

**GEORGE MASON UNIVERSITY**  
**COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT**  
**GRADUATE SCHOOL OF EDUCATION**  
**Instructional Design and Technology (IDT)**

EDIT 590 DL1: Educational Research in Technology  
3 Credits, Fall 2016

**PROFESSOR:**

Name: Dr. Ryan Rucker

Office hours: By Appointment

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Email address: rrucker2@gmu.edu (I will respond to all emails within 48 hours)

**Prerequisites/Corequisites**

None

**University Catalog Course Description**

Focuses on developing skills, insights, and understanding basics to performing research with emphasis on interpretation, application, critique, and use of findings in educational settings. Students develop expertise in action research methodology, design, and implementation.

**Course Overview**

This course introduces fundamental concepts and practices in educational research in technology. Specific applications of educational research methods to problems in instructional design, instructional and/or assistive technologies will be covered. Readings, discussions, and project assignments systematically follow the research design process to ultimately produce a research proposal as well as develop skills to evaluate educational research articles will be explored.

**Course Delivery Method**

This course will be delivered online using the asynchronous format via the Blackboard learning management system (LMS) housed in the MyMason portal. You will log in to the Blackboard course site using your Mason email name (everything before "@masonlive.gmu.edu") and email password. The course site will be available on Monday, August 22, 2016.

*Technical Requirements*

To participate in this course, students will need the following resources:

- High-speed Internet access with a standard up-to-date browser, either Internet Explorer or Mozilla Firefox. Opera and Safari are not compatible with Blackboard;
- Consistent and reliable access to their GMU email and Blackboard, as these are the official methods of communication for this course

- Students may be asked to create logins and passwords on supplemental websites and/or to download trial software to their computer or tablet as part of the course requirements.
- The following software plug-ins for PCs and Macs respectively, available for free downloading by clicking on the link next to each plug-in:
  - Adobe Acrobat Reader: <http://get.adobe.com/reader>
  - Adobe Flash Player: <https://get.adobe.com/flashplayer/>
- A headset microphone for use with the Blackboard Collaborate/Adobe Connect web conferencing tool

*Expectations*

- **Course Week:** Because asynchronous courses do not have a “fixed” meeting day, our week will **start** on Sunday, and **finish** on Saturday.
  - Dr. Rucker will produce some short lectures that will need to be reviewed weekly. In addition, **6** optional synchronous class sessions will be offered (see course schedule for meeting days/times) via Adobe Connect. The intent of these optional sessions is for students to receive any assistance or resolve any course-related issues.
- **Log-in Frequency:** Students must actively check the course Blackboard site and their GMU email for communications from the instructor, at a minimum this should be 3 times per week.
- **Participation:** Students are expected to actively engage in all course activities throughout the semester, which include viewing of all course materials, completing course activities and assignments, and participating in course discussions and group interactions.
- **Technical Competence:** Students are expected to demonstrate competence in the use of all course technology. Students are expected to seek assistance if they are struggling with technical components of the course.
- **Technical Issues:** Students should expect that they could experience some technical difficulties at some point in the semester and should, therefore, budget their time accordingly. Late work will not be accepted based on individual technical issues.
- **Workload:** Expect to log in to this course **at least 3 times a week** to read announcements, participate in the discussions, and work on course materials. Remember, this course is **not** self-paced. There are **specific deadlines** and **due dates** listed in the **CLASS SCHEDULE** section of this syllabus to which you are expected to adhere. It is the student’s responsibility to keep track of the weekly course schedule of topics, readings, activities and assignments due.
- **Advising:** If you would like to schedule a one-on-one meeting to discuss course requirements, content or other course-related issues, we can meet via telephone or web

conference. Send me an email to schedule your one-on-one session and include your preferred meeting method and suggested dates/times.

- **Netiquette:** Our goal is to be **collaborative**, not combative. Experience shows that even an innocent remark in the online environment can be misconstrued. I suggest that you always re-read your responses carefully before you post them to encourage others from taking them as personal attacks. **Be positive in your approach to others and diplomatic with your words.** I will do the same. Remember, you are not competing with each other but sharing information and learning from one another as well as from the instructor.
- **Accommodations:** Online learners who require effective accommodations to insure accessibility must be registered with George Mason University Disability Services.

