REQUEST FOR A COURSE CHANGE
University of Central Oklahoma

Course Subject (Prefix), Number, and Title:

Existing: CHEM 4454 Advanced Instrument Analysis & Laboratory

Proposed: CHEM 4454 Environ Chem Analysis & Lab

Proposed Title: Environmental Chemical Analysis & Laboratory

Proposed change(s) to this course: Mark all that apply.

Credit Hour Level X Title X Description X Prerequisite Enrollment Restriction

CIP Code If changing, what is the new code?

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

Course description:

As it appears in the current catalog. (required)

This course provides a detailed study of modern analytical instruments with emphasis on the theory, design, applications, and interpretation of data obtained from these instruments. Instrumental methods include electroanalysis and thermal analysis, NMR, atomic absorption, emission, x-ray and Raman spectroscopy, radiochemistry and select chromatographic methods.

As it will appear in the next catalog or indicate no change. (Please use standard American English including full sentences.) Course descriptions only. Do not include prerequisites or enrollment restrictions, these should be added under questions 9-15.

This course provides a detailed study of modern analytical instruments used in Environmental Chemistry with emphasis on the theory, design, method selection, sample preparation, and interpretation of data obtained from these instruments. Instrumental methods include electroanalysis and thermal analysis, NMR, atomic absorption, emission, x-ray and Raman spectroscopy, radiochemistry and select chromatographic methods. Environmental remediation, waste disposal, and US-EPA Superfund sites will also be examined.

Chemistry

Department submitting the proposal

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Person to contact with questions email address Ext. number

Approved by:

Department Chairperson 09/07/2020

College Curriculum Committee Chair 9/7/2020

College Dean 9/17/2020

Academic Affairs Curriculum or Graduate Council Date

Office of Academic Affairs Date

Academic Affairs Form
August, 2015

Effective term for this course change
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 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.)
   X Yes  ____ No  If yes, send copy of proposal to the Education Curriculum Committee Chair, Dr. Darla Fent

4. Is this course currently listed in the University Core?
   ____ Yes  X  No
   If you wish this course be listed in the University Core, submit University Core course proposal.

5. Is this course a prerequisite for any other course(s)?
   ____ Yes  X  No
   If this change affects the prerequisite, complete course change proposal to delete or change prerequisite.

6. Is this course a requirement in any major or minor?
   X Yes  ____ No
   If this change impacts the requirement of any major or minor, complete program change proposal.

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

8. List all majors or minors which include this changed course as a requirement or elective.
   (list major or minor by title not major code)
   Chemistry – Environmental Chemistry (proposed), Chemistry, Chemistry – ACS Certificate, Chemistry – Health Sciences, Science Education – Chemistry

9. Prerequisite courses:
   Will the prerequisite courses change?  X Yes  ____ No  If yes, fill out below, if no leave blank.

   NOTE: Adding a “new course” as a prerequisite to an existing course will likely cause enrollment problems.
   As listed at the end of the course description in the current catalog. (Required)

   Existing:  CHEM 3454 and CHEM 3602
   Proposed:  CHEM 3454 and CHEM 3XX3 (Environmental Chemistry)

10. Co-requisite(s): Prerequisite courses that may be taken in the same semester.
    Will the co-requisite(s) change?  X Yes  ____ No  If yes, fill out below, if no leave blank.

    As listed at the end of the course description in the current catalog. (Required)

    Existing:  none
    Proposed:  none

11. Concurrent enrollment: Courses that must be taken the same semester. Example: lab courses.
    Will the concurrent enrollment change?  ____ Yes  X  No  If yes, fill out below, if no leave blank.

    As listed at the end of the course description in the current catalog. (Required)

    Existing:  none
    Proposed:  none

12. Does this course currently have enrollment restrictions?
    ____ Yes  X  No  If adding or changing enrollment restrictions answer questions 13-15. If not changing
13. Specify which major(s) may or may not take this course.
   Will the major(s) restriction change? Yes X No If yes, fill out below, if no leave blank.
   Specifying a major, excludes all other majors from enrolling.
   Existing (as appears in current catalog)
   Check one: May __ May not __
   Major Code: __________
   Proposed (if changing)
   Check one: May __ May not __
   Major Code: __________

14. Which of the following student classification(s) may enroll in this course?
   Will the classification restriction change? Yes X No If yes, fill out below, if no leave blank.
   Existing (as appears in current catalog)
   Check all that apply:
   Graduate (2) 19 + hours ______
   Graduate (1) 0-18 hours ______
   Post Baccalaureate ______
   Senior ______
   Junior ______
   Sophomore ______
   Freshman ______

15. Specify other restrictions for this course, if any.
   Will other restrictions change? Yes X No If yes, fill out below, if no leave blank.
   Existing (as appears in current catalog) ______
   Proposed (if changing) ______

16. Course objectives for this course: (Please refer to instructional objectives documents at:
    http://www.uco.edu/academic-affairs/faculty-staff/aacc.asp#FAQ/Helpful%20Hints.)
    If previously approved objectives will be used without any changes, check here __
    As they appear in the course syllabus.
    Existing: The major focus of this course is on providing an in-depth coverage of analytical instrumentation used in
              chemical analysis.
    Proposed: Upon successful completion of this course students should be able to:
              1. Employ sampling techniques for air, water, and soil environmental samples.
              2. Demonstrate sample preparation methods for air, water, and soil samples for chemical analysis.
              3. Identify appropriate chemical analysis methods for an environmental sample.
              4. Operate chemical analysis instrumentation used for environmental samples.
              5. Interpret environmental data obtained from chemical analysis instrumentation.
              6. Explain the theory behind the instrumentation selected for chemical analysis.
17. Please provide a concise, yet comprehensive, statement that explains the specific reasons for requesting the change(s). Include any documentation or assessment information available supporting this specific request.

CHEM 4454: Advanced Instrument Analysis & Lab has not been taught in a few years. In an effort to revitalize and revise the course, we are proposing to change the title, description, prerequisites, and course objectives which will give it a new purpose in the department. There will be significant overlap with the prior course, since the major focus is with instrumentation. However, the instrumentation focus will include exclusively environmental chemistry problems which was previously not the case. Due to this new environmental focus, there is no longer a need for CHEM 3602 as a co-requisite. Similarly, a new prerequisite of CHEM 3XX3 (Environmental Chemistry) will be added since that course will provide prior knowledge needed for the new CHEM 4454 course objectives. This will be a practical course for students who are majoring in the newly proposed Environmental Chemistry major.

18. Clearly explain how the characteristics of this course meet or exceed those outlined in Course Level Characteristics. Complete this question only if requesting a course level change. (Copy and paste table from “Course Level Characteristics” document for the appropriate course level of proposed course. Document may be found on: http://www.uco.edu/academic-affairs/files/aacc/forms/C1C%20table4_07.pdf. NA