



**ARIZONA STATE UNIVERSITY
GENERAL STUDIES COURSE PROPOSAL COVER FORM**

Course information:

Copy and paste **current** course information from *Class Search/Course Catalog*.

Academic Unit	<u>Human Systems Engineering</u>	Department	<u>The Polytechnic School</u>
Subject	<u>EGR</u>	Number	<u>290</u>
		Title	<u>Experimental Research Methods</u>
			<u>(to be HSE 290 when new prefix is approved)</u>
Units:			<u>3</u>
Is this a cross-listed course?	(Choose one)		
If yes, please identify course(s)	<u>No</u>		
Is this a shared course?	(choose one) If so, list all academic units offering this course		<u>No</u>
Course description:			

Requested designation: (Choose One)

*Note- a **separate** proposal is required for each designation requested*

Eligibility:

Permanent numbered courses must have completed the university's review and approval process.
For the rules governing approval of omnibus courses, contact Phyllis.Lucie@asu.edu or Lauren.Leo@asu.edu.

Submission deadlines dates are as follow:

For Fall 2015 Effective Date: October 9, 2014

For Spring 2016 Effective Date: March 19, 2015

Area(s) proposed course will serve:

A single course may be proposed for more than one core or awareness area. A course may satisfy a core area requirement and more than one awareness area requirements concurrently, but may not satisfy requirements in two core areas simultaneously, even if approved for those areas. With departmental consent, an approved General Studies course may be counted toward both the General Studies requirement and the major program of study.

Checklists for general studies designations:

Complete and attach the appropriate checklist

- [Literacy and Critical Inquiry core courses \(L\)](#)
- [Mathematics core courses \(MA\)](#)
- [Computer/statistics/quantitative applications core courses \(CS\)](#)
- [Humanities, Arts and Design core courses \(HU\)](#)
- [Social-Behavioral Sciences core courses \(SB\)](#)
- [Natural Sciences core courses \(SQ/SG\)](#)
- [Cultural Diversity in the United States courses \(C\)](#)
- [Global Awareness courses \(G\)](#)
- [Historical Awareness courses \(H\)](#)

A complete proposal should include:

- Signed General Studies Program Course Proposal Cover Form
- Criteria Checklist for the area
- Course Catalog description
- Course Syllabus
- Copy of Table of Contents from the textbook and list of required readings/books

Respectfully request that proposals are submitted electronically with all files compiled into one PDF. If necessary, a hard copy of the proposal will be accepted.

Contact information:

Name	<u>Nancy J. Cooke</u>	Phone	<u>480-727-5158</u>
Mail code	<u>2880</u>	E-mail:	<u>ncooke@asu.edu</u>

Department Chair/Director approval: *(Required)*

Chair/Director name (Typed):	<u>Ann McKenna</u>	Date:	<u>12/30/14</u>
Chair/Director (Signature):			

Arizona State University Criteria Checklist for
LITERACY AND CRITICAL INQUIRY - [L]

Rationale and Objectives

Literacy is here defined broadly as communicative competence—that is, competence in written and oral discourse. **Critical inquiry** involves the gathering, interpretation, and evaluation of evidence. Any field of university study may require unique critical skills that have little to do with language in the usual sense (words), but the analysis of written and spoken evidence pervades university study and everyday life. Thus, the General Studies requirements assume that all undergraduates should develop the ability to reason critically and communicate using the medium of language.

The requirement in Literacy and Critical Inquiry presumes, first, that training in literacy and critical inquiry must be sustained beyond traditional First Year English in order to create a habitual skill in every student; and, second, that the skill levels become more advanced, as well as more secure, as the student learns challenging subject matter. Thus, two courses beyond First Year English are required in order for students to meet the Literacy and Critical Inquiry requirement.

Most lower-level [L] courses are devoted primarily to the further development of critical skills in reading, writing, listening, speaking, or analysis of discourse. Upper-division [L] courses generally are courses in a particular discipline into which writing and critical thinking have been fully integrated as means of learning the content and, in most cases, demonstrating that it has been learned.

Notes:

1. ENG 101, 107 or ENG 105 must be prerequisites
2. Honors theses, XXX 493 meet [L] requirements
3. The list of criteria that must be satisfied for designation as a Literacy and Critical Inquiry [L] course is presented on the following page. This list will help you determine whether the current version of your course meets all of these requirements. If you decide to apply, please attach a current syllabus, or handouts, or other documentation that will provide sufficient information for the General Studies Council to make an informed decision regarding the status of your proposal.