## **Learner Outcomes**

At the conclusion of this course, students will be able to:

- Identify various methods of research suitable for different purposes in the field of instructional design and technology
- Compare/contrast quantitative, qualitative, and mixed methods research approaches
- Discuss basic theories and methods of action research in the field of instructional design and technology
- Describe the most common tools for research data analyses in the field of instructional design and technology
- List the most common components or sections of a research study required for publication
- Analyze and critique a published research study in the field of instructional design and technology
- Design a small research study incorporating the most common components or sections required for publication

## **Professional Standards (2012 International Board of Standards for Training, Performance and Instruction (IBSTPI)):**

1. Professional Foundations
  1. Communicate effectively in visual, oral, and written form
  2. Apply research and theory to the discipline of instructional design
  4. Apply data collection and analysis skills in instructional design projects
  5. Identify and respond to ethical, legal, and political implications of design in the workplace

## **Required Texts**

Creswell, J. (2013). *Research design: Qualitative, Quantitative, and Mixed Methods Approaches* (4<sup>th</sup> ed.).

## **Course Performance Evaluation**

Students are expected to submit all assignments on time in the manner outlined by the instructor.

- **Assignments**

- 1) Infographic (4 points)

To help introduce yourself to fellow classmates and Dr. Rucker, you will have to create an infographic during the first week of the course. Detailed instructions on using Piktochart (free Web 2.0 infographic tool) will be provided to you during the first week on Blackboard.

This assignment should be submitted via the discussion board on Blackboard.

- 2) Research Proposal (45 points)

Throughout the semester you will develop a “mini” research proposal (10-15 pages). I will provide more details about this product as we move through the semester, but basically I will be asking you to draft the proposal in pieces as we move through the subject matter of the class. Near the end of the semester you will have a complete draft, which you will submit for peer review by other members of the class (and me). Based on your peer review and my comments on pieces or the complete draft, you will have the opportunity to revise and ultimately submit the proposal for grading. I expect the proposal to have the following sections:

- a. A statement of the problem to be addressed via the proposal, including an introduction relating your reason for undertaking the research (significance) and leading to a statement of research question(s), problem, or issue, which is guiding the research. Typically, 1-4 paragraphs in-length.
- b. An abbreviated review of theory and research related to the problem (your literature review)—I will ask for a minimum of four articles, though you are welcome to include more to suit your own purposes. Typically, 9-15 paragraphs in-length.
- c. Methodological details—including a description of the data collection approach, desired participants, approach to recruitment of participants, drafts of data collection instruments (e.g. questionnaire, interview or observation guide), your approach to managing the data that you collect, etc.—the who, what, where, why, and how of your research. Typically, 5-15 paragraphs in-length.
- d. A tentative analysis plan—what you plan to do with the data to make sense of it, and
- e. List of references—items referred to in the proposal.

The Research Proposal assignment is a performance-based assessment, the grading for which is located at the end of this syllabus. This assignment must be uploaded to Blackboard under the ASSESSMENTS link.

- 3) Articles Selection (15 points)

To complete the research proposal, you will need to conduct a short literature review. In order to conduct any literature review, various articles (e.g., journal articles) must be

located. For this assignment, you will need to locate 4 to 8 articles that you plan on using in the literature review. Once you locate these articles, cite these articles in proper APA, and submit the citations in a Microsoft Word document.

This assignment should be submitted on Blackboard (under Week #9's folder).

4) Article Critique (15 points)

Using one of the articles identified in the Articles Selection assignment, you will perform a no less than 2-page but no more than 3-page double-spaced article critique. Dr. Rucker will provide more details on what questions to answer in your critique throughout the semester.

This assignment should be submitted on Blackboard (under Week #10's folder).

5) Research Blogs (21 points/3 points per blog)

For some of the weeks in the course, we will discuss elements related to your research proposal (e.g., selecting the research method). During these weeks, you will need to draft a copy of that particular section that you will place within the research proposal.

Remember, this is an early draft of that particular section—a work in progress—not your final version. In addition to posting your draft, students are expected to comment/provide feedback to at least 3 classmates. Note: 2 points are given for posting your draft and 1 point for commenting.

Each blog entry and comments to peers will be submitted via the Blackboard blogging tool.

- **Grading Policy**

*Grading Scale:*

A+	97-100 points
A	94-96 points
A-	92-93 points
B+	90-92 points
B	85-89 points
B-	80-84 points
C	70-79 points
F	0-69 points

**\*\*Note: A+ are given to those students who exceed (go over and beyond) the assignment requirements. \*\***

### *Late Work Policy*

I will accept assignments up to one week late, with the exception of the Research Proposal, for a 20% deduction off of the final grade. The Research Proposal cannot be submitted late—do not ask for an extension. All due dates for each assignment are provided to you in the schedule within this course syllabus. Please bookmark these dates on your personal calendar.

### **Professional Dispositions**

Students are expected to exhibit professional behaviors and dispositions at all times.

### **Core Values Commitment**

The College of Education & Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles: <http://cehd.gmu.edu/values/>.

