

Nashville State Community College  
STEM Division

CHEM 2020: Organic Chemistry II

2018 Master Course Syllabus

**(RUBRIC Number – Title)**

*(This master course syllabus template is a general guide for providing an overview of each course offered at Nashville State. Each instructor will further clarify specific criteria for grading, classroom procedures, attendance, exams and dates, etc. on his/her individual course syllabus. Prompts for individual adaptations are italicized and in parentheses; faculty should remove or replace these prompts when creating master syllabi and their own individual syllabi if they have not been removed previously.)*

**Course Information:**

**Course Title:** Organic Chemistry II

**Credits:** 4 credits

**Class Hours:** 3 class hours, 3 lab hours

**Course Description:**

A continuation of CHEM 2010. Topics include spectroscopy, alcohols, ethers, aldehydes, ketones, carboxylic acids, and amines. The lab component stresses skills in synthesis, extraction, purification, separation, and characterization of organic compounds.

Credit: 4 credits, 3 class hours, 3 lab hours

Prerequisite: CHEM 2010

**Instructor Information:**

**Name:**

**Email:**

**Office Phone:**

**Office Location:**

**Office Hours:**

**Required Textbook(s) & Other Materials:**

- *Organic Chemistry (with ConnectPlus access code)*, 5th edition by Smith (Publisher: McGraw-Hill, ISBN 0077774647) - or –
- *ConnectPlus access code w/ Organic Chemistry ebook*, 5th edition by Smith (Publisher: McGraw-Hill, ISBN 0077479793)
- Laboratory Notebook (bound, composition-style)

**Reference Materials:**

**Supplies:** A scientific calculator

[No electronic, internet capable devices are allowed on exams (i.e. no cell phone calculators)]

Once enrolled, all students should verify that they have the correct textbook and materials information by consulting the D2L/NS Online shell for the course. If you are registered with the Access Center and require an alternate format for the textbook and other course materials, please contact the Access Center at 615-353-3721, 615-353-3741, or [accesscenter@nsc.edu](mailto:accesscenter@nsc.edu).

**Course Outcomes:**

Upon successful completion of this course, students should be able to:

1. Describe an  $S_N1$ ,  $E1$ ,  $S_N2$ , and  $E2$  reactions on the basis of substrate, solvent, nucleophile, and leaving group.
2. Predict the stability of conjugated systems and use the rules of resonance structures to explain thermodynamic and kinetic outcomes of appropriate reactions.
3. Identify aromatic, anti-aromatic, and non-aromatic compounds, including heterocycles and devise synthetic pathways for aromatic compounds and write mechanisms for ordinary aromatic reactions.
4. Apply aliphatic reaction principles to aromatic side chain reactions and devise synthetic pathways of reactions involving  $\alpha$ -substitution of a carbonyl group such as the malonic ester synthesis and acetoacetic ester synthesis.
5. Predict the major organic product of nucleophilic addition reactions to aldehydes and ketones, nucleophilic acyl substitution of carboxylic acid derivatives and of aldol, crossed aldol, and intramolecular aldol reactions.
6. Develop an expanded working knowledge of Infrared Spectroscopy, Mass Spectrometry, Nuclear Magnetic Resonance Spectroscopy, and their use in organic structure determination.

**Course topics:**

- Halogenation of Alkanes
- Allylic Bromination of Alkenes
- Reactions of Organohalides
- Grignard Reagents
- Organometallic Coupling Reactions
- Oxidation and Reduction
- Nucleophilic Substitution Reactions
- Elimination Reactions
- Zaitsev's Rule
- Mass Spectrometry

- Infrared Spectroscopy
- Nuclear Magnetic Resonance
- Conjugated Dienes
- Ultraviolet Spectroscopy
- Aromaticity and Benzene
- Electrophilic Aromatic Substitution
- Nucleophilic Aromatic Substitution
- Oxidation/Reduction Reactions of Aromatic Compounds
- Alcohols
- Phenols
- Ethers
- Epoxides
- Aldehydes
- Carboxylic Acids
- Nitriles
- Carboxylic Acids Derivatives
- Nucleophilic Acyl Substitution Reactions
- Keto-enol Tautomerism
- Reactivity of Enols
- Mechanisms, Alpha Substitution Reactions.

### **Course Assessments:**

The expected outcomes for the course may be assessed by various techniques including in-class assignments/activities, online homework, in-class or online quizzes, exams and a comprehensive final examination as well as lab related activities.

The following performance assessments will be used:

Three to Four Exams	33%
Final Exam	22%
Laboratory work	20%
Homework	15%
Quizzes/Discussion	10%

### **Grading Policy:**

\* Lowest grade in each category is dropped before calculating component grade.

\*\* The final exam score contributes twice as much as a test, but the lowest overall test score is dropped.

If you believe you need an accommodation (ADA or early exam), I need 1 weeks' notice *via* e-mail. \*\*\*

## Late Work Policy & Make-up Procedures for Missed Assignments and Work:

*(Each instructor will provide policy)*

### Attendance Policy

Students are expected to attend all scheduled classes and laboratories. Absences in a course may affect a student's final grade. The student is responsible for all assigned work in the course regardless of excused or unexcused absences. Tardiness may also affect a student's final grade.