Revised April 2014

Proposer: Please complete the following section and attach appropriate documentation.

ASU - [L] CRITERIA		
TO QUALIFY FOR [L] DESIGNATION, THE COURSE DESIGN MUST PLACE A MAJOR EMPHASIS ON COMPLETING CRITICAL DISCOURSE--AS EVIDENCED BY THE FOLLOWING CRITERIA:		
YES	NO	Identify Documentation Submitted
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>CRITERION 1: At least 50 percent of the grade in the course should depend upon writing assignments (see Criterion 3). Group projects are acceptable only if each student gathers, interprets, and evaluates evidence, and prepares a summary report. <i>In-class essay exams may not be used for [L] designation.</i></p> <p style="text-align: right;">Course Syllabus: Grading policy</p>
<p>1. Please describe the assignments that are considered in the computation of course grades --and indicate the proportion of the final grade that is determined by each assignment.</p>		
<p>2. Also:</p> <div style="border: 1px solid black; border-radius: 50%; padding: 20px; text-align: center;"> <p style="background-color: yellow;">Please circle, underline, or otherwise mark the information presented in the most recent course syllabus (or other material you have submitted) that verifies this description of the grading process --and label this information "C-1".</p> </div> <p>C-1</p>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>CRITERION 2: The writing assignments should involve gathering, interpreting, and evaluating evidence. They should reflect critical inquiry, extending beyond opinion and/or reflection.</p> <p style="text-align: right;">Course Syllabus: Research paper; also Guideline for Research Paper</p>
<p>1. Please describe the way(s) in which this criterion is addressed in the course design.</p>		
<p>2. Also:</p> <div style="border: 1px solid black; border-radius: 50%; padding: 20px; text-align: center;"> <p style="background-color: yellow;">Please circle, underline, or otherwise mark the information presented in the most recent course syllabus (or other material you have submitted) that verifies this description of the grading process --and label this information "C-2".</p> </div> <p>C-2</p>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>CRITERION 3: The syllabus should include a minimum of two writing and/or speaking assignments that are substantial in depth, quality, and quantity. Substantial writing assignments entail sustained in-depth engagement with the material. Examples include research papers, reports, articles, essays, or speeches that reflect critical inquiry and evaluation. Assignments such as brief reaction papers, opinion pieces, reflections, discussion posts, and impromptu presentations are not considered substantial writing/speaking assignments.</p> <p style="text-align: right;">Course Syllabus: Research paper; Final Presentation</p>
<p>1. Please provide relatively detailed descriptions of two or more substantial writing or speaking tasks that are included in the course requirements</p>		
<p>2. Also:</p> <div style="border: 1px solid black; border-radius: 50%; padding: 20px; text-align: center;"> <p style="background-color: yellow;">Please circle, underline, or otherwise mark the information presented in the most recent course syllabus (or other material you have submitted) that verifies this description of the grading process --and label this information "C-3".</p> </div> <p>C-3</p>		

ASU - [L] CRITERIA

YES	NO		Identify Documentation Submitted
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>CRITERION 4: These substantial writing or speaking assignments should be arranged so that the students will get timely feedback from the instructor on each assignment in time to help them do better on subsequent assignments. <i>Intervention at earlier stages in the writing process is especially welcomed.</i></p>	<p>Course Syllabus: See Research Project/Paper; Grading requirements</p>
<p>1. Please describe the sequence of course assignments--and the nature of the feedback the current (or most recent) course instructor provides to help students do better on subsequent assignments</p>			
<p>2. Also:</p> <div style="border: 1px solid black; border-radius: 50%; padding: 20px; text-align: center; margin: 10px auto; width: 80%;"> <p>Please circle, underline, or otherwise mark the information presented in the most recent course syllabus (or other material you have submitted) that verifies this description of the grading process--and label this information "C-4".</p> </div> <p>C-4</p>			

Course Prefix	Number	Title	General Studies Designation
HSE/EGR	290	Experimental Research Methods in Human Systems Engineering	L

Explain in detail which student activities correspond to the **specific** designation criteria.
Please use the following organizer to explain how the criteria are being met.

