GUIDELINES FOR 106L RESEARCH PROJECT

Purpose: The purpose of this research project is to provide you with an opportunity to observe the relevance of chemistry in your daily life and/or major. Below are the guidelines for the project. An attempt was made to provide the student with some structure yet not make them so rigid that the student’s creativity was limited. Please feel free to ask your TA questions concerning the format and requirements.

Proposed research ideas
Your TA will provide a list of possible topics at the beginning of the semester which may include the following: (NOTE: The list for your semester may not include all of the suggestions below.)

1. Research and discuss the role of chemistry in recycling.
2. Research the chemistry of various household chemicals. Pick an area of concentration – cleaning supplies, food supplements, personal care items, etc. Discuss the chemical content/ review the MSDS/safety of each ingredient. Are there safer alternatives available today? Support your recommendations with sound chemistry.
3. Research the chemistry of drugs in the body – tobacco, alcohol, marijuana, caffeine, cocaine, etc in the body.
4. Research electrochemistry. Discuss its use in batteries. Which ones are on the market? What is the composition of the batteries available today? Discuss advantages/disadvantages of different types available.
5. Research the chemistry behind how various marketed prescription and over the counter drugs are used/affect the human body.
6. Research the use of chemistry in forensics.
7. Show how chemistry plays a role in your major. Example: the chemistry of turf management (such as fertilizers and pesticides. What is used and are there safer alternatives? Why are they safer?). Discuss the specific contents and why the “safer alternatives” are safer.
8. Other topic approved by your TA

The paper must show collection of data. For example visit a store and read the labels. What are the ingredients in the products you are researching? Then in your paper discuss how these ingredients accomplish their purpose. For understanding research the ingredients (on the internet, in texts, etc) to see how they chemically accomplish their intended purpose.

The paper should be a minimum of 7 double spaced pages using a font of Times 11 or smaller.

A minimum of 4 sources should be used (not Wikipedia)

The paper clearly shows the role of chemistry in the chosen topic.

For the preliminary assignment, the student will propose their topic and show completed initial research. A beginning of a rough draft should also be completed.
Most, if not all, of the introduction should be complete. This will allow TA feedback. See breakdown of points below.

PAPER FORMAT

Title Page
Title of the paper, your name, course and section number, TA’s name, and the date
Include signed integrity statement

Introduction
Reason for choice of topic, its relevance
Objectives and goals of the study
Plan of action
Choice of references
Predictions of research’s value

Research Findings
Present data and research in clear, orderly fashion.

Reflection – minimum of 2 pages of the paper
This is where you will show your interpretation of and your conclusions from your research.
Discuss your research and how the findings impact your life.
Discuss the chemistry behind your research. How does the chemistry impact your life?
Show an understanding of basic chemical concepts in the research.
Provide supported conclusions and how the research will be a benefit to you.

Conclusion
Summarize your major conclusions already given in the Reflection. This section should only be a short paragraph.

References
Show at least 4 different references

Prelim Research Paper
Introduction should be complete. 5 points
Research findings – the data collection should be complete plus a significant portion of the resulting research 3 points
References 2 points
Show at least 3 references that have been used in research to date.

TA will provide feedback during the lab period