Objective: To build a foundation for students who are interested in scientific research, one that will permit them to successfully pursue further research in chemistry as well as other sciences. Topics that underlie the performance of research will be studied, primarily experimental design, statistics, practical laboratory techniques, as well as communication skills. A laboratory component will be central to the course, in which students design, conduct, interpret, and report the results of experiments for solving problems in forensic chemical analysis. An introduction to the array of measurement techniques that are available, their advantages and limitations, and their practical implementation will provide students with a solid basis for further research. Methods will be studied that are pertinent to a "Crime Scene Investigation", which will serve as an interesting model for the practice of the Scientific Method.

Instructor:
Dr. J. Aldstadt  
Office: CHEM 445  aldstadt@uwm.edu
Office Hours: TBD & by appointment

Class Schedule: TR 12:00 to 1:50 pm in CHEM 271

Pre-requisite: None

Course Materials: The course text & lab manual will be provided. You will need:
(a) a laboratory notebook,
(b) a scientific electronic calculator (not a cell phone),
(c) approved safety goggles.

Note: do not purchase "a" & "c" ahead of time; on the first day of class, I will show you specifically what to get.

POLICIES.
Department of Chemistry. You are expected to fully understand the policies posted on the bulletin boards across from Room 195 and adjacent to Room 164. University policies can be found at uwm.edu/secu.
Academic Dishonesty. Academic dishonesty will not be tolerated. Cheating will result in a grade of zero as a minimum consequence. Failure in the course and referral to the University Judiciaries may also occur, depending on the severity of the offense. The University’s policy is discussed in UWS Chapter 14 and Faculty Document No. 1686, which can be found at http://uwm.edu/academicaffairs/facultystaff/policies/academic-misconduct/.

Attendance. You are responsible for all material presented. If you miss a lecture/lab, you are solely responsible for obtaining the material that was covered. Unexcused absences will result in zero points for graded material.

Note: if you will need accommodations to meet any of the requirements of this course, contact me as soon as possible.

Absence Policy. There are not any “make-up” quizzes or lab experiments. For a scheduled absence (e.g., University athletics, music, etc.), Dr. Aldstadt must be notified in writing at least 48 hours prior to the absence. For medical absences, a written letter to Dr. Aldstadt signed by a licensed physician is required. If a quiz or lab is missed for reasons not approved beforehand by Dr. Aldstadt, a grade of zero will be given. For an excused absence from a quiz, the grade on the next quiz will count double. Late lab reports can be submitted but at a penalty of 5% per calendar day.

COURSE STRUCTURE.

Students will be required to read extensively, participate actively in discussions, and write both informally and formally. Your course grade will be determined from the following elements:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Quizzes</td>
<td>45%</td>
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<tr>
<td>Lab Reports</td>
<td>30%</td>
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<tr>
<td>Essays</td>
<td>20%</td>
</tr>
<tr>
<td>TA Evaluation</td>
<td>5%</td>
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