

CHEM 630 Essentials of Structure and Reactivity for Industrial Organic Applications-CrsRvs-2018-09-12

- 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 text in the [brackets] so it looks like this: **CRIM 101 Intro to Criminology-CrsRvs-2015-08-10**

- If DUAL LISTED list BOTH courses in the page title***

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 "**EDIT CONTENTS**" (*not EDIT*) and start completing the template. When exiting or when done, click "**SAVE**" (*not Save Draft*) on bottom right

When ready to submit click on the workflow icon and hit approve. It will then move to the chair as the next step in the workflow.

**Indicates a required field*

Proposer*	Justin Fair	Proposer Email*	jfair@iup.edu
Contact Person*	Justin Fair	Contact Email*	jfair@iup.edu
Proposing Department/Unit*	Chemistry	Contact Phone*	357-4477

Course Level*	graduate-level
----------------------	----------------

Course Revisions

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

<p>Category A:</p> <p>catalog_desc_change course_title_change</p>	<p>Category B:</p> <p>distance-education</p> <p><i>* Teacher Education: Please complete the Teacher Education section of this form (below)</i></p> <p><i>* Liberal Studies: Please complete the Liberal Studies section of this form (below)</i></p> <p><i>* Distance Education: Please complete the Distance Education section of this form (below)</i></p>
---	--

Rationale for Proposed Changes (All Categories)

<p>(A) Why is the course being revised/deleted:*</p> <p><i>Please be specific - this should be have more detail than the Summary for the Senate.</i></p>	<p>The course is being revised to update the content for the Professional Science Masters degree in Applied and Industrial Chemistry. Much of the core content from the course will be kept (<i>i.e.</i> physical organic chemistry and study of mechanisms). However, this revision emphasizes topics seen in the chemical industry, specifically in the commodity and specialty sectors.</p>
---	--

(G) Pre req uis ite (s)	None
Pr op os ed Pre req uis ite (s)	None
(H) Cu rre nt Cat alo g De scr ipti on	Principles of physical chemistry will be applied to the study of organic reaction mechanisms. Lecture—three hours.
Pr op os ed Cat alo g De scr ipti on	Examines the structure and reactivity relationships of organic substrates in key reactions. Emphasizes molecular structure, chemical bonding, mechanism characterization, and stereochemistry. Highlights the utility of structure and reactivity for reactions used in commodity and specialty sectors of the chemical industry.
<i>If changing Category A, no further action required.</i>	
Category B (if no change, leave blank)	

<p>(I) Re pe ata ble Co urse</p> <p>This is for a cou rse tha t can be rep eat ed</p> <p>Mul tipl e tim es e. g. Int ern ship</p>	<p>NO</p> <p>If YES, please complete the following:</p> <p>Number of Credits that May be Repeated:</p> <p>Maximum Number of Credits Allowed to be Repeated:</p>
<p>Pr op os ed Re pe ata ble Co urse</p>	<p>NO</p> <p>If YES, please complete the following:</p> <p>Number of Credits that May be Repeated:</p> <p>Maximum Number of Credits Allowed to be Repeated:</p>
<p>(J) Nu mb er of Cr edi ts</p>	<p>Class Hours per week:3</p> <p>Lab Hours:0</p> <p>Credits:3</p>
<p>P rop os ed Nu mb er of Cr edi ts</p>	<p>Class Hours:3Lab Hours:0Credits:3</p>