Criteria (from checksheet)	How course meets spirit (contextualize specific examples in next column)	Please provide detailed evidence of how course meets criteria (i.e., where in syllabus)
Criterion 1:	Half of the course grade is made up of writing assignments	Evidence for this can be found in the syllabus under the Grading policy subsection. A total of 150 points come from writing assignments.
Criterion 2	This course requires students to conduct a mini research project and write it up as a mini Journal article. This requires a literature review and synthesis, interpretation of data and integration and impact of observed results to previous literature.	Course Syllabus: Research paper subsection
Criterion 3	Students are required to write a 10-12 page research paper on a conducted research project. They are also required to give a class presentation on this project.	Course Syllabus: Research paper; Final Presentation
Criterion 4	The course is set up so that students write sections of the paper (e.g., Introduction, Methods, Results, Discussion) and receive graded feedback. This feedback can be used for constructing the final research paper in the course.	Course Syllabus: See Research Project/Paper and Grading requirements

Catalog Description

Introduction to the basics of research methodology as applied in Human Systems Engineering. Quantitative and experimental design from an applied perspective. Guided study of the process of conducting research within human systems engineering. Project topics range from research question generation and literature review to reporting of results.

Syllabus
Experimental Research Methods in Human Systems
Engineering

Instructor: Scotty Craig
Office: 150g
Room Number: SANCA 151

Course: EGR 290
Days: T/Th
Time: 10:30-11:45

Office Hours: T/TH 1:00-2:00; TBA

Email: scotty.craig@asu.edu **Subject heading: EGR 290**

Email for appointment outside office hours.

Text:

Cozby, P. C. & Bates, S. C. (2012). Methods in Behavioral Research, 11th edition.
Mountain View, CA: McGraw-Hill.

Publication Manual of the American Psychological Association, 6th edition. Washington, D.C.: APA.

Course Description

Introduction to the basics of research methodology as applied in Human Systems Engineering. Quantitative and experimental design from an applied perspective. Guided study of the process of conducting research within human systems engineering. Project topics range from research question generation and literature review to reporting of results.

Prerequisites: EGR 290

Course Objectives & Learning Outcomes

Upon completion of this course students will be able to

1. Identify considerations involved in the conception, design, execution, analysis and reporting of quantitative experimental research within the human systems area.
2. Give examples of effective strategies for searching for information in a literature search.
3. Prepare a clearly written manuscript in APA style (This course will focus on APA style. It will follow the system for mechanics of writing, citation, referencing and manuscript organization that are detailed in the Publication Manual of the American Psychological Association.)
4. Describe the value of feedback, in clarifying thinking and written work,

Grading Requirements

Your grade in this class will be based on your performance on three types of assignments. These requirements will include weekly quizzes, a research paper, and final presentation on your results.

Quizzes

This class will consist of weekly quizzes. These quizzes will consist of multiple choice questions and one application/ short essay question. The quizzes will be administered in class following the lecture. You will have **15 minutes** to complete each quiz.

Research Project/Paper

The research project will culminate into a 10-12 page paper depending on length needed for topic coverage. This paper will be written as a research article in APA format with at least 5 references (journal articles preferred – If you will not have this, discuss it with your instructor). You will be required to turn in parts of this paper for comments during the course. At the end of the semester, you will turn in the final corrected paper for a grade. All papers will be checked for plagiarism using Safe Assign.

The final research paper will be due on November 26th.

Peer review

It is highly recommended that you have a classmate review each section of your paper before you turn it in. You will receive 1 bonus point for having your paper reviewed. Your peers will need to critically read your paper section and give feedback via the comment function in Microsoft word. When you turn in your section, you will need to identify the student that reviewed the section of the paper.

Final Presentation

The final presentation will consist of a 15 minute talk on your research project using power point. This talk will consist of information from all sections of your paper. (You **cannot** read your paper to the class.)

Grading policy

Your grade will be based on the following weightings. 300 points

Quizzes: 120 points

- 12 points each
- Drop lowest quiz

Research project: 150 points

- Research Prospectus: 10 points
- Introduction: 10 points
- Methods: 10 points
- Results: 10 points
- Discussion: 10 points
- Final paper: 100 points

Final Presentations: 30 points

Comment [SDC1]: C-2

Comment [SDC2]: C-3

Comment [SDC3]: C-4

Comment [SDC4]: C-3

Comment [SDC5]: C-1

Comment [SDC6]: C-4

Comment [SDC7]: C-4

Your course grade will be assigned according to the following scale:

Letter grade	Points
A	270-300
B	240-269
C	210-239
D	180-209
F	179

Standard rules of rounding will apply, so .5 and above will be rounded up to the next whole number. There will be no +/- grades.

