

SYLLABUS

ORGANIC CHEMISTRY 2541, Spring Semester 2021

CLASS TIME: M, W, F 11:00 to 11:50 am, SCC 120

INSTRUCTOR: Dr. Viktor V. Zhdankin
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office hours: M, W, F 9:00 to 10:00 am or by appointment

INSTRUCTION MODE: Chem 2541 will be taught as Blended Class with Rolling Attendance. Students with last names A-G (Group 1) will attend face-to-face class on Mondays, last names H-N (Group 2) on Wednesdays, and last names O-Z (Group 3) on Fridays. Every lecture will be directly broadcasted via Zoom (<https://umn.zoom.us/j/4026707642>), so the rest of the class will receive the same instruction virtually.

COURSE PREREQUISITES: Chem 1152 or 1162; or 1155 and 1156; or 1175 and 1176

STUDENT LEARNING OUTCOMES:

Chem 2541 is a first semester of organic chemistry at the sophomore-junior level. In Chem 2541 students will learn basic concepts and language of Organic Chemistry. Upon successful completion of this course, students will develop good level of understanding of basic principles of structure and bonding of organic molecules, reactions of organic acids and bases, isomerism and conformations of alkanes and cycloalkanes, stereochemistry and chirality, mechanisms of nucleophilic substitution and β -elimination reactions, electrophilic addition reactions, radical reactions, and general features of the chemistry of alkanes, alkenes, alkynes, and alcohols. Students will learn how to draw structural formulas of organic molecules, including three-dimensional structures, solve organic chemistry problems and propose mechanistic explanation to basic organic reactions.

LECTURE MATERIALS:

1. "Organic Chemistry: a Two-Semester Course of Essential Organic Chemistry" by Zhdankin and Grundt (*required*). The book is available from UMD Bookstore or can be purchased from the publishing company: <https://titles.cognella.com/organic-chemistry-9781634878999>.
2. "Solutions Manual and Additional Problems for Organic Chemistry" by Grundt, Mereddy, and Zhdankin (*required*). This manual is available from UMD Bookstore or can be purchased from the publishing company: <https://titles.cognella.com/solutions-manual-and-additional-problems-for-organic-chemistry-9781516524563>.
3. Organic Molecular Model Kit (*required*). The kit is available from UMD Bookstore or can be purchased from <http://www.andruseducation.com> or Amazon.com

CANVAS COURSE SITE:

Class assignments, homework, exams, quizzes, and other important links are posted and periodically updated on the Chem 2541 Canvas Course Site which you can find on your personal MyU page.

UMD TUTORING CENTER: <http://www.d.umn.edu/tutoring/>

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| GRADING: | Homework (Canvas practice quizzes after each lecture) | 155 points (31x5 pts) |
| | Five Quizzes (Canvas, 30 pts each quiz) | 150 points (5x30 pts) |
| | Three Midterm Exams (Canvas) | 240 points (90+90+60 pts) |
| | Final Exam (Canvas) | 150 points |
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| | Total | 695 points |

EXAM SCHEDULE:

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| First Midterm Exam (Ch. 1,2,3) | February 19 (Friday), 11:00 to 11:50 am |
| Second Midterm Exam (Ch. 4,5,6) | March 29 (M), 11:00 to 11:50 am |
| Third Midterm Exam (Ch. 7,8) | April 23 (F), 11:00 to 11:50 am |
| Final Exam (Ch. 1-8) | May 5 (W), 10:00 to 11:50 am |

QUIZ SCHEDULE:

January 25 (M), February 1 (M), February 12 (F), March 5 (F), March 22 (M)

HOMEWORK (required after each lecture):

Short Canvas quizzes (5 questions, 5 grading points, 3 attempts), will be open from 11:50 am on Canvas during regular lecture day. Before taking the Canvas quiz, you should read the corresponding section of the textbook and work on the related problems in the textbook and in the solutions manual.

The University of Minnesota Duluth policies related to teaching and learning apply for this course. For details see: <http://www.d.umn.edu/academic-affairs/academic-policies>

Students with Disabilities: It is the policy and practice of the University of Minnesota Duluth to create inclusive learning environments for all students, including students with disabilities. If there are aspects of this course that result in barriers to your inclusion or your ability to meet course requirements, please notify the instructor as soon as possible. You are also encouraged to contact the Office of Disability Resources to discuss and arrange reasonable accommodations. Please call 218-726-6130 or visit the DR website at www.d.umn.edu/access for more information.

UMD is committed to providing a positive, safe, and inclusive place for all who study and work here. A central mission of the university is to educate students through the offering of courses and programs leading to the conferral of degrees. Teaching and learning at the university take place in a variety of educational settings including on-campus lecture halls and classrooms, laboratories, field sites, and online. Instructors and students have mutual responsibility to ensure that the environment in all of these settings supports teaching and learning, is respectful of the rights and freedoms of all members, and promotes a civil and open exchange of ideas. Making hostile, threatening, discriminatory or disparaging remarks toward or about the instructor, other members of the class or groups of people will not be tolerated.

