanding on the exams and in homework.

Brief Description:

Nearly all chapters of the textbook describe methods of inquiry. We will stress the methods involved and focus on teaching the students how to utilize, as well as adapt, these methods to their necessary situations. The textbook also has chapter sections that specifically tie in the course material with society. These 'Chemistry in Action' sections will be used as a foundation for teaching the students how to distinguish scientific fact from pseudoscience. The students will demonstrate their understanding of scientific inquiry, and their ability to distinguish scientific fact from pseudoscience, on the exams.

Course activities that enable students to demonstrate an understanding of the fundamental principles in a branch of science.

Example(s) from syllabus:

The fundamental principles of science are outlined throughout the 'Course Schedule' sections of the CHE 109 and CHE 110 syllabi. The students will demonstrate their understanding on the exams, which is also mentioned in the 'Course Schedule'.

Brief Description:

The fundamental principles of chemistry are described at length in the required textbook, and are outlined in the accompanying syllabus. The students will demonstrate their understanding of these fundamental principles on the exams.

Course activities that enable students to demonstrate the application of fundamental principles to interpret and make predictions in that branch of science.

Example(s) from syllabus:

Students will learn periodic table trends in Chapter 8 (CHE 110), and Chemical Bonding theories in Chapters 9 and 10 (CHE 110) that will allow them to interpret and make predictions about how chemicals form compounds, and then how these compounds react. The students will demonstrate their understanding on exams and in homework.

Brief Description:

This will take on many forms in this class, including utilizing the periodic table to interpret and predict chemical reactions, reaction quantities, and chemical properties. The students will demonstrate their understanding of these principles by making predictions of chemical reactions on homework and exams.

Course activities that enable students to demonstrate their ability to discuss how at least one scientific discovery changed the way scientists understand the world.

Example(s) from syllabus:

In the 'Current Topics for Class Discussion' sections of the CHE 109 and CHE 110 syllabi are a variety of topics that explain how scientific discoveries changed the way scientists (and non-scientists) understand the world. These topics will be taught in a class discussion format, and the students will demonstrate their understanding of these topics on the exams (and in class participation format -i.e. class clickers).

Brief Description:

The student will be introduced to a variety of important discoveries, especially the discovery of the atom, electron, and nucleus. The impact of these discoveries, both current and future, will be discussed. The students will also be exposed to important chemical discoveries through in-class discoveries. The students will demonstrate their understanding of these discoveries on the exams.

Course activities that enable students to demonstrate their ability to discuss the interaction of science with society.

Example(s) from syllabus:

In the 'Current Topics for Class Discussion' sections of the CHE 109 and CHE 110 syllabi are a variety of topics that explain the interaction of science with society, for example 'radiation treatment for cancer' and 'acid rain'. These topics will be taught in a class discussion format, and the students will demonstrate their understanding of these topics on the exams (and in class participation format -i.e. class clickers).

Brief Description:

Each chapter of our textbook has one or more sections that discuss how chemistry interacts with society. These sections are given names like 'Chemistry in Medicine, Chemistry in the Environment, and Chemistry in your Day'. These sections will be covered in detail in the course lectures, and will be the nucleation point for class discussions on how the course material interacts with society, especially including societal problems. The students will demonstrate their understanding of these examples on the exams.

A hands-on student project is required. This project enables students to demonstrate their ability to conduct a scientific project using scientific methods that include design, data collection, analysis, summary of the results, conclusions, alternative approaches, and future studies. Describe the required student product (paper/ laboratory report) based on the hands-on project.

This learning outcome will be fulfilled by the student taking the accompanying General Chemistry Lab (CHE 111), in which 10 hands-on projects are conducted. See the CHE 111 syllabus for more detailed information regarding the individual projects. Throughout the class, the students will fulfill all the requirements mentioned above, and the students product will be their laboratory reports. The lab reports will also provide opportunities for students to hone their scientific writing skills.

Course activities that demonstrate the integration of information literacy into the course.

Example(s) from syllabus:

Students will have to obtain information from the literature for the introductions of their laboratory reports in CHE 111. They will have to reference this material, thus integrating it into their course material.

