SCI 1301: RESEARCH FOUNDATIONS  
COURSE SYLLABUS-FALL 2015

Class Information:
CRN 18055       Monday-Wednesday: 9:00 AM-10:20 AM
Chemistry and Computer Science Bldg., Ground Level, Room G.0706A

Instructor Information:
Instructor: Dr. Lynnsay A. Marsan  
Email: lmarsan@utep.edu  
Phone: (915) 747-8975  
Office: Bioscience 2.136  
Hours: Tuesdays and Fridays, 10:00 AM-2:00PM or by appointment. Email is preferable.

Textbook:
2. Laboratory Notebook, UTEP bookstore  
3. On Being a Scientist: A Guide to Responsible Conduct in Research:  
   i. Click on download PDF

Online Resources:
1. Application download: This will allow you to have access to the different projection screens in the class. This application is mandatory and is available at:  
   a. www.amx.com/mirrorop Follow the directions on the page based on your device.  
2. BUILD SCHOLARS Website: http://buildingscholars.utep.edu/web/  
3. Other online information provided by the Blackboard page of the class.  
4. Sign in access through your “my.utep.edu” page > Blackboard> End of Semester Feedback> online evaluation

Course Evaluation:
Individual Projects/reports  20%  
Group Projects/reports  15%  
Final Project  25%  
Journals  20%  
Activities/Networking  5%  
Assessments  15%
Grading Scale:
90 – 100 = A
80 – 89.9 = B
70 – 79.9 = C
60 – 69.9 = D
Below 60 = F
The final day to withdraw from this class is October 30th. No requests for a withdrawal will be approved after that date. Students can always petition the Registrar for a complete withdrawal from the course pending documentation.
Note: Students need to obtain a grade of C or better to pass this class.

Course Description:
This course is designed for first semester freshmen majoring in any of the STEM disciplines, including the social and behavioral sciences and biomedical engineering, to assist them in preparing to participate in their choice of research-driven courses (research tracks). It is also intended to prepare students for participation in mentored research experiences later on. The course will develop their ability to organize, retrieve, and connect information the way expert researchers do. Centering on elements of core concepts (Big Ideas) of various disciplines (chemistry, biology, social science, psychology, engineering, etc.), students will be introduced to the research foundations for those disciplines. Through facilitated workshops, collaborative and individual work, special guest presentations and online modules, students will learn and practice common elements of the research cycle, from idea to dissemination, including: review of primary versus secondary literature and analysis of the connectivity between various STEM disciplines; the use of university resources for information access, online bibliographic management and student assistance; proper methods to maintain a research notebook and organize research documentation; safe and responsible conduct of research, including biosafety and the use of human and animal subjects in research; formats for data presentation and methods of analysis; communicating research results to various audiences, orally and in writing; and possible career paths for individuals with STEM degrees.
During the last 4 weeks of the course, students will participate in a final project to gain understanding of the components of a scientific paper.

Overall Course Goals:
Goal 1: Students will assess the academic and research opportunities available to them.
Goal 2: Students will evaluate their interests, abilities, and values to define and assume their own responsibility in ensuring their success as they pursue their academic, research, and life goals.
Goal 3: Students will practice essential academic and research skills to strengthen performance in the university setting and beyond.
Goal 4: Students will begin to build a network of faculty, staff, and peers to create a supportive and positive learning environment.
Goal 5: Students will become involved in UTEP activities and utilize campus resources.

**Policies:**

**Absences:** After 3 unexcused absences you will be given a warning. If absent 4 times, you may be dropped from the course.

**Tardiness:** If you are late 5 or more minutes for class, 2 credit points will be subtracted.

**Missed Exams:** Exams cannot be made up unless you provide a valid written excuse from your doctor, the funeral home director, or legal or law enforcement personnel. The written excuse must contain contact information that can be used to verify the excuse.

**Deadlines:** Work will not be accepted after a given due date unless you provide a valid written excuse from your doctor, the funeral home director, or legal or law enforcement personnel. The written excuse must contain contact information that can be used to verify the excuse.

**Student Conduct:**

**Class Environment**

Cell phones must be turned off. Use of cell phones will result in dismissal of class for that day. Each student is responsible for notice of and compliance with the provisions of the Regents [Rules and Regulations](http://www.utsystem.edu/bor/rules/homepage.htm), which are available for inspection electronically at [http://www.utsystem.edu/bor/rules/homepage.htm](http://www.utsystem.edu/bor/rules/homepage.htm). Use of laptops and tablets is allowed only when specifically requested by the instructor. No liquids or food are allowed in the classroom.

