### Course Description:

This course will address the principles of laboratory safety in all K-12 classrooms. The focus of the course will be to enable teachers of science to organize safe and effective learning environments in all science disciplines. It is not enough to have regulations and guidelines, it is vital that the teacher have the skill, knowledge and basic common sense to create a safe environment. It is also exceedingly important to communicate the importance of safety to all the learners in the classroom.
A constructivist approach to teaching science safety will be employed to create a mix of direct instruction and discovery learning with activities/lessons/demonstrations suitable for use with K-12 students.

**Course Outcomes:**

1. To understand the legal and ethical responsibilities of science teachers for the welfare of their students, the proper treatment of animals, and the maintenance and disposal of materials.

2. To know and practice safe and proper techniques for the preparation, storage, dispensing, supervision, and disposal of all materials used in science instruction.

3. To know and follow emergency procedures, maintain safety equipment, and ensure safety procedures appropriate for the activities and abilities of the students.

4. To treat all living organisms used in the classroom or found in the field in a safe, humane, and ethical manner and respect legal restrictions on their collection, keeping and use.

5. To develop effective lessons/demonstrations to highlight the importance of safety to students.

6. To recognize the importance of including safety considerations in all lesson plans.

7. To develop the ability to have constant awareness of the laboratory environment and identify potentially dangerous situations.

8. To identify common classroom laboratory scenarios that are dangerous, and describe adjustments that can prospectively present these situations.

9. To describe the types of personal protection equipment appropriate to laboratory situations.

10. To recognize the mechanical, electrical, physical, biological, chemical and environmental hazards.

**Readings**

- Readings and resources will be posted on Blackboard in the Announcements.
- Additional resources will be made available in class.
- Suggestions will also be disseminated through group e-mails.

**Policies**
**Attendance**

Each class meeting is almost two hours long and a large amount of material is covered during this time. Thus, regular attendance is expected. Be sure to sign in promptly at each session. Be sure to turn in the exit card as you leave.

Extra assignments will be available to replace the participation points whatever the reason for the absence.

Absentees are responsible for: (1) getting any handouts passed out during the missed class, (2) any in-class announcements, (3) changes in syllabus, and (4) material discussed in class. There will be no make-up of activities missed.

**Please arrive to class on time. Class announcements are given at the beginning of class, which you will miss if arriving late. Late arrivals are also disruptive to everyone in class.**

**Cancellations of Class & “Snow/No-Power” Policy**

If, for any reason, the University cancels class, I will post an announcement in Blackboard, attempt to notify students through CAMPUS e-mail and inform the secretary (Sandra Sumner 313/577-0991)

If Campus is open, expect to attend class. If I make it to campus, we will have class. (Campus Newsline: (313)577-5345 or www.wayne.edu) See above responsibilities of absentees.

**Electronics**

**No Cell phone/text device use during class time. [EVER]**

Please turn cell phone off/silent mode before entering class. Smart Phones/PDAs/Laptops must be off unless necessary for assigned class work.

Printing is available in Computer Lab. **Downloading from blackboard and printing should be done outside of class time.**

**Course Communication**

Class communication will utilize Blackboard and the class email list. Students **MUST be able to access the course Blackboard site** to retrieve important information about the course, as well as email messages.

This syllabus will be posted on the Blackboard site, along with assignment details and other communications. Some assignments will include discussion board postings. The site may be entered through [http://blackboard.wayne.edu](http://blackboard.wayne.edu).

WSU provides free email and Internet accounts for students. **You are responsible** for providing the instructor with a valid e-mail contact if you do not use the Campus IPO.
Plagiarism

Plagiarism includes copying material (any more than 5 consecutive words) from outside texts or presenting outside information as if it were your own by not crediting authors through citations. It can be deliberate or unintended.

If you are in doubt about the use of a source, cite it. Students caught plagiarizing information from other sources will receive a failing grade in the course. University policy states that students can be subject to multiple sanctions, from reprimand to expulsion as a consequence of academic dishonesty. To enforce this policy, all outside references must be submitted with assignments.

Attention Students with Disabilities

If you have a documented disability that requires accommodations, you will need to register with Student Disability Services for coordination of your academic accommodations. The Student Disability Services (SDS) office is located at 1600 David Adamany Undergraduate Library in the Student Academic Success Services department. SDS telephone number is 313-577-1851 or 313-577-3365 (TTY: telecommunication device for the deaf; phone for hearing impaired students only).

Once you have your accommodations in place, SDS staff will be glad to meet with you privately during office hours to discuss your special needs. Student Disability Services’ mission is to assist the university in creating an accessible community where students with disabilities have an equal opportunity to fully participate in their educational experience at Wayne State University. See http://studentdisability.wayne.edu/.