Missed Assignments

There will be **no makeup assessments** for this class except in specific circumstances (i.e. religious practices and university-sanctioned activities). The course has built in drop grades to cover missed assignments. If for some reason, you must miss multiple assignments make sure that you contact me before the exam.

All written assignments are to be turned in on the day assigned by Midnight.

Academic Integrity

Students will be held to the statutes of academic integrity put forth in the “Student Code of Conduct” that can be found in the Student Handbook. <https://students.asu.edu/srr/code> Please review the Student Academic Integrity Policy on Academic Integrity and Plagiarism at <http://www.asu.edu/aad/manuals/acd/studentacint.html>

Please note that the University policies against Disruptive, Threatening, and Violent behavior will be enforced. Please review these in the Student Services Manual, SSM 104-02; <http://www.asu.edu/aad/manuals/ssm/ssm104-02.html> Any violent or threatening conduct by an ASU student in this class will be reported to the ASU Police Department and the Office of the Dean of Students.

Additionally, the use of use of pagers, cell phones, and recording devices is not permissible within the classroom without explicit consent from the instructor.

Before each quiz, make sure to put away all notes and preparatory materials, turn off all pagers and cell phones, and removed all hats. Testing irregularities could be construed as cheating by the instructor.

The course content, including lectures, is copyrighted material and students may not sell notes taken during the conduct of the course (see ACD 304-06, “Commercial Note Taking Services” for more information).

Students with Disabilities

Students registered with the Disability Resource Center (DRC) are strongly encouraged to talk to the instructor about any assistance that might be needed for this class. I am happy to make accommodations as needed. Please submit appropriate documentation from the DRC.

Class Schedule

We will try to keep to the schedule below. Test dates are subject to change as the semester progresses based on the needs of class and topic completion.

The information in the syllabus, other than grade and absence policies, may be subject to change with reasonable advance notice.

Class Schedule

Date	Topic Covered	Readings	Assignments
	Intro to the Class		
	Basics of Research	Ch. 1 & 2	
	How to do background research		
	Group work		Quiz
	Ethics and Research	Ch. 3	Research Prospectus
	Group work (Writing an Intro section)		Quiz
	Studying Behavior	Ch. 4	
	Group work (Topic refinement)		Quiz
	Measurement Concepts	Ch. 5	
	Group work (Help with Method section)		Quiz
	Experimental Design	Ch. 8	Introduction section
	Group work (SPSS & data analysis)		Quiz
	More Experimental Design	Ch. 9 & 10	
	Group work		Quiz
	Research designs: Quasi & others	Ch. 11	Method section
	Group work (Results section)		Quiz
	Description & Correlation	Ch. 12	Results section
	Group work (Discussion section)		Quiz
	Statistical Inference	Ch. 13	
	Group work / (References & Abstract)		Quiz
	Generalizing Results	Ch. 14	Discussion section
	Group work		Quiz
	Help with final paper – by appointment		
			Paper Due
	Class Research Presentations		

Guideline for Research Paper

Comment [SDC8]: C-2

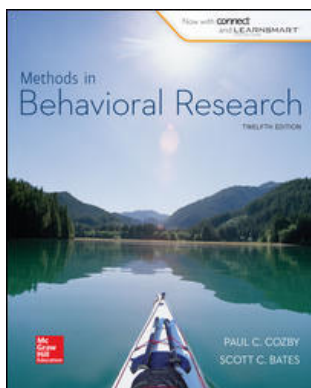
- I. **Introduction:** Explain the issue you are examining and why it is significant.
 - Describe the general area to be studied
 - Explain why this area is important to the general area under study
1. **Background/Review of the Literature:** A description of what has already known about this area and short discussion of why the background studies are not sufficient.
 - Summarize what is known about the field. Include a summary of the basic background information on the chosen topic (you need a minimum of 5 articles for this assignment)
 - Discuss several critical studies that have already been done in this area (APA style citation).
 - Point out why these background studies are insufficient. In other words, what question(s) do they leave unresolved that you would like to study?
 - Choose (at least) one of these questions you might like to pursue yourself. (Make sure you do not choose too many questions)
2. **Rationale:** A description of the questions you are examining and an exploration of the claims.
 - List the specific question(s) that you are exploring.
 - Explain how these research questions are related to the larger issues raised in the introduction.
 - Describe specific claims, hypothesis, and/or model that will be evaluated with these questions.
- II. **Method:** How would you collect the data and why?