**Academic Dishonesty**

It is the official policy of the University that all suspected cases or acts of alleged scholastic dishonesty must be referred to the Dean of Students for investigation and appropriate disposition. It is contrary to University policy for a faculty member to assign a disciplinary grade such as an "F" or zero to an assignment, test, examination, or other course work as a sanction for admitted or suspected scholastic dishonesty in lieu of normally charging the student through the Dean of Students. Similarly, students are prohibited from proposing and/or entering into an arrangement with a faculty member to receive a grade of "F" or any reduced grade in lieu of being charged with scholastic dishonesty. Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes, but is not limited to cheating, plagiarism, collusion, and the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

**Plagiarism**

"Plagiarism" means the appropriation of another person's ideas, processes, results, or words without giving appropriate credit. This includes intentionally, knowingly or carelessly, presenting the work of another as one's own; failing to credit sources used in
a work product; attempting to receive credit for work performed by another; failing to cite the World Wide Web, databases and other electronic resources. Written work will be checked for plagiarism.

**Students with Disabilities Policy**
If you have or suspect a disability and need an accommodation you should contact Center for Accommodations and Support (CASS) at 747-5148 or at dss@utep.edu or go to Room 106 Union East Building.

**Syllabus Change Policy**
This syllabus is a guide for the course and is subject to change with advance notice.

**Course Learning Objectives**
At the end of this course, students will be able to:
1. Define science
2. Generate hypotheses and alternative hypotheses to answer research questions
3. Describe the interdisciplinary nature of research
4. Organize and write clear and concise scientific journal entries
5. Explain the importance of attribution of previous work
6. Demonstrate critical thinking orally and in writing
7. Describe the research cycle from idea to publication
8. Describe the purpose of scientific communication & distinguish between primary and secondary sources
9. Distinguish between peer reviewed and non-peer reviewed sources
10. Effectively utilize library resources
11. Discuss and utilize common statistical concepts
12. Identify the limitations of statistics
13. Analyze research designs
14. Interpret data
15. Evaluate research studies from interdisciplinary perspectives
16. Discuss topics in responsible conduct of research
17. Be cognizant of safety and biosafety laboratory protocols
18. Demonstrate ability to present scientific information orally and in writing
# Tentative Course Calendar:

<table>
<thead>
<tr>
<th>WEEK</th>
<th>STARTS</th>
<th>TOPIC</th>
<th>ACTIVITES</th>
<th>ASSIGNMENTS*</th>
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</thead>
</table>
| 1    | 24-Aug | 1. Overview of the class structure and syllabus  
2. Advisor visit  
3. Internal Interviewer | | |
| 1    | 26-Aug | What is science? Characteristics of a scientist? | | |
| 2    | 31-Aug | Safety and Biosafety | | |
| 2    | 2-Sept | Safety and Biosafety | | |
| 3    | 7-Sept | **Labor day-No class** | | |
| 3    | 9-Sept | Laboratory notebook  
And critical thinking journaling | | |
<p>| 4    | 14-Sept | The research cycle | | |
| 4    | 16-Sept | Scientific literature | | |
| 5    | 21-Sept | Library Tutorial | | |
| 5    | 23-Sept | Basic in Statistics | | |
| 6    | 28-Sept | Basic in Statistics-continued | | |</p>
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<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Activity</th>
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<tbody>
<tr>
<td>6</td>
<td>30-Sept</td>
<td>Research design analysis and data interpretation</td>
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<tr>
<td>7</td>
<td>5-Oct</td>
<td>Research design analysis and data interpretation</td>
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<tr>
<td>7</td>
<td>7-Oct</td>
<td>Research design analysis and data interpretation</td>
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<tr>
<td>8</td>
<td>12-Oct</td>
<td>Research design analysis and data interpretation</td>
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<td>8</td>
<td>14 Oct</td>
<td>Interdisciplinary research studies-Evaluations</td>
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<td>9</td>
<td>19-Oct</td>
<td>Interdisciplinary research studies-Evaluations</td>
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<tr>
<td>9</td>
<td>21-Oct</td>
<td>Interdisciplinary research studies-Evaluations</td>
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<tr>
<td>10</td>
<td>26-Oct</td>
<td>Interdisciplinary research studies-Evaluations</td>
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<tr>
<td>10</td>
<td>28-Oct</td>
<td>Interdisciplinary research studies-Evaluations</td>
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<tr>
<td>11</td>
<td>2-Nov</td>
<td>Responsible Conduct in Research</td>
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<td>11</td>
<td>4-Nov</td>
<td>Responsible Conduct in Research continued</td>
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<td>12</td>
<td>9-Nov</td>
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<td>12</td>
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<td>13</td>
<td>16-Nov</td>
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<td>13</td>
<td>18-Nov</td>
<td>Final Report</td>
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<td>14</td>
<td>23-Nov</td>
<td>Final Report</td>
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<td>14</td>
<td>25-Nov</td>
<td>Final Report</td>
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<tr>
<td>15</td>
<td>30-Nov</td>
<td>Final Report</td>
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<tr>
<td>15</td>
<td>2-Dec</td>
<td>Internal Reviewer</td>
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*Students are to complete all activities within or at the end of each module.*
**Note, holidays are noted with (**) to indicate that on that week there is a holiday that will overlap with one or two classes. Labor day: Sept 7, 2015, Thanksgiving: Nov 26-27, 2015.