

FUNDAMENTALS IN RESEARCH METHODS (F.I.R.M.)  
COURSE OBJECTIVES AND ASSIGNMENTS  
JUNIORS - SPRING 2009

SCIENCE FAIR OBJECTIVES

- Students will propose a problem statement and hypothesis for their project
- Students will write an annotated bibliography and properly formatted references page
- Students will write the introduction to their paper
- Students will observe and critique senior students on their project presentations
- Students will compile a list of materials necessary for their experiment
- Students will begin to design an experiment to address the questions raised by their project
- Students will present their proposed experimental design to a committee of teachers and fellow students

RESEARCH PAPER OBJECTIVES

- Students will research subject-appropriate scholarly sources to develop an annotated bibliography that will ultimately become a properly formatted works cited or references page.
- Students will develop a thesis statement for their project paper.
- Students will outline the major supporting ideas to be developed in the paper.
- Students will write an introduction and rough draft development of at least three major supporting ideas.
- Students will observe and critique senior students on their project presentations at the Senior Research Symposium.
- Students will present their own project outlines and preliminary research to a committee of teachers and fellow students.

**Assignments: All assignments will be due at the beginning of the FIRM period. All dates are subject to schedule changes. In the event of an unforeseen schedule change, the due date of an assignment is the date that replaces the normal Tuesday that week. Extensions will not be granted under any circumstances!**

When submitting an updated draft of any section of your paper next year, you must also turn in all previous drafts with your SEC and FIRM instructor's comments on them. So save all your graded drafts! **Failure to turn in these drafts will result in an automatic 75 point deduction.**

All writing assignments must be submitted to your advisor's area of Turnitin.com **before** the deadline.

## SCHEDULE

Date	Assignment	Pts
26 Jan	Deadline for finding a project	
3 Feb	Proof of Participation form showing that the student was a subject in three human subjects projects. Download the form from the FIRM web page and have the senior researchers sign it.	60
10 Feb	Experimental: Preliminary/working problem statement and hypothesis Research Paper: Preliminary/working thesis statement	50
17 Feb	Library research assignment	100
26 Feb	Evaluate 5 senior project displays	100
26 Feb	Observe and critique 5 senior presentations	100
3 Mar	Annotated bibliography of <b>6</b> sources in APA style for science fair and MLA style for research papers (limited to <b>2</b> internet sources). Sources must be scholarly and not from the popular press to get credit. Your annotations should be close to a full page in length. It is recommended that you find at least two sources per week during FIRM time starting on 5 Feb.	60
10 Mar	Annotated bibliography of <b>4 additional</b> sources (limited to <b>1</b> internet source)	40
17 Mar	Annotated bibliography of <b>4 additional</b> sources (limited to <b>1</b> internet source)	40
31 Mar	Experimental: Outline of introduction Research Paper: Thesis paragraph plus outline of supporting points	20
7 Apr	Experimental: First draft of Introduction Research Paper: Satisfactory development of at least 2 supporting points, plus a revised outline of other supporting points to be included - 4 page min. <b>Both must include a references page and citations</b>	100

Date	Assignment	Pts
14 Apr	Experimental: Rough draft of Procedures section including a rough draft of proposed data and statistical analysis methods. Research Paper: Satisfactory development of third supporting point, plus a revised outline of other supporting points to be developed - 2 additional pages min. Your instructor may postpone this until 21 Apr and have it submitted via Turnitin	100
21 Apr	Math Dept. Trig exam & log book check - No FIRM meeting	20
28 Apr	Practice PowerPoint presentation to be done during period	50
5 May	Final presentation of experimental design or research paper progress	100
12 May	Make-up presentations for students taking the AP Statistics exam on 5 May	

**Notes:**

- Research paper students: With the permission of your advisor, you may write your paper in a non-linear way. You may complete the required sections in any order that you agree is best. However, you must still meet all minimum page requirements and you must have all of the required sections complete by 14 April.
- Sources which were obtained via the internet but which originally appeared in print may be counted as print sources. All sources must be scholarly and preferably peer-reviewed. Avoid using popular press journals, non-academic web sites and especially encyclopedias. Citation of Wikipedia or another encyclopedia will result in an automatic zero on any bibliography assignment. You should only use Wikipedia to find authoritative sources.
- You are expected to fill at least one full page for every log book entry and have at least one entry per week. Multiple entries per week and inclusion of the data acquired that day are required to receive full credit. Entries from a lab day that do not include data tables and/or graphs will not receive any credit.