Brief Description:

In many ways this learning outcome is the crux of chemical inquiry. The student will learn precisely where to go to find certain types of chemical information, how to understand such information, how to use this information for predictive purposes (even when dealing with unforeseen types of problems), and how to evaluate the answers obtained. The students will extensively use the periodic table (our greatest source of information), the textbook and lab book (and their accompanying data charts and tables, usually from the CRC), and the internet (chemistry web sites, tutorials, homework, and chemical tables) in this learning outcome. Although this will be covered in CHE 109 and CHE 110, all lab reports (in CHE 111) also require the students to incorporate scientific information that they find in scientific sources.

Reviewer's Comments

Ellis, Janie

From: Brothers, Sheila C
Sent: Wednesday, May 09, 2012 10:49 AM
To: Ellis, Janie
Subject: FW: Proposed New Course CHE 110

Staff Representative to the Board of Trustees
Office of the Senate Council
Phone: (859) 257-5872

From: Bosch, Anna
Sent: Monday, April 30, 2012 1:35 PM
To: Brothers, Sheila C; Meier, Mark
Cc: Mullen, Michael D; Gill, Sharon; Swanson, Hollie; Hanson, Roxie; Rayens, William S
Subject: RE: Proposed New Course CHE 110

Dear Sheila,

The answer is very simple and also somewhat complex.

The new courses, CHE 109 and 110 ***together*** cover all the material in CHE 105, and will be equivalent in every way to CHE 105 (except stretched over a longer period of two semesters).

Currently, as you can see on the UK Core website, "CHE 105 and CHE 111 are paired courses. To earn UK Core credit, both courses must be completed."

Thus, the new courses CHE 109 & 110, PLUS CHE 111, together will also count for UK Core credit (since $109+110=105$). The UK Core statement should be revised accordingly, as soon as the new courses are approved. I believe GEOC was fully on-board with the development of (109 & 110) to fill in for 105, hence the UK Core approval.

I hope this answers your questions!

Best wishes, and thanks again for all the hard work you put into running the Senate Office,
Anna

p.s. you point out a flaw in the document handling form; perhaps this should be re-examined. Thanks!

Anna Bosch / Associate Dean for Undergraduate Programs / College of Arts & Sciences
249 Patterson Office Tower / University of Kentucky / Lexington, KY 40506-0027 USA
tel: 859-257-6689 / email: bosch@uky.edu

[Arts and Sciences Directors of Undergraduate Studies](#)
[Arts and Sciences Educational Policy Committee](#)
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[General Education Reform](#)

From: Brothers, Sheila C
Sent: Monday, April 30, 2012 12:03 PM
To: Meier, Mark
Cc: Mullen, Michael D; Gill, Sharon; Swanson, Hollie; Bosch, Anna; Hanson, Roxie
Subject: Proposed New Course CHE 110

Good morning, Mark. I am writing in regards to the new course proposal for CHE 110. (attached)

I have a question about the form for this new course. Q#1e asks if the course is intended to be part of UK Core. This may be an issue with the document handling system and how the forms are printed out, but it looks like the answer is "no" about being part of UK Core.

There is paperwork at the end of the proposal, though, that looks like UK Core approval was requested/received.

Can you please clarify this for me?

Thank you,
Sheila

Sheila Brothers
Staff Representative to the Board of Trustees
Office of the Senate Council
203E Main Building, -0032
Phone (859) 257-5872
<http://www.uky.edu/faculty/senate>

<u>College</u>	<u>Course</u>	<u>College Approval</u>	<u>UC Approval</u>	<u>GC Approval</u>
AS	ANT 608	3/20/2012	n/a	4/5/2012
AS	CHE 105	1/17/2012	3/20/2012	n/a
✓AS	CHE 110	1/17/2012	4/10/2012	n/a
AS	CHE 231	1/17/2012	3/20/2012	n/a
AS	CHE 233	1/17/2012	3/20/2012	n/a
AS	GWS 748	10/25/2011	n/a	4/26/2012
AS	LAS 601	2/14/2012	n/a	4/5/2012
AS	LIN 748	3/26/2012	n/a	4/5/2012
AS	MCL 610	1/26/2012	n/a	4/5/2012
AS	MCL 665	1/26/2012	n/a	4/5/2012
AS	MCL 690	1/26/2012	n/a	4/5/2012

Brothers, Sheila C

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Sheila

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