## **GMU POLICIES AND RESOURCES FOR STUDENTS**

### *Policies*

- Students must adhere to the guidelines of the George Mason University Honor Code (See <http://oai.gmu.edu/the-mason-honor-code/>).
- Students must follow the university policy for Responsible Use of Computing (See <http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>).
- Students are responsible for the content of university communications sent to their George Mason University email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students **solely** through their Mason email account.
- Students with disabilities who seek accommodations in a course must be registered with the George Mason University Office of Disability Services (ODS) and inform their instructor, in writing, at the beginning of the semester (See <http://ods.gmu.edu/>).
- Students must follow the university policy stating that all sound emitting devices shall be turned off during class unless otherwise authorized by the instructor.

### *Campus Resources*

- Support for submission of assignments to Tk20 should be directed to [tk20help@gmu.edu](mailto:tk20help@gmu.edu) or <https://cehd.gmu.edu/api/tk20>. Questions or concerns regarding use of Blackboard should be directed to <http://coursesupport.gmu.edu/>.

- The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing (see <http://writingcenter.gmu.edu/>).
- The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance (See <http://caps.gmu.edu/>).
- The George Mason University Office of Student Support staff helps students negotiate life situations by connecting them with appropriate campus and off-campus resources. Students in need of these services may contact the office by phone (703-993-5376). Concerned students, faculty and staff may also make a referral to express concern for the safety or well-being of a Mason student or the community by going to <http://studentsupport.gmu.edu/>, and the OSS staff will follow up with the student.

**For additional information on the College of Education and Human Development, Graduate School of Education, please visit our website <http://gse.gmu.edu/>.**

### Class Schedule

Week #	Learning Module	Textbook Readings Weekly Activities	Due Dates *Saturday by 11:59 pm EST
1 (August 29-September 3)	Welcome	<ul style="list-style-type: none"> <li>• Buy required textbook</li> <li>• Review syllabus/schedule</li> </ul> <p>Optional Virtual Class #1: Wednesday, August 31 (7:30 pm-8:30 pm)</p>	Infographic
2 (September 4-10)	What is Research	<ul style="list-style-type: none"> <li>• Read Chapter 1 (p. 3-23)</li> <li>• Select research topic</li> </ul>	Research Blog #1 (Select a topic)
3 (September 11-17)	Identifying Purpose	<ul style="list-style-type: none"> <li>• Read Chapter 6 (p. 123-138)</li> <li>• Write purpose statement</li> </ul> <p>Optional Virtual Class #2: Wednesday,</p>	Research Blog #2 (Purpose and Problem Statement)

		September 14 (7:30 pm-8:30 pm)	
4 (September 18-24)	Research Questions	<ul style="list-style-type: none"> <li>• Read Chapter 7 (p. 139-154)</li> <li>• Write 2-4 research questions for your study</li> </ul>	Research Blog #3 (Research Questions)
5 (September 25-October 1)	Quantitative Research	<ul style="list-style-type: none"> <li>• Read Chapter 8 (p. 155-182)</li> </ul>	
6 (October 2-8)	Qualitative Research	<ul style="list-style-type: none"> <li>• Read Chapter 9 (p. 183-213)</li> </ul>	
7 (October 9-15)	Mixed Methods & Selecting Method	<ul style="list-style-type: none"> <li>• Read Chapter 10 (p. 215-239)</li> <li>• Select the method to be used for study</li> </ul> <p>Optional Virtual Class #3: Wednesday, October 12 (7:30 pm-8:30 pm)</p>	Research Blog #4 (Research Method)
8 (October 16-22)	Instrument/Data Collection	<ul style="list-style-type: none"> <li>• Draft an instrument used for data collection</li> </ul>	Research Blog #5 (Instrument Selection)
9 (October 23-29)	Literature Reviews & Locating Articles	<ul style="list-style-type: none"> <li>• Locate articles for literature review</li> </ul> <p>Optional Virtual Class #4: Wednesday, October 26 (7:30 pm-8:30 pm)</p>	Articles Selection
10 (October 30-November 5)	Article Critique	<ul style="list-style-type: none"> <li>• Critique an article</li> </ul>	Article Critique
11 (November 6-12)	Writing Literature Review	<ul style="list-style-type: none"> <li>• Draft a literature review</li> </ul> <p>Optional Virtual Class #5: Wednesday, November 9 (7:30 pm-8:30 pm)</p>	Research Blog #6 (Literature Review Draft)
12 (November 13-19)	Work on Draft	<ul style="list-style-type: none"> <li>• Work on the draft of your proposal</li> </ul> <p>Optional Virtual Class #6: Wednesday, November 16 (7:30 pm-8:30 pm)</p>	
13 (November 20-26)	Submit Draft &	<ul style="list-style-type: none"> <li>• Submit draft of your</li> </ul>	Research Blog #7

