CHEM 3719 - Organic Chemistry 1

Fall 2026 Syllabus, Section 01, CRN 40749,

Credit hours: 3

Instructor

Peter Norris

Professional Qualifications:
Ph.D., Organic Chemistry, The Ohio State University, 1992
B.Sc., Chemistry, Salford University (UK), 1986

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Communication Expectations:
I will typically reply to emails quite quickly, certainly on the same day as received. Please keep things formal with no text-style abbreviations.

How to Refer to me:
Doctor or Professor Norris

Ph.D., Organic Chemistry, The Ohio State University, 1992
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Course Description

3719. Organic Chemistry 1. Organic compounds, names, structures, reactions, and mechanisms. Three hours lecture. Prereq.: "C" or better in CHEM 1516 and "C" or better in CHEM 1516L. Coreq.: CHEM 3719L. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Required	Organic Chemistry (5th Edition)	David Klein & Laurie Starkey	978-1-394-18937-3

In the first semester we will cover Chapters 1-5 (Structure), then Chapters 14 and 15 (Spectroscopic Analysis), followed by Chapters 7, 8, 9, and 10 (Reactions, Mechanism, and Synthesis). Detailed chapter readings are listed on Blackboard.

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Day	Date	Reading(s)	Proposed Topic	Due/To Prepare for Class
Mon	8/24	The syllabus and course details	Syllabus, expectations, grading details	Read the syllabus and log in to Blackboard
Wed	8/26	Chapter 1 - A Review of General Chemistry, Sections 1.1-1.5	Isomerism, Bonds, Lewis Structures, Formal Charges, Electronegativity	Chapter 1, Sections 1.1-1.5

Fri	8/28	Chapter 1 - A Review of General Chemistry, Sections 1.6-1.10	Polar Bonds, Bond-Line Structures, Atomic Orbitals, Valence Bond Theory, Molecular Orbital Theory, Hybrid Orbitals	Chapter 1, Sections 1.6-1.10
Mon	8/31	Chapter 1 - A Review of General Chemistry, Sections 1.10-1.14	Hybrid Orbitals, Predicting Geometry, Dipole Moments, Physical Properties, Solubility	Chapter 1, Sections 1.10-1.14
Wed	9/2	Chapter 2 - Molecular Representations, Sections 2.1-2.4	Molecular Representations, Drawing Structures, 3-Dimensional Drawings, Identifying Lone Pairs	Chapter 2, Sections 2.1-2.4
Fri	9/4	Chapter 2 - Molecular Representations, Sections 2.5-2.8	Identifying Lone Pairs, Carbon Formal Charges, Resonance, Curved Arrows	Chapter 2, Sections 2.5-2.8
Mon	9/7	Labo(u)r Day - No Classes	No Classes	No Classes
Wed	9/9	Chapter 2 - Molecular Representations, Sections 2.9-2.13	Formal Charges in Resonance, Drawing Resonance Structures, Importance of Resonance Structures, Resonance Hybrid, Lone Pairs in Resonance	Chapter 2, Sections 2.9-2.13
Fri	9/11	Chapter 2 - Molecular Representations, Sections 2.11-2.13	Drawing Resonance Structures and Assessing Importance of Individual Contributors	Chapter 2, Sections 2.11-2.13
Mon	9/14	Chapter 3 - Acids and Bases, Sections 3.1-3.4	Bronsted-Lowry Acids & Bases, Using Curved Arrows, Comparing pKa Values, Factors Affecting Anion Stability	Chapter 3, Sections 3.1-3.4
Wed	9/16	Chapter 3 - Acids and Bases, Sections 3.5-3.7	Relative Acidity of Cationic Acids, Position of Equilibrium, Choice of Reagents, Leveling Effect	Chapter 3, Sections 3.5-3.7
Fri	9/18	Chapter 3 - Acids and Bases, Sections 3.8-3.11	Solvating Effects, Counterions, Lewis Acids & Bases, Acids & Bases in Living Systems	Chapter 3, Sections 3.8-3.11
Mon	9/21	Chapter 4 - Alkanes and Cycloalkanes, Sections 4.1-4.5	Structure, Nomenclature, Isomerism, Sources & Uses of Alkanes	Chapter 4, Sections 4.1-4.5
Wed	9/23	Chapter 4 - Alkanes and Cycloalkanes, Sections 4.6-4.10	Newman Projections, Conformational Analysis, Cycloalkanes, Cyclohexane Conformations	Chapter 4, Sections 4.6-4.10
Fri	9/25	Exam 1 - 100 pts	Exam 1 - 100 pts	Exam 1 - 100 pts
Mon	9/28	Chapter 4 - Alkanes and Cycloalkanes, Sections 4.11-4.15	Chair Conformations, Monosubstituted Cyclohexanes, Disbstituted Cyclohexanes, Cis-Trans Isomerism, Polycyclics	Chapter 4, Sections 4.11-4.15
Wed	9/30	Chapter 5 - Stereoisomerism, Sections 5.1-5.4	Stereoisomerism, Chirality, Configurations, Fischer Projections	Chapter 5, Sections 5.1-5.4
Fri	10/2	Chapter 5 - Stereoisomerism, Sections 5.5-5.11	Optical Activity, Relationships, Alkene Configurations, Mixtures	Chapter 5, Sections 5.5-5.11
Mon	10/5	Chapter 14 - IR Spec & Mass Spec, Sections 14.1-14.6	IR Spectrum, Signals, Scale, Functional Groups	Chapter 14, Sections 14.1-14.6
Wed	10/7	Chapter 14 - IR Spec & Mass Spec, Sections 14.7-14.13	Mass Spectrum, Molecular Ions, Isotopes, Analysis	Chapter 14, Sections 14.7-14.13
Fri	10/9	Chapter 15 - NMR Spectroscopy, Sections 15.1-15.5	H NMR Spectrum, Number of Signals, Chemical Shift	Chapter 15, Sections 15.1-15.5
Mon	10/12	Chapter 15 - NMR Spectroscopy, Sections 15.6-15.10	Integration, Multiplicity, Drawing Spectra, Analysis	Chapter 15, Sections 15.6-15.10
Wed	10/14	Chapter 15 - NMR Spectroscopy, Sections 15.11-15.12	Carbon NMR Spectrum, Chemical Shifts, Size of Signals	Chapter 15, Sections 15.11-15.12
Fri	10/16	Chapter 6 - Chemical Reactions & Arrows, Sections 6.1-6.5	Enthalpy, Entropy, Gibbs Equation, Equilibria, Kinetics	Chapter 6, Sections 6.1-6.5
Mon	10/19	Chapter 6 - Chemical Reactions & Arrows, Sections 6.6-6.9	Energy Diagrams, Nucleophiles & Electrophiles, Arrows	Chapter 6, Sections 6.6-6.9
Wed	10/21	Chapter 6 - Chemical Reactions & Arrows, Sections 6.10-6.12	Curved Arrows, Carbocation Rearrangements, Reversible Steps	Chapter 6, Sections 6.10-6.12

