REQUEST FOR A NEW COURSE
University of Central Oklahoma

Course Subject (Prefix), Number, and Title:

<table>
<thead>
<tr>
<th>Course</th>
<th>Subject</th>
<th>Number</th>
<th>Recommended Course Title (maximum of 30 characters)</th>
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<tbody>
<tr>
<td>CHEM</td>
<td>3XX3</td>
<td></td>
<td>Environmental Chemistry</td>
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Course Title: (full title of course if longer than 30 characters)

For information regarding CIP codes contact your department chair or visit: http://www.uco.edu/academic-affairs/ir/program_inventory.asp
CIP Code: 40.0509

For graduate courses, please attach a syllabus for this course. (See syllabus requirement policy 2.2.)

Course description as it will appear in the appropriate catalog.
Course description only. Do not include prerequisites or enrollment restrictions, these should be added under questions 6-12.
(Please use standard American English including full sentences.)

This course introduces the fundamental principles and basic areas of environmental chemistry. Topics covered in this course include air, soil, and aqueous environmental chemistry with additional topics on energy production & climate change.

Chemistry
Department submitting the proposal

Eric Eitrheim  eeitrheim@uco.edu  5519
Person to contact with questions  email address  Ext. number

Approved by:

Department Chairperson  09/04/2020
College Curriculum Committee Chair  9/04/2020
College Dean  9/22/2020
Academic Affairs Curriculum or Graduate Council  Date
Office of Academic Affairs  Date

Effective term for this new course
(Assigned by the Office of Academic Affairs.)
1. Does this course have an undergraduate / graduate counterpart?
   Yes X No

2. Is this proposal part of a larger submission package including a program change?
   X Yes No

3. Does this new course affect a teacher preparation program? (All courses required for any teacher preparation program must have approval from the Council on Teacher Education (CTE) before approval from AACC or Graduate Council.)
   Yes X No If yes, send copy of proposal to the Education Curriculum Committee Chair, Dr. Darla Fent.
   CTE Approval (Stamp or initial) 

4. Has this course been previously taught as a common course (4910 seminar, 4960 institute, etc.)?
   Yes X No If yes, when was the most recent offering? Spring 2019

5. Does this course affect majors or minors outside the department?
   Yes X No If yes, provide name(s) of department chair(s) contacted, dates, and results of discussion.

6. Prerequisite courses:
   Example 1: MATH 1213 and (MATH 2165 or MATH 2185) and CHEM 1213
   Example 2: (ACCT 2113 and 2213) and (MGMT 3013 or ISOM 3613)
   CHEM 1223

7. Co-requisite(s): Which of the above prerequisite courses, if any, may be taken in the same semester as the proposed new course?
   None

8. Concurrent enrollment: Courses that must be taken the same semester. Example: lab courses.
   None

9. Will this course have enrollment restrictions?
   Yes X No If No, go to question 13.

10. Specify which major(s) may or may not take this course. Specifying a major, excludes all other majors from enrolling.
   Check one: May _____ May not _____
   Major Code: ____________________________

11. Which of the following student classification(s) may enroll in this course?
    Check all that apply:
    Graduate (2) 19 + hours
    Graduate (1) 0-18 hours
    Post Baccalaureate *
    Senior
    Junior
    Sophomore
    Freshman
    * Graduate level courses are not open to Post Baccalaureate students.

12. Check or list other restrictions for this course.
    Admission to Graduate Programs
    Admission to Nursing Program
    Admission to Teacher Education
    Other

Academic Affairs Form
August, 2015

Functional Review
undergraduate proposals only)
13. Course objectives: Objectives should be observable, measurable and include scholarly or creative activities to meet the course level characteristics. Course objectives should also be in line with the course description. (Please refer to instructional objectives documents at: http://www.uco.edu/academic-affairs/faculty-staff/aacc.asp#FAQ/Helpful%20Hints.) Students should be able to...
1. describe basic atmospheric chemistry and air pollution, including the ozone hole, ground-level air pollution, and their effects on human health.
2. explain the greenhouse effect, climate change and factors that influence the climate, and our current energy usage.
3. evaluate various energy production techniques with regards to their effects on our environment.
4. explain radioactivity and nuclear energy production along with the effects of radioactivity on human health.
5. describe various aspects of water purification and pollution.
6. explain the impacts and factors influencing toxic organic compounds and heavy metals in the environment.
7. describe the basic process our solid wastes go through for recycling and garbage disposal.

Course Detail Information:

14. Contact Hours (per week)
   ___ Lecture hours (in class)
   ___ Lab hours (also studios)
   ___ Other (outside activities)

15. Repeatable course.
   ___ Number of times this course can be taken for credit.

16. Schedule type: (select one only)
   ___ Activity P.E. (A)
   ___ Lab only (B)
   ___ Lecture/Lab (C)
   ___ Lecture only (L)
   ___ Recitation/Lab (R)
   ___ Student Teaching (STU)
   ___ Studio Art/Design (XSU)

17. List existing course(s) for which this course will be a prerequisite. Adding a "new course" as a prerequisite to an existing course will likely cause enrollment problems. (Please submit a prerequisite change form for each course for which this course will serve as a prerequisite.)
   CHEM 4454: Environmental Chemical Analysis & Laboratory

18. What resources, technology or equipment must be acquired to teach this course? List items which must be purchased and estimate cost. (Be specific, e.g., technology software, equipment, computer lab; etc.)
   No further resources are requested.

