

Introduction to Research Methods Syllabus (example)

Grade level: 9 - 12 (but can be modified for 7- 8 grade students)

Prerequisite Courses: Teacher Recommendation

Credits: 0.5

Course Description

Introduction to Research Methods is a semester-long high school. This course will provide an opportunity for participants to establish or advance their understanding of research through critical exploration of research language, ethics, and approaches. The course introduces the language of research, ethical principles and challenges, and the elements of the research process within quantitative, qualitative, and mixed methods approaches. Participants will use these theoretical underpinnings to begin to critically review literature relevant to their field or interests and determine how research findings are useful in forming their understanding of their work, social, local and global environment.

Course Objectives:

- Define research; explain and apply research terms; describe the research process and the principle activities, skills and ethics associated with the research process.
- Explain the relationship between theory and research.
- Describe and apply quantitative, qualitative, and mixed methods approaches to research.
- Identify the components of a literature review process.
- Be able to assess and critique a published journal article that uses one of the primary research methods in the field.
- Construct an effective questionnaire that employs at least four types of survey questions, and establish their validity.
- Complete a research proposal and research plan for SRC/IRB approval.
- To present completed work at a competition of choice.

Student Expectations

- This course requires the same level of commitment from the student as a traditional classroom course. Students are expected to spend time working independently on their project both inside and outside the classroom.
- Students will develop, manage, and conduct a scientific paper associated with their field of research, and present their findings to their peers and at an outside competition.

Assignment	Percentage
Critique of Articles	15
Writing survey questionnaires	15
Classwork participation	20
Research Proposal	10
Research Plan	20
Final exam project (presentation)	20

Assignment Descriptions

Critiques: Students will critique two articles from the four types of research discussed in class: survey research, content analysis, experimental, and qualitative/quantitative analysis. Critiques should analyze the articles based on classroom discussions of research methodology. Articles will be assigned based on students selected research preferences.

Questionnaires

Every student will create a portion of a survey questionnaire that will focus on the specific independent and dependent variables.

Research Proposal and Plan

These documents will be formatted in an assigned template to encompass the topic, brief description and theoretical framework, methodology, and selected research articles. Once approved, a research plan using a formatted template will be assigned and submitted for project research approval.

Required Materials

- Pens, black or blue
- Pencils
- Highlighters
- Computer
- Binder (notes in class)
- Journal (specific to research project)

Student Expectations

- Good research and writing require time and revision. Do not procrastinate!
- Be flexible. Research does not proceed in one direction. Expects setbacks and repeating of the experimentation as the research questions and design are developed.
- Students should keep all research documentation, drafts, proposals, and other useful information in the journal for future use.
- Be an active learner, reading for retention. Take notes and highlight resources while reading.

Computer Use

Laptop computers and electronic media devices are an enhancement to the learning environment. They are useful in class for note-taking, data collection, and documentation of lab activities and results. While in class, computers should not be used for any version of social media, completing other coursework outside the framework of this course, or personal entertainment.

One Semester Weekly Schedule Example

Week 1:	Introduction to Research Methods
Week 2:	Developing a Research Question and Understanding Research ethics
Week 3:	Understanding resources for a Literature Review
Week 4:	Collecting resources and Understanding the 17 Sustainable Development Goals developed by the United Nations
Week 5:	Elements of a Research paper, Research proposal, Research plan and IRB, SRC
Week 6:	Writing in APA formatted Bibliography
Week 7:	Composition of the Literature Review
Week 8:	Literature Review and Research Question presentation
Week 9:	Research Design and Methodology
Week 10:	Ethics and Validity in Research Methods
Week 11:	Writing a Methodology Section of a paper
Week 12:	Methods and Instruments of a research paper
Week 13:	Data retrieval, reporting and recording the results of a research project
Week 14:	Statistical analysis methods including t-tests, chi-square and contingency tables, and ANOVA
Week 15:	Writing a Conclusion
Week 16:	Presentation skills and potential competitions
Week 17:	Practice Presentation
Week 18:	Practice Presentation