



**The University of Texas at El Paso  
College of Health Sciences  
Clinical Laboratory Science Program**

<b>Course Title:</b>	Clinical Investigation
<b>Course Number:</b>	CLSC 4274
<b>Course Delivery:</b>	Online
<b>Credit Hours:</b>	2
<b>Course Coordinator:</b>	Gabriel Ibarra-Mejia, M.D., Ph.D., MScErg
<b>Office no. and phone:</b>	Virtual Office in Blackboard <a href="https://blackboardlearn.utep.edu/ultra/courses/1216321/cl/outline">https://blackboardlearn.utep.edu/ultra/courses/ 1216321/cl/outline</a>
<b>Office email:</b>	<a href="mailto:gabmejia@utep.edu">gabmejia@utep.edu</a>
<b>Office hours:</b>	Mondays 10:00am-12:00pm & 2:00-4:00pm.

## **COURSE INFORMATION**

### **Course Description**

The clinical investigation course CLSC 3274 will cover research in medical/clinical settings with a focus on research planning, design, data collection and dissemination, and evaluation of published studies. Students will design and perform research to include proposal writing. Correlation of disease states and changes in laboratory values will also be included as case studies.

### **Types of Instruction:**

This course is in a fully-online and asynchronous delivery format. Learning methods involved in this course include independent reading assignments, group activities, homework, a research project report or poster, and exams/quizzes. If required, it may include online meetings.

### **Course Goal**

The Clinical Laboratory Scientist serves in a research role in numerous instances in the clinical laboratory. In accordance with the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), Standard 22 B, the student will acquire knowledge of research design/practice sufficient to evaluate published studies as an informed consumer.

### **Course Goals:**

To successfully complete the Clinical Investigation course, the student will:

1. Demonstrate a basic understanding of the scientific method and use it to design and test a hypothesis, analyze data and present the project to colleagues in an academic format.
2. Demonstrate the ability to locate, critically read, and fundamentally understand and interpret scientific literature.

3. Understand the history and importance of scientific ethics in human subjects research.
4. Demonstrate an understanding of the regulatory processes in place for human protections in scientific research and be able to submit a human scientific study protocol for approval.
5. Demonstrate basic functional skills of statistical methods for data evaluation.
6. Understand the implication of quality control and quality assurance in the pre-analytical, analytical, and post-analytical collection of clinical samples for clinical research.
7. Demonstrate the ability to design, execute, and troubleshoot a scientific protocol.
8. Demonstrate the ability to actively discuss and debate scientific questions.
9. Demonstrate and employ effective interpersonal, professional, and group communication skills.

## **Objectives**

Upon completion of the course, the student should be able to:

### *Introduction to Clinical Investigation*

1. Define what is meant by a method.
2. Outline some common methods of scientific inquiry.
3. Outline the scientific method
4. Compare qualitative and quantitative approaches to research
5. Discuss how the scientific method is applied to conducting health science research
6. Define authority, rationalism, and intuition
7. Define skepticism, determinism, and empiricism
8. Understand the difference between a hypothesis and a theory
9. Understand the concept of deductive reasoning
10. Understand and define the differences between observational and experimental study designs
11. Understand the differences between retrospective and prospective studies
12. Understand how to critically break down, read and understand a scientific journal article
13. Define the 4 stages involved in a clinical trial study

### *Human subject protections, regulatory boards, and research ethics*

1. Understand the history leading to the establishment of guidelines for conducting human subjects research
2. Understand the role of the Institutional Review Board (IRB) in the approval and regulation of human studies
3. Understand what is meant by “protected groups.”
4. Understand and explain the procedure and purpose for giving informed consent for children, adults and protected groups
5. Explain the principles of justice, beneficence and respect for persons in human subjects research
6. Define the principles of exempt, expedited and full-board reviews of human subjects studies
7. Explain what constitutes human subject privacy and confidentiality
8. Define the 18 key identifiers of patient identity in human subjects research

9. Understand what constitutes ethical behavior in clinical research
10. Understand how privacy, minimization of subject discomfort and coercion impact human subjects research

#### *Design and Performance of Human Subjects Research*

1. Discuss how research questions are selected and justified
2. Specify how questions are transformed into empirically testable hypotheses or aims
3. Broadly outline research strategies available for specific types of investigations
4. Discuss the ethical and economic constraints on the planning and execution of research
5. Understand the difference between and be able to define experimental, quasi-experimental, single-case research, survey, and qualitative research studies
6. Define what is meant by sampling and representative samples
7. Outline the relative advantages and disadvantages of commonly used sampling methods.
8. Discuss the relationship between sampling error and sample size
9. Examine the concept of external validity for generalizing research findings to other settings.
10. Understand the process for individual and population sample selection within a study
11. Explain the difference between random, incidental and systemic study sampling
12. Understand the implication of quality control and quality assurance in the pre-analytical, analytical and post-analytical collection of clinical samples for clinical research

