CHEM 431 Organic Molecular Structure Determination-CR /DE-2019-10-25

- The workflow icon is no longer available. Please click on the Page Status after the orange circle icon near the page title. *

Form Information

The page you originally access is the global template version. To access the template document that progresses through the workflow, please complete the following steps:

First Step: **ONLY** change the bracketed text in the proposal name to match one of the following naming formats. **You should remove the brackets as you do so.**

- For a course revision proposal: **SWST 201 Sidewalk Construction and Planning-CrsRvs-2019-09-02**
- For a course deletion proposal, you may modify the page code: **SWST 217 Construction of Cobblestone Sidewalks-CrsDel-2019-09-02**
- For a course revision that includes a new request for distance education approval, you may modify the page code: **SWST 440 Computer-Aided Sidewalk Design-CR/DE-2019-09-02**

Note - you generally do not need to request DE approval again if the course is already on the approved list: CLICK HERE TO SEE ALL APPROVED DE COURSES

Second Step: Click **"SAVE"** on bottom right

- ***DO NOT TYPE ANYTHING INTO THE FIRST PAGE OTHER THAN THE TEXT IN BRACKETS***
- ***Please be sure to remove the Brackets while renaming the page***

Third Step: Make sure the word ***DRAFT*** is in yellow at the top of the proposal

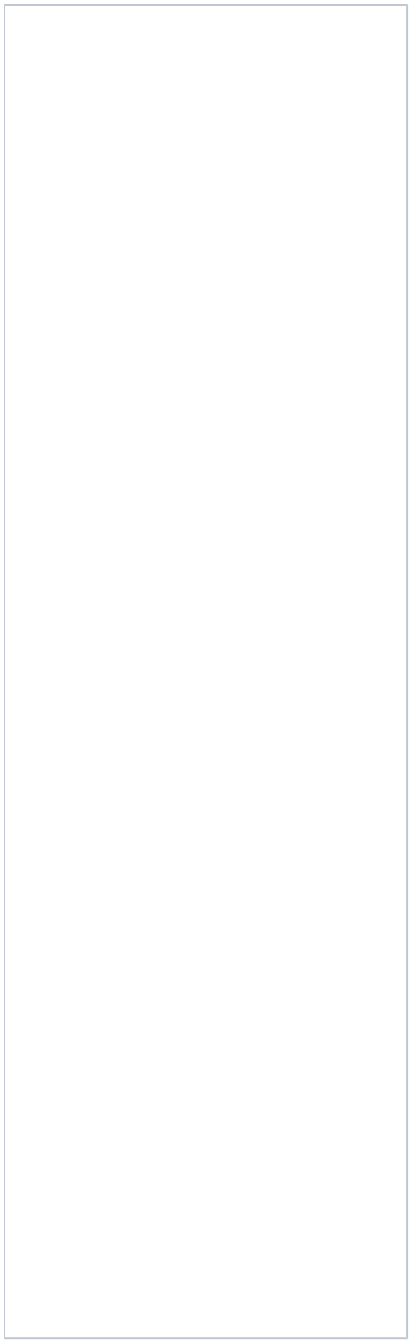
Fourth Step: Click on "_____ ( ) and start completing the template. When exiting or when done, click (

(Check all that apply;fill out categories below as specified; i.e. if only changing a course title, only complete Category A)

Category A:	Category B: class_lab_hour_change course_revision credit_hour_change distance-education

Proposed Repeatable Course	NO If YES, please complete the following: Number of Credits that May be Repeated: Maximum Number of Credits Allowed to be Repeated:
(J) Number of Credits	Class Hours per week:4
	1. 2.

(M) Previous Brief Course Outline *(It is acceptable to copy* *from old syllabus)*	1. 2. 3. 4. 5. 6. 1. 2. 3. 4. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 1. 2. 3. 4. 1. 2. 3. 4. 5. 6. 7. 8. 1. 2. 3. 4.