In online courses, attendance is signaled by logging on to the D2L/NS Online shell, participating as prompted (e.g., responding to an instructor's email, posting to a discussion board) and/or completing and submitting assignments. Campus closures do not affect attendance and assignment completion in online courses.

*(Each instructor will provide policy, especially how attendance influences student assessment and grading.)*

### Grading Scale:

Letter Grade	Percentage Range
A	90-100
B	80-89
C	70-79
D	60-69
F	Below 60

#### FA

According to NSCC policy, if a student fails a course, but has not officially withdrawn from the course, and her/his last date of attendance is before the last date to withdraw (*use date appropriate to your section*), the student will receive a grade of FA (i.e., "Failure for Attendance Reasons").

*(While the above statement should appear in all syllabi, faculty are encouraged to make additional statements or provide examples that would clarify the policy for students.)*

#### FN

An FN is awarded to students who never attended class.

### Technology Statement

Nashville State's classes are considered to be web-enhanced. Faculty have an expectation that students will use a computer and the Internet to complete assignments, engage in online discussions, and access various course materials through D2L/NS Online course shells. Computers are available for student use at each campus during campus open hours.

### D2L/NS Online and myNSCC

It is students' responsibility to check D2L/NS Online course shells for all enrolled courses and myNSCC, including student email, on a regular basis. These are the official communication channels between the college and students, who are responsible for the information communicated through those channels. D2L/NS Online contains specific course information and myNSCC contains information important for other purposes.

## **ADA Compliance Statement**

Nashville State complies with the Americans with Disabilities Act (ADA). If you require accommodations for any courses in which you are enrolled, contact the Access Center at 615.353.3741 or 615.353.3721, or e-mail [accesscenter@nsc.edu](mailto:accesscenter@nsc.edu). If you are registered with the Access Center and require an alternate format for the textbook and other course materials, please contact the Access Center.

## **Classroom Misconduct**

Nashville State Community College has a zero-tolerance policy for disruptive conduct in the classroom. Students whose behavior disrupts the classroom will be subject to disciplinary measures. Please review the [Nashville State Student Code of Conduct policy](#). Please be aware that children are not allowed in class or to be left unattended on campus.

## **Academic Misconduct**

Any form of academic dishonesty, cheating, plagiarizing, or other academic misconduct is prohibited. Students are responsible for understanding and abiding by the [Academic Misconduct Policy](#) in the Nashville State Student Code of Conduct. In addition to other possible disciplinary measures that may be applied through regular college procedures as a result of academic dishonesty, the instructor has the authority to assign an "F" or a "zero" for the exercise, paper, or examination, or to assign an "F" for the course. Students may appeal through the appropriate college grade appeal procedures.

*(Each instructor will outline his/her expectations for academic integrity and provide individualized information about consequences for academic misconduct.)*

## **Academic Early Alert System**

Nashville State Community College uses an Early Alert System to let students know of a faculty member's concern in one or more of these academic areas: lack of attendance, lack of classroom participation, late or missing assignments, and/or poor performance on assignments/tests. \*Please note that Early Alerts do not affect a student's academic standing. If you receive an Early Alert email, please see your instructor and your academic advisor as soon as possible.

## **RAVE Emergency Alert System**

Emergency events can happen at any time and Nashville State Community College wants to be able to notify students if and when they occur. For this reason, all students have been enrolled in the free RAVE alert system. If you have not already done so, please log in at <https://www.getrave.com/login/nsc> to confirm and update your contact information and notification preferences. It is critical that your information be correct so that you will receive any emergency notifications. Your RAVE Username is your NSCC email address. If you've never received an email from RAVE with your password, or if you need to reset your password, select "Forgot your password?" and a new password will be emailed to you. Should the RAVE system indicate "user not found", select Register and create your own RAVE account.

## **Inclement Weather & Campus Closings**

Nashville State will use the RAVE alert system to send a text message to students, staff, and faculty about adjusted hours of operation and/or closings at individual campuses. All students should check the

Nashville State web site home page at [www.nsc.edu](http://www.nsc.edu) for announcements on campus closures, which may vary from campus to campus. Campus closures will also be announced on local television stations. Students should use their own best judgment in determining whether to report to campus during inclement weather when classes are not cancelled.

Even when campuses are closed, students are still responsible for completing all assigned work. When classes are cancelled, faculty will post online assignments and any additional instructions in the D2L/NS Online course shell. Check D2L/NS Online for a message from your instructor regarding your online assignment requirements. Faculty have discretion over adjusting deadlines or due date for assignments, but students are responsible for completing all assigned work by the due date established by the instructor.

### **ClassCancellation Policy**

If the class is cancelled, the instructor will notify all students by posting in the D2L/NS Online course, e-mailing through D2L/NS Online, and/or by posting a sign on the classroom door. In the event of class cancellation, students must access D2L/NS Online to complete classwork and the assignment that will be posted in the course D2L site.