Fri	10/23	Exam 2 - 100 pts	Exam 2 - 100 pts	Exam 2 - 100 pts
Mon	10/26	Chapter 7 - Substitutions & Eliminations, Sections 7.1-7.4	Alkyl Halides, SN2 Mechanism, Nucleophiles	Chapter 7, Sections 7.1-7.4
Wed	10/28	Chapter 7 - Substitutions & Eliminations, Sections 7.5-7.8	E2 Mechanism, Alkene Structure, Competition	Chapter 7, Sections 7.5-7.8
Fri	10/30	Chapter 7 - Substitutions & Eliminations, Sections 7.9-7.13	SN1 and E1 Mechanisms, Competition, Substrates, Solvents	Chapter 7, Sections 7.9-7.13
Mon	11/2	Chapter 7 - Substitutions & Eliminations, All Sections	SN and E Reactions in Synthesis	Chapter 7, Sections 7.1-7.13
Wed	11/4	Chapter 8 - Reactions of Alkenes, Sections 8.1-8.5	Additions, Alkene Structure, Hydrohalogenation	Chapter 8, Sections 8.1-8.5
Fri	11/6	Chapter 8 - Reactions of Alkenes, Sections 8.6-8.8	Hydration, Oxymercuration, Hydroboration	Chapter 8, Sections 8.6-8.8
Mon	11/9	Chapter 8 - Reactions of Alkenes, Sections 8.9-8.12	Hydrogenation, Halogenation, Halohydrins, Epoxides	Chapter 8, Sections 8.9-8.12
Wed	11/11	Veterans Day - No Classes	No Classes	No Classes
Fri	11/13	Chapter 8 - Reactions of Alkenes, Sections 8.13-8.15	Ozonolysis, Predicting Products, Alkenes in Synthesis	Chapter 8, Sections 8.13-8.15
Mon	11/16	Chapter 9 - Alkyne Chemistry, Sections 9.1-9.3	Structure, Nomenclature, Preparation of Alkynes	Chapter 9, Sections 9.1-9.3
Wed	11/18	Chapter 9 - Alkyne Chemistry, Sections 9.4-9.6	Hydrohalogenation, Hydration, Tautomerism	Chapter 9, Sections 9.4-9.6
Fri	11/20	Chapter 9 - Alkyne Chemistry, Sections 9.7-9.11	Reduction, Ozonolysis, Alkylation, Alkynes in Synthesis	Chapter 9, Sections 9.7-9.11
Mon	11/23	Exam 3 - 100 pts	Exam 3 - 100 pts	Exam 3 - 100 pts
Wed	11/25	No Classes	No Classes	No Classes
Fri	11/27	Thanksgiving - No Classes	Thanksgiving - No Classes	Thanksgiving - No Classes
Mon	11/30	Chapter 10 - Radical Chemistry, Sections 10.1-10.4	Radical Structure, Mechanism Patterns, Halogenation & Selectivity	Chapter 10, Sections 10.1-10.4
Wed	12/2	Chapter 10 - Radical Chemistry, Sections 10.5-10.9	Thermodynamics of Selectivity, Stereochemistry, Radical Addition	Chapter 10, Sections 10.5-10.9
Fri	12/4	Chapter 10 - Radical Chemistry, Sections 10.10-10.13	Radical Polymerization, Radicals in Oxidation, Petroleum Cracking	Chapter 10, Sections 10.10-10.13
Mon	12/7	Final Exam - 200 pts	Final Exam - 200 pts	Final Exam - 200 pts
Wed	12/9	Finals Week	Finals Week	Finals Week
Fri	12/11	Finals Week	Finals Week	Finals Week

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