Describe the general methodology you choose for your study, in order to test your hypothesis(es). Explain why this method is the best for your purposes.

 1. **Participants:**
 - Who would you test and why?
 - Describe the sample you would test and explain why you have chosen this sample. Include age, and language background and socio-economic information, if relevant to the design.
 - Are there any participants you would exclude? Why, why not?
 2. **Materials & Design:**
 - What would the stimuli look like and why?
 - Describe what kinds of manipulations (variables) will be implemented to test your hypothesis(es).
 - Describe the factors you would vary if you were presenting a person with stimuli.
 - Explain how varying these factors would allow you to confirm or disconfirm your hypotheses.
 - Explain what significant differences you would need to find to confirm or disconfirm your hypothesis(es). In particular, how could your hypothesis(es) be disconfirmed by your data?
 - Controls: What kinds of factors would you need to control for in your study?
 - Describe what types of effects would be likely to occur which would make your results appear to confirm, or to disconfirm your hypothesis(es).
 - Describe how you can by your design rule out or control for apparent effects.
 3. **Procedure**
 - How are you going to present the stimuli?
 - What is the participant in the experiment going to do?
- III. **Results**
 - How did you analyze the results?
 - Summary of results in statistical notation, narrative and table form.
- IV. **Discussion and Conclusion:**
 - Discuss, in general, how your proposed research would lead to a significant improvement over the original studies, and how it would benefit the field.
 - Five parts of a Discussion section
 1. Summary of findings
 2. Findings in relation to your hypothesis/predictions/research questions
 3. Implications of this support on the overall literature.
 - Explain what it shows about the area if your hypothesis is confirmed.
 - Explain what it will suggest about the area if your hypothesis is disconfirmed.
 4. Strengths and limitations of your study
 5. Conclusions and possible future directions.
- V. **References**
- VI. **Appendix**

HSE 290 List of required readings

Basics of Research	Ch. 1 & 2
How to do background research	
Group work	
Ethics and Research	Ch. 3
Group work (Writing an Intro section)	
Studying Behavior	Ch. 4
Group work (Topic refinement)	
Measurement Concepts	Ch. 5
Group work (Help with Method section)	
Experimental Design	Ch. 8
Group work (SPSS & data analysis)	
More Experimental Design	Ch. 9 & 10
Group work	
Research designs: Quasi & others	Ch. 11
Group work (Results section)	
Description & Correlation	Ch. 12
Group work (Discussion section)	
Statistical Inference	Ch. 13
Group work / (References & Abstract)	
Generalizing Results	Ch. 14



Methods in Behavioral Research

12TH EDITION

By Paul Cozby and Scott Bates

Copyright: 2015

Publication Date: Sep 30 2014

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The estimated amount of time this product will be on the market is based on a number of factors, including faculty input to instructional design and the prior revision cycle and updates to academic research-which typically results in a revision cycle ranging from every two to four years for this product.

RELATED PRODUCTS

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Chapter 1: Scientific Understanding of Behavior

Chapter 2: Where to Start

Chapter 3: Ethics in Behavioral Research

Chapter 4: Fundamental Research Issues

Chapter 5: Measurement Concepts

Chapter 6: Observational Methods

Chapter 7: Asking People About Themselves: Survey Research

Chapter 8: Experimental Design

Chapter 9: Conducting Experiments

Chapter 10: Complex Experimental Designs

Chapter 11: Single-Case, Quasi-Experimental, and Developmental Research

Chapter 12: Understanding Research Results: Description and Correlation

Chapter 13: Understanding Research Results: Statistical Inference

Chapter 14: Generalization

Appendix A: Reporting Research

Appendix B: Ethical Principles of Psychologists and Code of Conduct

Appendix C: Statistical Tests

Appendix C: Statistical Tests

Less