#### *Data Evaluation and Reporting*

1. Identify the strengths and weaknesses of research publications
2. Identify, describe and understand the critical components of a research article
3. Discuss the implications of identifying problems in the design, measurement, and analysis in a given publication
4. Outline strategies for summarizing and analyzing evidence from a set of papers
5. Discuss the implications of critical evaluation of research from health care practices
6. Understand and utilize appropriate statistical modalities to analyze and interpret experimentally-obtained data.
7. Outline and discuss conclusions drawn from experimental data and statistical analyses
8. Describe the features of a successful scientific lecture and poster presentation
9. Construct a poster outlining each of the aspects of the classroom research project and present the poster to classmates and professional colleagues

### **LEARNING MODULES**

This course is designed using a modular format—that is, each module “packaged” into several weeks, so that all the materials, lecture notes, submission areas, discussion posts are in one area for a given week:

Module 1: An introduction to research – weeks 1-3

Module 2: Starting a research study – weeks 4-7

Module 3: Selecting a population and the research design – weeks 8-13

Module 4: Planning the study – weeks 14-15

## REQUIRED MATERIALS



**Introduction to Health Research Methods: A Practical Guide; Kathryn Jacobsen,  
2<sup>nd</sup> ed, © 2017**

## COURSE ASSIGNMENTS AND GRADING

### Course Grading:

50% Course exams (Three online sections exams-10% each and a course final-20%)

30% Class research project

10% Class homework assignments

10% Service-based learning and participation in the research project activities

### Grading Scale:

A 90-100%

B 80-89%

C 75-79%

D 70-74%

Failing 69% and below

**Exams.** Three standard semester exams will be administered online via BlackBoard. A final exam of the same format will be administered online during finals week. Exams will primarily include multiple choice and true/false questions about the material discussed in class.

**Group research project.** Students will participate in a class-wide group research project about some aspects of Clinical Laboratory Science. This project will be one that engages the student in the active research process while also walking students through the intellectual process of scientific inquiry. Students will learn how methods behind designing, executing, and presenting clinical research projects. The project does not have to be presented to the class. However, a proposal must be submitted during the second week of the course, and students will be expected to participate in the collection and/or analysis of data for the project throughout the semester.

**Homework.** Students will be asked to complete homework assignments that reinforce the material learned during the duration of the course. The assignments will ask the student to synthesize the information gained from the lectures and apply them to “real-world” research problems. No late homework assignments will be accepted. Homework submitted after the due date will receive a grade of zero. As part of the homework, students will be required to create a poster detailing the class project to be presented on the day of the Course Final.

**Service-based learning.** Each student will be asked to contribute to data collection and analysis activities as part of the course grade. Participation in service-based learning activities tied to an active research project will provide opportunities for students to develop skills in community engagement, leadership, and communication.

**Attendance and participation.** Students are expected to attend class regularly, be prepared for the day’s work, and actively participate in the learning process. Attendance and participation will be included as part of the Affective Domain assessment for the course and will be used in grade calculation. Being tardy for class can be disruptive to other students, so being on time and prepared to begin is important. In-class activities (individual and group) will be used as an objective measure of student participation.

Examples of absences are included below:

Acceptable Absences: Medical emergencies, military deployment, UTEP-approved activities

Unacceptable Absences: Vacations, doctor’s appointments, personal meetings, chronic tardiness

## **STUDENT GRADE APPEALS AND DISMISSAL**

**Dismissal Policy (CLS Student Handbook, Section IX).** Students will be dismissed from the Clinical Laboratory Sciences Program for unsatisfactory academic performance defined as a cumulative grade of **less than 75%** in any CLS course.

### **Grade Appeals Process**

**(<http://sa.utep.edu/studentlife/#grade-grievance>)**

Those students who believe that they have been evaluated unfairly have options for appeal. The due process procedure is as follows (*CLS student handbook, section XI*):

**Step 1:** Attempt to resolve the difficulty with the faculty member.

**Step 2:** If the dispute cannot be resolved in Step 1, the student may appeal to the program director within 5 school days, stating the evidence for the continued dispute in writing.

**Step 3:** If the matter remains unresolved, a written complaint outlining the evidence and reason for the dissatisfaction of the decision must be submitted to the Assistant Dean of the College of Health Sciences. The Assistant Dean will call upon the Due Process Committee to review and make recommendations to the Assistant Dean based on statements, written evidence, and interviews with all parties involved.

**Step 4:** If an unsatisfactory solution has been reached, the complainant will then notify the Dean within five (5) school days, who will pursue the matter with the Vice President for Student Affairs.

### **TECHNOLOGY REQUIREMENTS**

Course content is delivered via the Internet through the Blackboard learning management system. Ensure your UTEP e-mail account is working and that you have access to the Web and a stable web browser. Google Chrome and Mozilla Firefox are the best browsers for Blackboard; other browsers may cause complications. When having technical difficulties, update your browser, clear your cache, or try switching to another browser.