**(M)
Pre
vio
us
Bri
ef
Co
urs
e
Ou
tline**

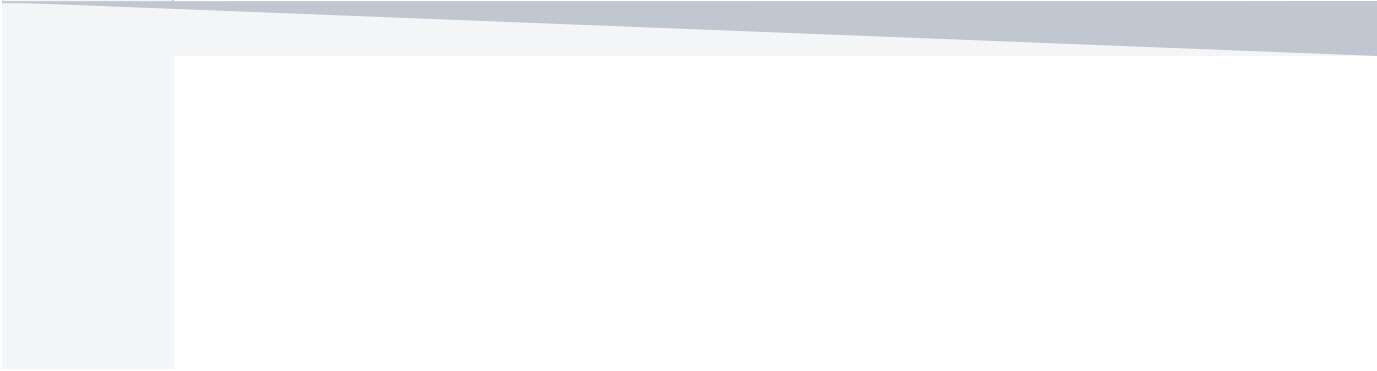
*(It
is
acc
ept
abl
e*

<p>(N) Brief Course Outline</p> <p><i>(Give sufficient detail to communicate the content to faculty across campus. It is not necessary to include specific reactions, calculations or assignments)</i></p>	<p><i>As outlined by the federal definition of a "credit hour", the following should be a consideration regarding student work - For every one hour of classroom or direct faculty instruction, there should be a minimum of two hours of out of class student work.</i></p> <p>Molecular Structure</p> <ol style="list-style-type: none"> 1. Chemical bonding and structure 2. Principles of stereochemistry 3. Conformational, steric and stereoelectronic effects <p>Methods of Reaction Characterization</p> <ol style="list-style-type: none"> 1. Study and description of organic reaction mechanisms <p>Structural Effects on Substitution and Elimination Reactions</p> <ol style="list-style-type: none"> 1. Nucleophilic substitution 2. Polar addition and elimination reactions 3. Carbanions and other nucleophilic carbon species 4. Reactions of carbonyl compounds <p>Structural Effects on Aromatic, Pericyclic, and Photochemical Reactions</p> <ol style="list-style-type: none"> 1. Aromaticity 2. Aromatic substitution 3. Concerted pericyclic reaction 4. Photochemistry
--	---

Distance Education Section

- Complete this section only if adding Distance Education to a New or Existing Course

<p>If Completing this Section, Check the Box to the Right:</p>	
---	--



<p>56 ET BT</p> <p>outcome in the course, describe</p> <p>how the outcome will be achieved using</p> <p>Distance Education technologies.</p>	<p>ET BT / F1 7.5 Tf 1 0 0 1 55.88 712.6155Tmj ET ddm (s7.77.5 Tf 1 0 0 1 116.25 5)Tj 1.55 mr0125.7TmTm (T 0 0 0 rg syll bu ll wrplicatio)T</p> <p>Objective #1 - Appraise and determine key elements of molecular structure.</p> <p>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. Students will use online discussion boards to introduce and relate at least one application found 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 take-home final exam will assess the material which will be scanned and turned in on the learning management software. The exam will include essay, long answer, and mechanistic questions mainly, but may also include no more than 20% multiple choice. Students will write a short report that summarizes an advance level molecular structure example. Topics from this objective will be selected by students for their written report. Drafts will be due two weeks early to provide feedback on scientific writing as well as content.</p> <p><u>Objective #2</u> - Appraise and apply structural effects on substitution and elimination reactions.</p> <p><u>How objective #2 will be met:</u> Assigned readings from the text, supplemental materials, course videos will be used to provide context and showcase applications currently used in the chemical industry. Students will use online discussion boards to introduce and relate at least one application found 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 take-home final exam will assess the material which will be scanned</p>

Liberal Studies Section

- Complete this section only for a new Liberal Studies course or Liberal Studies course revision