ASSIGNMENTS FOR EACH LECTURE PERIOD

| Date | Book sections | Pages to read | Book Problems | Canvas Quiz |
|-----------------|---|---------------|---------------|-------------|
| January 13 (W) | 1.1 | 1-5 | 1.1, 1.2 | 5 pts |
| January 15 (F) | 1.1, 1.2 | 5-10 | 1.3-1.5 | 5 pts |
| January 20 (W) | 1.2, 1.3 | 11-16 | 1.6-1.8 | 5 pts |
| January 22 (F) | 1.3, 1.4 | 16-20 | 1.9-1.11 | 5 pts |
| January 25 (M) | 1.4, 1.5 | 20-25 | 1.12-1.16 | 30 pts |
| | <i>Quiz 1 (Canvas quiz, Sections 1.1-1.5, 30 pts)</i> | | | |
| January 27 (W) | 1.6 | 25-29 | 1.17-1.20 | 5 pts |
| January 29 (F) | 1.7 | 29-35 | 1.21, 1.22 | 5 pts |
| February 1 (M) | 2.1 | 36-38 | 1.23 | 30 pts |
| | <i>Quiz 2 (Canvas quiz, Sections 1.6, 1.7, 2.1, 30 pts)</i> | | | |
| February 3 (W) | 2.2 | 39-43 | 2.1-2.3 | 5 pts |
| February 5 (F) | 2.3 | 43-47 | 2.4-2.8 | 5 pts |
| February 8 (M) | 3.1, 3.2 | 49-53 | 3.1-3.3 | 5 pts |
| February 10 (W) | 3.3, 3.4 | 54-59 | 3.4-3.6 | 5 pts |
| February 12 (F) | 3.4, 3.5 | 59-63 | 3.7, 3.8 | 30 pts |
| | <i>Quiz 3 (Canvas quiz, Sections 2.1-3.5, 30 pts)</i> | | | |
| February 15 (M) | 3.6 | 63-68 | 3.9, 3.10 | 5 pts |
| February 17 (W) | Exam 1 review | | | |
| February 19 (F) | <i>Exam 1 (11:00 am – 11:50 am; 90 pts; Chapters 1, 2, 3)</i> | | | 90 pts |
| February 22 (M) | 4.1, 4.2 | 69-73 | 4.1, 4.2 | 5 pts |
| February 24 (W) | 4.2, 4.3 | 73-82 | 4.3-4.8 | 5 pts |
| February 26 (F) | 4.4, 5.1 | 82-90 | 5.1-5.3 | 5 pts |
| March 1 (M) | 5.2 | 91-95 | 5.4-5.7 | 5 pts |
| March 3 (W) | 5.2, 5.3 | 95-100 | 5.8, 5.9 | 5 pts |
| March 5 (F) | 5.4 | 100-106 | 5.10-5.14 | 30 pts |
| | <i>Quiz 4 (30 pts, Sections 4.1-5.4)</i> | | | |
| March 10 (W) | 6.1 | 107-112 | 6.1-6.5 | 5 pts |
| March 12 (F) | 6.2 | 112-114 | 6.6-6.8 | 5 pts |
| March 15 (M) | 6.3 | 115-119 | 6.9 | 5 pts |
| March 17 (W) | 6.4 | 119-121 | 6.10 | 5 pts |
| March 19 (F) | 6.5.1, 6.5.2 | 122-125 | 6.11 | 5 pts |
| March 22 (M) | 6.5.3, 6.5.4 | 125-129 | 6.12-6.14 | 30 pts |
| | <i>Quiz 5 (30 pts, Sections 6.1-6.5)</i> | | | |
| March 24 (W) | 6.6 | 129-135 | 6.15 | 5 pts |
| March 26 (F) | Exam 2 review | | | |
| March 29 (M) | <i>Exam 2 (11:00 am – 11:50 am; 90 pts; Chapters 4, 5, 6)</i> | | | 90 pts |
| March 31 (W) | 7.1, 7.2 | 137-142 | 7.1-7.6 | 5 pts |
| April 2 (F) | 7.3.1-7.3.3 | 142-145 | 7.7-7.10 | 5 pts |
| April 5 (M) | 7.3.4, 7.4 | 145-149 | 7.11-7.12 | 5 pts |
| April 7 (W) | 7.5 | 147-150 | 7.13 | 5 pts |
| April 9 (F) | 8.1 | 151-153 | 8.1-8.3 | 5 pts |
| April 12 (M) | 8.2 | 154, 155 | 8.4-8.6 | 5 pts |
| April 14 (W) | 8.3, 8.4 | 155, 159 | 8.7-8.10 | 5 pts |
| April 16 (F) | 8.5, 8.6 | 159-164 | 8.11-8.13 | 5 pts |

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| April 19 (M) | 8.7 | 164-167 | 8.14, 8.15 | 5 pts |
| April 21 (W) | Exam 3 review | | | |
| April 23 (F) | Exam 3 (<i>Canvas 11:00 am – 11:50 am; 60 pts; Chapters 7, 8) 60 pts</i>) | | | |
| April 26 (M) | Final exam review | | | |
| April 28 (W) | UMD Study day (no classes) | | | |
| April 30 (F) | UMD Study day (no classes) | | | |
| May 5 (W) | Final exam (<i>Canvas 10:00 am – 11:59 am; 150 pts, Chapters 1-8</i>) | | | |