19. The UCO Library has the required library resources available for this new course?
   ___ Yes ___ No  If yes, provide names of Librarian/Faculty Liaisons contacted, dates, and results of discussion.
   Phone call and email correspondence with Brian Buckley 2/25/2020 confirming books and journal subscriptions needed for both this course and CHEM 4454.

   If no, what additional library resources must be acquired for this new course? List items which must be purchased and estimated cost. (Be specific, e.g., books, magazines, journals, etc.)
   Nothing beyond what has already been purchased following the 2/25/2020 correspondence with Brian Buckley is needed. The purchase included two environmental chemistry books
totaling no more than $300.

20. Names of current faculty qualified to teach this course.
   Luis Montes, Dallas New, Lucinda Brothers-Full, Lilian Chooback, Eric Eirtheim, Shawna Ellis, Mike Ferguson, Cheryl Frech, Sanjeewa Gamagedara, Justin Garrett, Donald Gibson, Michael Jezercak, Thomas Jourdan, Jason Larabee, Jianguo Liu, Dana Rundle, Stephanie Skiles, Pam New and Amanda Waters.

21. Additional faculty (adjunct or full-time) required and specific competencies required to teach this course:
   None

22. How will this course be staffed and equipped? Identify the additional costs associated with this new course. If no costs, explain why not.
   This new course has already been previously taught every other year in the spring as a seminar course (CHEM 4910). We believe the demand for this course will increase and teaching the course yearly may be required. This requires an increase of 3 credit hours teaching load every two years from what is currently being taught.

23. Identify the source(s) of funds for any additional costs for the new course. i.e. internal reallocations, special fees from students, etc. If you plan to propose special fees be assessed for this course, be aware there is a separate approval process for special fees.
   Internal reallocation of teaching loads.

24. Projected enrollment for two academic years following approval of new course:

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<tr>
<th>Semester</th>
<th>2021-2022</th>
<th>2022-2023</th>
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<tbody>
<tr>
<td>Fall</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Spring</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Summer</td>
<td>0</td>
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25. Using State Regents’ definition of liberal arts and sciences (quoted below), characterize the course as follows:
   X Non-liberal arts and sciences
   ___ Liberal arts and sciences

   "The liberal arts and sciences are defined as those traditional fields of study in the humanities; social and behavioral sciences; communications; natural and life sciences, mathematics; and the history, literature, and theory of fine arts (music, art, drama, dance). Courses in these fields whose primary purpose is directed toward specific occupational or professional objectives, or courses in the arts which rely substantially on studio or performance work are not considered to be liberal arts and sciences for the purpose of this policy. Courses required for the General Educational Program are not necessarily synonymous or mutually exclusive with the liberal arts and sciences." State Regents Policy and Procedures, Chapter 2, Section 5, "Degree Requirements" part 1, (2). P. II-2-86

26. Please provide a concise, yet comprehensive, statement that explains the reasons for requesting the new course. Include documentation or assessment information supporting the specific request (if possible). Indicate the expected source of student enrollment (majors, minors, programs etc.)
   This course has been offered in the past with good enrollment for an upper-level elective in our three chemistry majors. This would also be needed for the newly proposed Chemistry-Environmental Chemistry major. This major is being added due partly to student demand and partly due to statewide employment demands that are specified in the Environmental Chemistry major proposal.
27. Which of the six transformative learning tenets does this course incorporate? (check all that apply or only those that apply) This question was a directive from the Provost and is used for informational purposes.

- Discipline Knowledge [X]
- Leadership
- Research, Scholarly and Creative Activities
- Service Learning and Civic Engagement
- Global and Cultural Competencies
- Health and Wellness

28. Clearly explain how the characteristics of this course meet or exceed those outlined in Course Level Characteristics. (Copy and paste table from “Course Level Characteristics” document for the appropriate course level of proposed course. Document may be found on: http://sites.uco.edu/academic-affairs/files/course-level-characteristics-table.doc)

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<th>Please describe how this course meets this requirement.</th>
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<tr>
<td>1. It is assumed that students in these courses have completed sufficient course work to have attained junior standing.</td>
<td>This course has the same pre-requisites as other current 3000-level courses within chemistry.</td>
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<td>2. These courses should be offered at a level of instruction that assumes a foundation of study in the discipline, which most often would have been gained through one or more introductory courses.</td>
<td>This course does require prior chemistry knowledge, as shown in the prerequisites. The topics discussed in this course will require this foundation-level knowledge.</td>
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<td>3. Students in these courses should be required to undertake a scholarly activity in addition to classroom instruction, such as a written research project, library assignment, juried performance, or creative work.</td>
<td>This course will require a written research project within the discipline of Environmental Chemistry.</td>
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<td>4. These courses should be more specialized in content than lower division courses.</td>
<td>This course is narrower in scope than introductory-level coursework since it will focus on a subtopic within chemistry.</td>
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