If Completing this Section, Check the Box to the Right:	NOTE: you must check this box if the Course/Program has previously been approved for Liberal Studies
--	---

Liberal Studies Course Designations (Check all that apply)																									
Learning Skills:																									
Knowledge Area:																									
Liberal Studies Elective	<i>Please mark the designation(s) that apply - must meet at least one</i>																								
Expected Undergraduate Student Learning Outcomes (EUSLOs) Map the Course Outcome to the EUSLO's	<p><i>Map each course outcome to the appropriate EUSLOs that apply. Fill in the course outcome number</i></p> <p><i>See https://www.iup.edu/liberal/faculty-and-staff/euslos/ for additional information regarding mapping EUSLOs</i></p> <table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 75%;">Informed Learners demonstrate:</th> <th>Course SLO #</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> the ways of modeling the natural, social and technical worlds </td> <td></td> </tr> <tr> <td> <ul style="list-style-type: none"> The aesthetic facets of human experience </td> <td></td> </tr> <tr> <td> <ul style="list-style-type: none"> the past and present from historical, philosophical and social perspectives </td> <td></td> </tr> <tr> <td> <ul style="list-style-type: none"> the human imagination, expression and traditions of many cultures </td> <td></td> </tr> <tr> <td> <ul style="list-style-type: none"> the interrelationships within and across cultures & global communities </td> <td></td> </tr> <tr> <td> <ul style="list-style-type: none"> the interrelationships within and across disciplines </td> <td></td> </tr> <tr> <th>Empowered Learners demonstrate:</th> <th>Course SLO #</th> </tr> <tr> <td> <ul style="list-style-type: none"> effective oral and written communication abilities </td> <td></td> </tr> <tr> <td> <ul style="list-style-type: none"> ease with textual, visual and electronically-mediated literacies </td> <td></td> </tr> <tr> <td> <ul style="list-style-type: none"> problem solving skills using a variety of methods and tools </td> <td></td> </tr> <tr> <td> <ul style="list-style-type: none"> information literacy skills including the ability to access, evaluate, interpret and use information from a variety of sources </td> <td></td> </tr> </tbody> </table>	Informed Learners demonstrate:	Course SLO #	<ul style="list-style-type: none"> the ways of modeling the natural, social and technical worlds 		<ul style="list-style-type: none"> The aesthetic facets of human experience 		<ul style="list-style-type: none"> the past and present from historical, philosophical and social perspectives 		<ul style="list-style-type: none"> the human imagination, expression and traditions of many cultures 		<ul style="list-style-type: none"> the interrelationships within and across cultures & global communities 		<ul style="list-style-type: none"> the interrelationships within and across disciplines 		Empowered Learners demonstrate:	Course SLO #	<ul style="list-style-type: none"> effective oral and written communication abilities 		<ul style="list-style-type: none"> ease with textual, visual and electronically-mediated literacies 		<ul style="list-style-type: none"> problem solving skills using a variety of methods and tools 		<ul style="list-style-type: none"> information literacy skills including the ability to access, evaluate, interpret and use information from a variety of sources 	
Informed Learners demonstrate:	Course SLO #																								
<ul style="list-style-type: none"> the ways of modeling the natural, social and technical worlds 																									
<ul style="list-style-type: none"> The aesthetic facets of human experience 																									
<ul style="list-style-type: none"> the past and present from historical, philosophical and social perspectives 																									
<ul style="list-style-type: none"> the human imagination, expression and traditions of many cultures 																									
<ul style="list-style-type: none"> the interrelationships within and across cultures & global communities 																									
<ul style="list-style-type: none"> the interrelationships within and across disciplines 																									
Empowered Learners demonstrate:	Course SLO #																								
<ul style="list-style-type: none"> effective oral and written communication abilities 																									
<ul style="list-style-type: none"> ease with textual, visual and electronically-mediated literacies 																									
<ul style="list-style-type: none"> problem solving skills using a variety of methods and tools 																									
<ul style="list-style-type: none"> information literacy skills including the ability to access, evaluate, interpret and use information from a variety of sources 																									