Religious Observance Policy

Because of the extraordinary variety of religious affiliations represented in the University student body and staff, the Wayne State University calendar makes no provision for religious holidays. It is University policy, however, to respect the faith and religious obligations of the individual. Students who find that their classes or examinations involve conflicts with their religious observances are expected to notify their instructors well in advance so that alternative arrangements may be worked out.

Grades will be assigned as follows

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
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<tbody>
<tr>
<td>93-100 %</td>
<td>A</td>
</tr>
<tr>
<td>90-92 %</td>
<td>A-</td>
</tr>
<tr>
<td>87-89%</td>
<td>B+</td>
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<tr>
<td>73-76 %</td>
<td>C</td>
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<tr>
<td>70-72 %</td>
<td>C-</td>
</tr>
<tr>
<td>67-69 %</td>
<td>D+</td>
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</table>
83-86 % = B 63-66 % = D  
80-82 % = B- 60-62 % = D-  
77-79 % = C+ Less than 60% = F

General Note: The College of Education faculty members strive to implement assessment measures that reflect a variety of strategies in order to evaluate a student’s performance in a course. For undergraduates C grades will be awarded for satisfactory work that satisfies all the course requirements.; B grades will be awarded for very good work and A grades will be reserved for outstanding performance. [For graduate students B grades will be awarded for satisfactory work that satisfies all course requirements, B+ grades will be awarded for very good work and A grades will be reserved for outstanding performance.] Please note that there is a distribution of grades from A-F within the College of Education and that pluses and minuses are recorded to distinguish distinct grade point averages.

Grade of Incomplete

Grades of incomplete (I) are not given unless a student faces special circumstances such as grave illness or family tragedy prevent the student from completing a portion of the required work. At the time of the occurrence, the student must be in good standing in order for a grade of incomplete to be considered. Under these circumstances, the student must make arrangement with the instructor in order to fill out a “contract” in which the student’s responsibilities are stipulated and agreed upon. Incompletes will revert to a failing grade after one calendar year, there will be no extensions.

Enrollment/ Withdrawal Policy

Beginning in Fall 2011, students must add classes no later than the end of the first week of classes. This includes online classes. Students may continue to drop classes (with full tuition cancellation) through the first two weeks of the term.

Students who withdraw from a course after the end of the 4th week of class will receive a grade of WP, WF, or WN.

- WP will be awarded if the student is passing the course (based on work due to date) at the time the withdrawal is requested
- WF will be awarded if the student is failing the course (based on work due to date) at the time the withdrawal is requested
- WN will be awarded if no materials have been submitted, and so there is no basis for a grade

Students must submit their withdrawal request on-line through Pipeline. The faculty member must approve the withdrawal request before it becomes final, and students should continue to attend class until they receive notification via email that the withdrawal has been approved.

Beginning in Fall 2011, the last day to withdraw will be at the end of the 10th full week of classes. The withdrawal date for courses longer or shorter than the full 15-week terms will be adjusted.
NOTE: Check Blackboard and WSU email regularly.

Grading Policies

Class Participation
Students will be graded on class participation, which includes contributions to class discussion and activities, attendance, on-time arrival to class and remaining for the duration of class, timely completion of individual and group assignments, and other affective variables related to course work. When text messaging during class it is as if you are absent; therefore, your participation grade will be negatively impacted.

The instructor will monitor student participation throughout the course. Each activity done during class will be part of your participation grade. Your final grade will be affected significantly if attendance in class is poor. The expectation is that you attend every class. At the end of each class session an exit card will be completed. Each class session is worth 30 points. Opportunities to learn will be provided to make up any lost points in the event of your not being able to attend for meaningful reasons.

Final Grade

The final grade is calculated from the various individual assignment grades, class participation, and response to readings. These categories will be weighted by value:

Assignments ~45%
Attendance & Participation ~55%

Points will be recorded in blackboard to help you keep track of your progress throughout the semester and may not reflect the value weighting. All assignments are important, therefore all grades are important.

University Policy

1. Students who do not complete course requirements, or do not withdraw appropriately (in timely ways), will receive a failing grade.
2. Students who withdraw within the scheduled dates of the term will receive one of these notations: -WF Withdrawal with a passing grade earned to date, -WF Withdrawal with a failing grade earned to date, -WN Withdrawal never attended, or no graded work to date
3. Students must submit their withdrawal request on-line through Pipeline. The instructor must approve the withdrawal request before it becomes final, and students should continue to attend class until they
receive notification via email that the withdrawal has been approved. Withdrawals can be requested at any time through the study day.

Course Assignments

The instructor will provide criteria and a grading rubric for each assignment. (Available in Blackboard) These criteria should be used as guidelines for what the instructor expects in each assignment.

