

## SYLLABUS: Chemistry 3411 Organic Chemistry II Spring 2018

**Class:** TTh 9:25 – 10:40 AM Laney-Manion Hall 102  
**Lab (30826):** F 8:00 – 10:50 PM Laney-Manion Hall 306  
**Lab (30825):** W 2:00 – 4:50 PM Laney-Manion Hall 306

**Instructor:** Dr. Richard M. Tarkka  
**Office:** 203 Laney Hall  
**Telephone:** 852-5137  
**email:** rtarkka@uca.edu

### Office hours:

Monday: 3:30 – 4:30 PM  
Tuesday: 11:00 – 12:00 PM  
Wednesday: 11:30 – 12:30 PM  
Thursday: 12:30 – 1:30 PM

Also by appointment. Office hours may occasionally be rescheduled.

You can email me questions - please put "chem 3411" in the subject line

### Required Course Materials:

1. Organic Chemistry, 5th Ed., by Janice G. Smith, McGraw-Hill, 2017
2. UCA lab materials and handouts (PDF forms you Download from Blackboard)
3. Laboratory notebook  
(Carbon Copy – you may use the same one you used in Chem 2401)
4. Clicker from Turning Technologies
5. Safety Glasses with Side Shields or Goggles
6. Model Kit

Optional Course Materials: Lab Coat or Apron; Solution Manual

**Course Description:** This is a continuation of Chemistry 2401. You must have a grade of C or better in Chem 2401 to be enrolled in this class. Furthermore, you *must* have a good understanding of the material taught in that class to be successful. This class is intended for students majoring in science and/or obtaining courses required for pre-medicine, pre-dentistry, pre-pharmacy, and other related health fields. Topics we will explore include, but are not limited to: oxidations and reductions;  $^1\text{H}$ , COSY, and HMQC NMR spectroscopy; free radicals and their reactions; conjugated and aromatic molecules; alcohols, phenols and epoxides; carbonyl compounds; amines; and synthetic polymers.

**My objectives** for you: At the end of this semester, you should have a good working knowledge of the material covered in the Smith textbook as it pertains to the general field of

organic chemistry. Students with a passing grade should do well on graduate school entrance exams for organic chemistry, etc., and the organic chemistry portions of MCAT, DAT, PCAT, and related exams. Further, I want my students prepared to take senior level biochemistry. A student that passes this course should have the following skills: ability to interpret  $^1\text{H}$ ,  $^{13}\text{C}$ , COSY, and HMQC NMR spectroscopy, and IR spectroscopy; understanding of acid-base reactions of all organic groups, especially those that contain nitrogen; ability to write a reasonable reaction mechanisms for reactions relating to the molecule types described above; ability to propose reasonable, simple, multi-step synthesis sequences for the molecule types listed above.

**Attendance and Make-Up Work:** Students are expected to attend all lectures and labs. This is particularly true in the summer. A student missing multiple classes without contacting me to give me a valid reason may be dropped with a "WF" grade. Students missing four class meetings for any reason (exceptions are limited to military service, jury duty, or a conflicting UCA sanctioned event) may be dropped. Students missing three lab sessions (including the check-in day) will be dropped for non-attendance. Makeup exams are not given (exceptions listed above). If you miss an exam, and contact me promptly with a valid explanation, your overall grade will be based on your performance vs. class average in the other exams. **A detailed explanation of the missed test policy is given on blackboard. Please do not email me without looking this up first.** If you do not contact me promptly, or lack a valid reason for missing an exam, a grade of 0 will be assigned.

If you know in advance that you cannot attend your scheduled lab session, you should try to come to one of the other sections that meet that week. Try to ask at least 24 hours in advance. Lab sections for my course meet at 8:00 AM and 2 PM Fridays. There are other lab sections with other professors that meet on other days, so you should be able to find at least one that fits your schedule.

**Writing an Exam Early, Including the Final Exam:** Not allowed.

**Electronic Devices:** Students may not use any electronic devices during tests or quizzes for any reason. This includes (but is not limited to) cell phones, laptops, calculators, and smart watches. Doing so will be considered to be cheating.

**Cell Phone Policy:** Students should turn their cell phones to silent (turn off the vibrate mode) at the start of class and leave them off throughout the entire class. You may access your messages at the break time if there is one.