	Provide Feedback	<ul style="list-style-type: none"> <li>proposal to blog</li> <li>• Provide feedback to at least 3 classmates.</li> </ul>	(Proposal Draft)
14 (November 27-December 3)	Revise Feedback	<ul style="list-style-type: none"> <li>• Review feedback</li> </ul>	
15 (December 4-10)	Submit Research Proposal	<ul style="list-style-type: none"> <li>• <b>Research Proposal due by December 10 at 11:59 pm ET</b></li> </ul>	Research Proposal

## Assessment Rubric

### Research Proposal Grading Rubric

IBSTPI Competency	Criteria	Does Not Meet Standards	Meets Standards	Exceeds Standards
<b>Professional Foundations: 1: Communicate effectively in written &amp; oral form</b>	<b>Introduction</b>	Poorly formulated/no introduction; no evidence specific to the topic  Point values: 0-1	Fairly well formulated introduction supported by weak sources of evidence specific to the topic  Point values: 2-3	Well formulated introduction supported by strong sources of evidence specific to the topic  Point values: 4-5
<b>Professional Foundations: 2: Apply current research and theory to the discipline of instructional design</b>	<b>Research topic/problem</b>	Poorly posed/missing problem statement; no evidence to support the problem  Point values: 0-1	Fairly well posed statement of the problem but evidence to support the problem is weak  Point values: 2-3	Very clearly posed statement of the problem supported by strong evidence  Point values: 4-5
<b>Professional Foundations: 2: Apply current research and theory to the discipline of instructional design</b>	<b>Purpose of the study</b>	Purpose of the study is poorly stated/missing or does not connect with the introduction and/or problem statement  Point values: 0-1	Fairly well stated purpose that connects to the introduction and the problem statement  Point values: 2-3	Very clearly stated purpose that connects well to the introduction and the problem statement  Point values: 4-5
<b>Professional Foundations: 5: Identify ethical, legal &amp; political implications of design in the workplace</b>	<b>Literature review</b>	Superficial review of the literature that does not analyze the findings to identify study limitations justifying the proposed study; fewer than four empirical research study references included  Point values: 0-3	Thorough review of the literature that summarizes the findings but does not use study limitations to justify the proposed study; four or fewer empirical research study references included  Point values: 4-6	Thorough review of the literature that analyzes previous studies and findings whose limitations justify the proposed study; a minimum of four (4) empirical research study references included  Point values: 7-10

<b>IBSTPI Competency</b>	<b>Criteria</b>	<b>Does Not Meet Standards</b>	<b>Meets Standards</b>	<b>Exceeds Standards</b>
<b>Professional Foundations: 4: Apply data collection &amp; analysis skills to instructional design projects</b>	<b>Research questions/ hypotheses</b>	Poorly stated/missing research questions/ hypotheses; no basis in research problem or study purpose  Point values: 0-1	Fairly well stated research questions/ hypotheses based somewhat on research problem and study purpose  Point values: 2-3	Well stated research questions/hypotheses based on research problem and study purpose  Point values: 4-5
<b>Professional Foundations: 4: Apply data collection &amp; analysis skills to instructional design projects</b>	<b>Methodology</b>	Superficial/missing description of methodology elements; methodology is not appropriate to research questions/ hypotheses  Point values: 0-1	Detailed description of two to three methodology elements; methodology is appropriate to research questions/ hypotheses  Point values: 2-3	Detailed description of all four methodology elements - research design, participants/ respondents, data collection and analysis methods; methodology is appropriate to research questions/ hypotheses  Point values: 4-5
<b>Professional Foundations: 1: Communicate effectively in written &amp; oral form</b>	<b>Language</b>	Rules of English grammar, usage, spelling and punctuation are not followed; multiple language errors throughout the proposal  Point values: 0-1	Rules of English grammar, usage, spelling and punctuation are generally followed throughout the proposal; one or two minor language errors  Point values: 2-3	Rules of English grammar, usage, spelling and punctuation are followed consistently throughout the proposal; no language errors  Point values: 4-5
<b>Professional Foundations: 1: Communicate effectively in written &amp; oral form</b>	<b>APA style</b>	Does not adhere to APA 6 <sup>th</sup> edition style in the proposal  Point values: 0-1	Generally adheres to APA 6 <sup>th</sup> edition style throughout the proposal  Point values: 2-3	Consistently adheres to APA 6 <sup>th</sup> edition style throughout the proposal  Point values: 4-5