

SCIENCE RESEARCH COURSE

2013-14

J. Ruhl
4/13

The purpose of this course is to allow students with a strong interest in science to conduct independent scientific research in an area of personal interest. Students will be expected to enter their projects in the *Lafayette Regional Science and Engineering Fair* **March 7, 2014**.

Grading Policy

Throughout each nine week grading period, several major components of the course project will be due. The deadlines (**weekly meetings with Mr. Ruhl and project component deadlines**) are listed below. The grade in the course is based upon successful completion of each of these deadlines.

Each project component deadline will be worth 10 points. (See pages 2 and 3 of this packet.) For each assignment, one point will be deducted for each day late. For each 9-weeks, if a student satisfactorily meets each of the deadlines, he/she will receive an A for the 9-weeks (elevated to A+ as this is an honors science class).

Weekly Meetings with Mr. Ruhl -

Not all Science Research students are scheduled in the same period, so it is rare that the teacher is able to communicate with *all* of the students simultaneously. Therefore, each student will be required to drop in and meet at least once a week with Mr. Ruhl (room 2A1B) to provide an update of progress made up to that time. These meetings are brief and can be done any time before Friday, 3:30 of each week. Each weekly meeting is worth 5 points. If you show up any time during the week for this meeting, you will receive 5 points. If you don't meet at all, then you will receive 0 points for that particular week.

Project Component Deadlines -

Date

Deadline

(1st 9 weeks):

Sept. 6 selection of mentor and establishment of research site work schedule

Sept. 13 completed and signed release form (includes parent and principal signatures – allowing for release to research site)

Oct. 4 written research proposal (project idea) which includes:

- a. the statement of the problem to be investigated
- b. hypothesis
- c. an outline of a general plan of investigation which includes materials and a preliminary procedure
- d. a bibliography with **5 references**

Oct. 21 ISEF rules forms

(2nd 9 weeks):

Nov. 15 a copy of a sample of initial quantitative data generated by the experiment(s)

Dec. 13 view Mr. Ruhl's PowerPoint presentation showing project displays at a recent *International Science & Engineering Fair*

(3rd 9 weeks):

- Jan. 10 experimental data (I want copies of your tables, charts, observations in raw data form - not paragraphs.)
- Feb. 3 data analysis (This must be one-page – typed – telling what happened in your experiment. Explain your data.)
- Feb. 7 a copy of your abstract
- Feb. 14 Your mentor must approve your display board and final paper, and sign “Release to Participate in Regional Fair” form. This form must be delivered to Mr. Ruhl by this date.
- Feb. 21
- a. science fair display (delivered to room 2A1B)
 - b. a copy of the final paper (Give the teacher one copy and keep one copy for display at the science fair.)
- Mar. 7 & 8 Lafayette Regional Science & Engineering Fair at Purdue

(4th 9 weeks):

- May 18
- a. return of all equipment and thank-you letters to all who assisted
 - b. submission of topic area for the following year (if continuing on)
 - c. continued work in mentor’s lab until the end of spring semester

Attendance Policy

You may or may not have a specific period of the day when you are scheduled for this course (The State Department of Education has waived the “seat time requirement”. In other words, you might not have had room in your schedule for this course, but your guidance counselor was able to tack on this course as an extra.) That’s okay, because scientific research cannot and does not take place only one period every other day. Historically

in this course, students have worked many hours beyond the regularly scheduled time block. Indeed, it is essential in this course to put in the time outside of regular school hours. This is not a traditional class with homework, quizzes, and tests, although the "homework" you do on your own will be extensive. There is a great deal of flexibility built into the program. If you ARE scheduled in this course during a particular period, you will not be allowed to leave the school to work with your mentor until you have turned in to the teacher the signed Science Research Course Release Form. If you must leave school before this form is completed and turned in, you must have a parent call in, giving the school permission for school release during class. Whenever you do leave to work on research (even after the release form has been turned in) you must notify the Science Research course teacher sometime during the day before class begins, so that you will not be counted absent.

If you are scheduled for the Science Research course any period during the regular school day, you will have the following options (listed in order of preference):

- a. leave the school campus to work with the Purdue mentor
- b. read any research articles assigned by the mentor
- c. work on any aspect of the research project
- d. do homework or study for any other class

Congratulations on being accepted into the Science Research course. You have already proven yourself in terms of your academic ability, your work ethic, and your strong sense of responsibility. Jefferson High School students have earned the *Outstanding School Award* at the *Lafayette Regional Science Fair* in thirteen out of the last fifteen years. As a member of this class you will have the opportunity to continue a strong tradition of science fair excellence at Jefferson High School. More importantly, you will have a unique opportunity that few high schools can offer. Based upon my conversations with former Science Research course students, I know you will find yourself at a distinct advantage when you go to college - no matter what you major in - but especially if you choose a science related career. I wish for you the very best in the upcoming school year!

If you have any questions about this course, please contact me:

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