Late assignments will decrease in point value by 5% of the allocated points for each day the assignment is late.

To meet professional quality and presentation standards required of practicing teachers, assignments will be graded on clarity of ideas, grammar, spelling, and adequate word choice.

Assignments must be submitted as a Microsoft word document. If the Instructor cannot access your work, it will be considered LATE.

Assignment #1

Complete the 7 part MSDS quizzes at http://www.ilpi.com/msds/quiz/part1.html Be sure to print the certificate with your name to turn in by 1/24/14. [25 points]

Assignment # 2

Complete either the Middle School or High School safety course at http://labsafety.flinnsci.com/Home.aspx Print the certificate of completion and turn in by 3/21/14. [150 points]

Assignment # 3

Complete the new GHS training required by all science teachers. This may be found at http://www.flinnsci.com/GHS or at http://www.michigan.gov/lara/0,4601,7-154-61256_11407-284831--,00.html Print the certificate and turn in by 2/7/14. [25 points]

Assignment # 4

Complete the Learnport Blood Borne Pathogens training. This is free training found at http://learnport.org/BloodbornePathogensforSchoolEmployees/tabid/489/Default.aspx Proof of completion of this is to be turned in by 2/14/14. [25 points]

Assignment # 5

Create a safety project containing at least five safety violations to be shared with your classmates in a museuming format. The options for the format are: diorama, poster or actual laboratory set
up. This will be shared on 2/21/2014 at which time your classmates will be expected to find at least five safety violations in your project. [75 points]

**Assignment 6**

Watch the video described in the following sections. Be prepared to discuss in class on 1/17/14 whether you would share this video with your students and if so, how you would use it in your classroom.

**Chemical Safety Board Releases Safety Message on Preventing Accidents in High School Chemistry Labs**


The message features Calais Weber, an accident survivor, who on January 23, 2006, at age 15 was burned over 40 per cent of her body during a chemistry demonstration performed by her teacher at a prestigious boarding school she attended in Ohio.

**Assignment 7**

Go to [http://echa.europa.eu/clp-quiz](http://echa.europa.eu/clp-quiz) and take the pictograph quiz. Print out your score and bring to class. [25 points]

**Schedule**  [tentative, substitutions may occur; additions to the primary topic will occur]

<table>
<thead>
<tr>
<th>Class Session</th>
<th>Date</th>
<th>Topics</th>
<th>Assignments Due</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>❖ Introduction</td>
<td>[to be announced in class]</td>
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<td></td>
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<td>❖ Syllabus plus quiz</td>
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<td>❖ Importance of safety</td>
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<td>❖ FISH philosophy</td>
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<tr>
<td>Session 1</td>
<td>1/10/14</td>
<td>❖ Safety rules</td>
<td>Assignment 6</td>
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<td>❖ Safety quiz and accountability</td>
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<td>❖ Safety contract</td>
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<td>❖ Safety symbols</td>
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<tr>
<td>Session 3</td>
<td>1/24/14</td>
<td>❖ General safety considerations:</td>
<td>Assignment 1</td>
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<tr>
<td>Session</td>
<td>Date</td>
<td>Topic</td>
<td>Assignment</td>
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<tr>
<td>Session 4</td>
<td>1/31/14</td>
<td>sanitation, fire, breakage</td>
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<tr>
<td>Session 5</td>
<td>2/07/14</td>
<td>Safety for chemistry experiments and activities K - 12</td>
<td>Assignment 3</td>
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<tr>
<td>Session 6</td>
<td>2/14/14</td>
<td>Safety for earth science experiments and activities K-12: geology, meteorology, astronomy</td>
<td>Assignment 4</td>
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<tr>
<td>Session 7</td>
<td>2/21/14</td>
<td>Safety for life science experiments and activities K-12: biology, botany, microbiology</td>
<td>Assignment 5</td>
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<td>Session 8</td>
<td>2/28/14</td>
<td>Safety lessons</td>
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<tr>
<td>Session 9</td>
<td>3/07/14</td>
<td>MSTA conference</td>
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<tr>
<td>Session 10</td>
<td>3/14/14</td>
<td>Spring Break</td>
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<tr>
<td>Session 11</td>
<td>3/21/14</td>
<td>Safety for physics and physical science experiments and activities K-12: electricity, machines</td>
<td>Assignment 7</td>
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<tr>
<td>Session 12</td>
<td>3/28/14</td>
<td>Changing classic experiments and activities to become more safe</td>
<td>Assignment 2</td>
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<td>Session 13</td>
<td>4/04/14</td>
<td>Safety activities</td>
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<td>Session 14</td>
<td>4/11/14</td>
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<tr>
<td>Session 15</td>
<td>4/18/14</td>
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