**Lecture Schedule:** Although we will work through the material at our own pace, past experience shows that we will be pretty close to the schedule set out in this syllabus. You are responsible to keep up with the material. It is strongly recommended that you read approximately the next day's material before each lecture. We will go through chapters 12-21, 25, and 30, of the textbook.

**Homework:** Suggested practice problems will be posted after every class. They will not be collected or graded. It is very strongly recommended that you do, at a minimum, all of the assigned homework in a timely manner (don't cram! It has to be worked on regularly). It is the only way you can check your understanding of the material. Many of the exam and quiz questions come from the homework.

**Communication:** I will send course updates regularly on Blackboard. These communications include (but are not limited to) lists of suggested problems (sent at the end of every class), updates about upcoming lab exercises, and test information. It is your responsibility to be up to date on all communications.

## **GRADING SCHEME**

**EXAM POINTS:** 500 points (Three tests @ 100 points each; Final exam @ 200 points). If you miss an in-class test for *any* reason (including illness or family emergency) other than an approved school-related activity, your other tests and the final exam will count more toward your final grade such that exams will still count for 500 points overall on your final score. A detailed explanation is posted on blackboard. **Please read this carefully before emailing me about how your grade will be calculated if you miss a test.**

**QUIZZES:** 105 points. There are 4 quizzes worth 35 points. The lowest score is dropped while the best three scores are counted, for a total of 105 points. You will get a 0 for any quiz missed (except for official university-related activities), and that quiz will count as your dropped quiz.

**LABS:** 245 points. The wet labs are worth more than the dry labs. You will get a 0 for any unexcused missed lab.

### **TOTAL: 850 points available**

Tentative grade range:

A range: 765 and over

B range: 680-764

C range: 595-679

D range: 510-594

Note that you are graded on points accumulated and not on a percentage basis. (At my discretion, these numbers may be adjusted slightly downward at the end of the semester).

**Bonus points:** If you have fewer than 11 demerits for being late, AND you have handed in all exercises on time (including lab exercises), you will be awarded 15 bonus points. If you have 12 or more demerits, you will not receive the bonus points.

*Chem 3411, Tarkka, Spring 2018*  
**AVID:** UCA is dedicated to Academic Vitality, Integrity, and Diversity.

**Demerits:** Attendance will be taken at the beginning of the class period. If you are more than a few minutes late you will receive one demerit. If you show up more than 30 min late you will receive two. Missing an entire class results in three demerits. Being late for, or missing, a test, or lab session, will result in the same number of demerits.

Please see blackboard for details.

**Dropped Quiz:** This is built into the grading scheme to accommodate students that have legitimate reasons to miss a quiz – being sick or having to be away for a family emergency. You are encouraged to not use up your drop quiz when you are just feeling lazy: a real emergency may occur later in the semester.

<b>QUIZ DATES</b>	<b>TEST DATES</b>	<b>UNIVERSITY BUSINESS</b>
Quiz 1: Jan 23	Test 1: Feb 8	Jan 18: Final Day to register, add a class, change status (audit/credit), drop with 100% refund
Quiz 2: Feb 20	Test 2: Mar 13	Feb 1: Final day to drop, 75% refund. 0% after this date.
Quiz 3: Mar 29 (Due Apr 3)	Test 3: Apr 17	Mar 30: Official W deadline. After this date the only grades to be awarded will be A, B, C, D, F, or X if merited.
Quiz 4: Apr 26	Final Exam: Tuesday May 1 8 AM	Apr 27: study day

*Chem 3411, Tarkka, Spring 2018*  
**AVID: UCA is dedicated to Academic Vitality, Integrity, and Diversity.**