How is/are the instructor (s) qualified **in the Distance Education delivery** **method as well as the discipline?**	I have taught CHEM 105: The Forensic Chemistry of CSI for multiple years via distance education for multiple years and have taught CHEM 481/581 online. I hold a PhD in Chemistry from the University of Connecticut and have been a professor in the Chemistry Department at IUP since 2009. I am eligible to teach graduate courses. My main teaching responsibilities include Organic Chemistry I and II, College Chemistry II, and Forensic Chemistry of CSI. My scholarship has a focus in organic synthesis with a particular interest in a majority of the course topics. I have used many self-made multimedia to enhance my course offerings including adaptive quizzes in the LMS, YouTube videos, Camtasia, SCORM content, screen capture, enhanced mechanistic drawings, and video explanations.
For each outcome in the course, describe **how the outcome will be achieved using** **Distance Education technologies.**	Objective #1 - Classify and identify characteristic masses, absorption wavenumbers, and chemical shifts of common organic functional groups and atoms found in organic compounds How objective #1 will be met: Assigned readings from the text, supplemental materials, course videos will be used to provide context and showcase applications currently used in the chemical industry. Quizzes, located on the learning management system, will be used to help keep students on track with required reading and lectures. The "Open Book" midterm and final exam will assess the material which will be scanned and turned in on the learning management software. The exam will include questions such as essay, long answer, and elucidation insight mainly, but may also include no more than 20% multiple choice. Objective #2 - Elucidate the identity or structure of organic compounds using single or multiple spectroscopic techniques. How objective #2 will be met: Assigned readings from the text, supplemental materials, course videos will be used to provide context and showcase applications currently used in the chemical industry. Quizzes, located on the learning management system, will be used to help keep students on track with required reading and lectures. The "Open Book" midterm and final exam will assess the material which will be scanned and turned in on the learning management software. The exam will include questions such as essay, long answer, and elucidation insight mainly, but may also include no more than 20% multiple choice. Objective #3 - Analysis of and planning for the success of an industrial chemical process using spectral determination. How objective #3 will be met: Students will be required to complete a guided search of the relevant literature (i.e. Organic Process Research & Development) and written report on a spectroscopic method used in the chemical industry to access a chemical process. A second written report will formulate their own industrial process, using either MS, IR, or NMR, to determine the outcome of the process. Students will be provided with appropriate levels of chemical processes. In-depth feedback will be provided on the first assignment to provide guidance and assessment on their scientific writing ability. Turnitin will be used to provide feedback.
How will the instructor-student and **student-student interaction take place?** **(if applicable)**	The learning management system provides multiple opportunities for students to interact with the instructor and with other students through an online class discussion board. Students will also interact with the instructor through completion of online tests and quizzes using email will also have access to the instructor throughout the course for additional questions and assistance. Online office hours will be made available. There will be an emphasis on the editing and review of the written report.
How will student achievement be evaluated?	The course is divided into main units. Weekly quizzes will be given to encourage students to keep up with the material. These quizzes will include multiple-choice, long answer and matching questions. After mass spectroscopy, infrared spectroscopy and at the end of the course, tests will be administered. Due to the nature of the course management system's inability to accurately allow drawing and critical answers, exams will be supplied as a pdf that the students will download and print. Students will complete the exam, scan, and upload the exam before the deadline. Typically, three days will be given to complete the exam. Academic honesty statements will be included on each of the tests where they will sign. Students will write two reports on spectroscopic applications in the industry. The goal of the report is to develop an in-depth understanding of industrial applications while strengthening professional writing skills. Detailed rubrics will be provided to students and utilized by the instructor for all assignments.
How will academic honesty for tests **and assignments be addressed?**	The course syllabus will include the university academic integrity policy. The expectation for academic integrity and the penalty for dishonesty will be clearly stated. Quizzes will use timed tests, a random selection of questions, limit on attempts, and feedback only after quizzes end. Written papers will use Turnitin. All of the above examples are methods the instructor can instill to prevent academic dishonesty. Academic integrity will be described in the course syllabus as follows: Academic Honesty Policy: Shall be in accordance with the Indiana University of Pennsylvania Honesty Policy (IUP Student Handbook- Academic Integrity Policy and Procedures, see http://www.iup.edu/registrar/catalg/acapolicy) .