Students who participate in this class with their camera on or use a profile image are agreeing to have their video or image recorded solely for the purpose of creating a record for students enrolled in the class to refer to, including those enrolled students who are unable to attend live. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live.

**Course Requirements:**
Prerequisites for Chem 251.1: C or better in Chem 114.4 and 114.1
Pre or corequisite: Chem 251.4 (C or better if prerequisite)

**LAB TEXT:** Organic Experiments, Kenneth L. Williamson, 9th Edition,
OR Macroscale and Microscale Organic Experiments, Williamson and Masters, 7th ed.

For the Macroscale and Microscale text book, all experiments to be done are the Macroscale version.

<table>
<thead>
<tr>
<th>Week</th>
<th>Experiment</th>
<th>Williamson Chp (Page)</th>
<th>Williamson &amp; Masters Chp (Page)</th>
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<tr>
<td>2</td>
<td>I. Melting Point Determination</td>
<td>Chp 4 (50-57)</td>
<td>Chp 3 (48-55)</td>
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<td>3</td>
<td>Determination of Boiling Point via Distillation and via Micro Boiling Point Method</td>
<td>Chp 5 (65), Chp 4 (57-60)</td>
<td>Chp 5 (87), Chp 3 (55-60)</td>
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<td>4</td>
<td>Isolation of Clove Oil from Cloves</td>
<td>Chp 6 (77), Exp 3</td>
<td>Chp 6 (103), Exp 5</td>
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<td>5</td>
<td>Crystallization, aspirin purification/crystallization</td>
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<td>6</td>
<td>Extraction : Isolation of Eugenol from Clove Oil. Thin Layer Chromatography of Clove Oil and of Eugenol</td>
<td>Continues from Chp 6 p 85-86</td>
<td>Continues from Chp 6 p 114</td>
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<td>7</td>
<td>Preparation of cyclohexene</td>
<td>Chp19</td>
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<td>8</td>
<td>Nucleophilic substitution reactions of alkyl halides</td>
<td>Chp 17</td>
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<td>9</td>
<td>Preparation of 1-Bromobutane</td>
<td>Chp 16 (220)</td>
<td>Chp 16 (313)</td>
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<td>10</td>
<td>Oxidation of Cyclohexanol</td>
<td>22 (264), Exp 2</td>
<td>Chp 22 (358), Exp 3</td>
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<td>11</td>
<td>Alkenes by Alcohol Dehydration – E1 Reaction</td>
<td>Chp 11 8th ed.</td>
<td>Chp 10</td>
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<td>12</td>
<td>Hydroboration of 1-octene</td>
<td>Video links</td>
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<td>13</td>
<td>Isolation of cholesterol from gall stones/molecular models</td>
<td>Chp 20 8th ed</td>
<td>Chp 20</td>
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<td>14</td>
<td>Catch-up and questions</td>
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It is important that you check the Chemistry 251 “Lab Notes” for details of all experiments, because there are sometimes significant changes from the procedures described in the laboratory manual.

On-line labs: read the textbook experiment, and the video experiments will be related. You will watch a video of the related experiment in your on-line lab class, and your lab instructor will give you the video link after the lab, as well as explain any further assignments related to the experiment. You will also be given information about lab reports, quizzes, etc.

Course Objectives: Students will continue to learn basic organic lab safety, waste disposal, and techniques, will continue to learn how to keep an organic laboratory notebook, and through the identification of unknowns experiment, start to learn to solve lab problems on their own. At the conclusion of this semester students will be prepared to do organic research if they so choose.

Assessment: You will need to keep a neat, legible laboratory notebook; a lined 100 page, 9 ¾ x 7 ½ inch composition book is best. Your lab instructor will periodically check your notebook, so it must be up-to-date, and will announce when it will be collected for grading.
70% - lab book (Report: 35%, results, 35%)
20% - unannounced lab quizzes (these will test lab material, not lecture material)
10% - your lab technique (including participation, neatness, skill, attention to detail and safety)