TUESDAY		THURSDAY		FRIDAY LAB
		<b>Jan 11</b>	Ch. 14	<b>Jan 12</b>
<b>Jan 16</b>	Ch. 14	<b>Jan 18</b>	Ch. 14	<b>Jan 19</b>
<b>Jan 23</b>	<b>Quiz 1</b> Ch. 12	<b>Jan 25</b>	Ch. 12	<b>Jan 26</b> Check In/Review (10 points)
<b>Jan 30</b>	Ch. 12	<b>Feb 1</b>	Ch. 15	<b>Feb 2</b> NMR (Dry Lab) (10 points)
<b>Feb 6</b>	Ch. 15	<b>Feb 8</b>	<b>EXAM 1</b>	<b>Feb 9</b> Cannizzaro Reaction (25 points)
<b>Feb 13</b>	Ch. 16	<b>Feb 15</b>	Ch. 16	<b>Feb 16</b> Diels-Alder Reaction Part 1 (25 points)/ Mass Spec (Dry Lab) (10 points)
<b>Feb 20</b>	<b>Quiz 2</b> Ch. 17	<b>Feb 22</b>	Ch. 17	<b>Feb 23</b> Diels-Alder Reaction Part 2 (Dry Lab) (10 points)
<b>Feb 27</b>	<b>QUIZ 3</b> Ch. 18	<b>March 1</b>	Ch. 18	<b>March 2</b> Electrophilic Aromatic Substitution: Iodination of Salicylamide (25 points)
<b>March 6</b>	Ch. 18/19	<b>March 8</b>	Ch. 19	<b>March 9</b> Pechmann Condensation (25 points)
<b>March 13</b>	<b>EXAM 2</b>	<b>March 15</b>	Ch. 20	<b>March 16</b> The Heck Reaction (25 points)
<b>March 20</b>	Spring Break	<b>March 22</b>	Spring Break	<b>March 23</b> Spring Break
<b>March 27</b>	Ch. 20	<b>March 29</b>	<b>Quiz 3 (Take Home)</b> Ch. 20/21	<b>March 30</b> Polymers Part 1
<b>April 3</b>	Ch. 21	<b>April 5</b>	Ch. 21	<b>April 6</b> Wittig Reaction (25 points)
<b>April 8</b>	Ch. 22	<b>April 12</b>	Ch. 22	<b>April 13</b> Polymers Part 2 (30 points)
<b>April 17</b>	<b>Exam 3</b>	<b>April 19</b>	Chapter 25	<b>April 20</b> Reductive Amination (25 points)
<b>April 24</b>	Ch. 25/30	<b>April 26</b>	<b>Quiz 4</b> Ch. 3	<b>April 27</b> No Lab

Lab modules, handouts about lab procedures and policies, a detailed lab schedule with due dates, and information about what to put into your lab reports, are available on blackboard.

### **THE FINE PRINT – MANDATED BY UCA**

**Academic Integrity:** The University of Central Arkansas affirms its commitment to academic integrity and expects all members of the university community to accept shared responsibility for maintaining academic integrity. Students in this course are subject to the provisions of the university's Academic Integrity Policy, approved by the Board of Trustees as Board Policy No. 709 on Feb 10, 2010, and published in the *Student Handbook*. Penalties for academic misconduct in this course may include a failing grade on an assignment, a failing grade in the course, or any other course-related sanction the instructor determines to be appropriate. Continued enrollment in this course affirms a student's acceptance of this university policy.

**Americans with Disabilities Act:** The University of Central Arkansas adheres to the requirements of the Americans with Disabilities Act. If you need an accommodation under this Act due to a disability, please contact the UCA Disability Resource Center, 450-3613.

**Building Emergency Plan:** An Emergency Procedures Summary (EPS) for the building in which this class is held will be discussed during the first week of this course. EPS documents for most buildings on campus are available at <http://uca.edu/mysafety/bep/>. Every student should be familiar with emergency procedures for any campus building in which he/she spends time for classes or other purposes.

**Title IX disclosure:** If a student discloses an act of sexual harassment, discrimination, assault, or other sexual misconduct to a faculty member (as it relates to "student-on-student" or "employee-on-student"), the faculty member cannot maintain complete confidentiality and is required to report the act and may be required to reveal the names of the parties involved. Any allegations made by a student may or may not trigger an investigation. Each situation differs, and the obligation to conduct an investigation will depend on the specific set of circumstances. The determination to conduct an investigation will be made by the Title IX Coordinator. For further information, please visit: <https://uca.edu/titleix>. *\*Disclosure of sexual misconduct by a third party who is not a student and/or employee is also required if the misconduct occurs when the third party is a participant in a university-sponsored program, event, or activity. Students should familiarize themselves with all policies in the Student Handbook, particularly the Sexual Harassment Policy, and Academic Policies.*

**Student Evaluations** of a course and its professor are a crucial element in helping faculty achieve excellence in the classroom and the institution in demonstrating that students are gaining knowledge. Students may evaluate courses they are taking, starting on the Monday of the thirteenth week of instruction (April 16, 2018) through the end of finals week, by logging in to myUCA and clicking on the Course Evaluations task.