You will need to have access to a computer/laptop, a scanner, a webcam, and a microphone. You will need to download or update the following software: Microsoft Office, Adobe Acrobat Reader, Windows Media Player, QuickTime, and Java. Check that your computer hardware and software are up-to-date and able to access all parts of the course.

If you do not have a word-processing software, you can download Word and other Microsoft Office programs (including Excel, PowerPoint, Outlook and more) for free via UTEP's Microsoft Office Portal. Click the following link for more information about Microsoft Office 365 and follow the instructions.

***IMPORTANT:*** If you encounter technical difficulties beyond your scope of troubleshooting, please contact the UTEP Help Desk as they are trained specifically in assisting with the technological needs of students. Please do not contact me for this type of assistance. The Help Desk is much better equipped than I am to assist you!

### **COURSE COMMUNICATION**

Because this is an online class, we won't see each other in the ways you may be accustomed to: during class time, small group meetings, and office hours. However, there are several ways we can keep the communication channels open:

- Office Hours: We will not be able to meet on campus, but I will still have office hours for your questions and comments about the course. My office hours will be held on Blackboard Collaborate using this link: [https://blackboardlearn.utep.edu/ultra/courses/\\_121632\\_1/cl/outline](https://blackboardlearn.utep.edu/ultra/courses/_121632_1/cl/outline) and during the following times:

Mondays: 10-12 & 2-4 p.m. Mountain Time

- E-mail: UTEP e-mail is the best way to contact me. I will make every attempt to respond to your e-mail within 24-48 hours of receipt. When e-mailing me, be sure to e-mail from your UTEP student account, and please put the course

number in the subject line. In the body of your e-mail, clearly state your question. At the end of your e-mail, be sure to put your first and last name, and your university identification number.

- Discussion Board: If you have a question that you believe other students may also have, please post it in the Help Board of the discussion boards inside of Blackboard. Please respond to other students' questions if you have a helpful response.
- Announcements: Check the Blackboard announcements frequently for any updates, deadlines, or other important messages.

## **NETIQUETTE**

As we know, sometimes, communication online can be challenging. It's possible to miscommunicate what we mean or to misunderstand what our classmates mean, given the lack of body language and immediate feedback. Therefore, please keep these netiquette (network etiquette) guidelines in mind. Failure to observe them may result in disciplinary action.

- Always consider the audience. This is a college-level course; therefore, all communication should reflect polite consideration of other's ideas.
- Respect and courtesy must be provided to classmates and to the instructor at all times. No harassment or inappropriate postings will be tolerated.
- When reacting to someone else's message, address the ideas, not the person. Post only what anyone would comfortably state in a face-to-face situation.
- Blackboard is not a public internet venue; all postings to it should be considered private and confidential. Whatever is posted on in these online spaces is intended for classmates and professors only. Please do not copy documents and paste them to a publicly accessible website, blog, or other space.

## **GENERAL COURSE POLICIES:**

**Attendance & participation:** Attendance in the course is determined by participation in the learning activities of the course. Your participation in the course is essential not only for your learning and success but also to create a community of learners.

Participation is determined by completion of the following activities:

- Reading/Viewing all course materials to ensure understanding of assignment requirements
- Participating in an engaging discussion with your peers on the discussion boards (grading rubric provided in the "grading information" area of each forum)
- Participating in scheduled Blackboard Collaborate sessions
- Other activities as indicated in the weekly modules

Because these activities are designed to contribute to your learning each week, they cannot be made up after their due date has passed.

**Excused absences and/or course drop policy:** According to UTEP Curriculum and Classroom Policies, "When, in the judgment of the instructor, a student has been absent to such a degree as to impair his or her status relative to credit for the course, the instructor may drop the student from the class with a grade of "W" before the course drop deadline and with a grade of "F" after the course drop deadline." See academic

regulations in the UTEP Undergraduate Catalog for a list of excused absences. Therefore, if I find that, due to non-performance in the course, you are at risk of failing, I will drop you from the course. I will provide 24 hours advance notice via e-mail.

**OR**

I will not drop you from the course. However, if you feel that you are unable to complete the course successfully, please let me know and then contact the [Registrar's Office](#) to initiate the drop process. If you do not, you are at risk of receiving an "F" for the course.

**Blackboard collaborate sessions:** This class may require that you participate in scheduled Blackboard Collaborate sessions. The purpose of these sessions is for you to view live demonstrations of the course material and/or to participate in small discussion groups with your classmates. If needed, these sessions will be scheduled as needed. If needed, students are expected to, at least occasionally, participate in these sessions with a webcam and microphone. The sessions will be recorded and provided so that they can be reviewed by classmates at a later time. Students should not record the sessions and post them to any sites outside of Blackboard. If you are unable to attend a Collaborate session, please let me know as soon as possible so that accommodations can be made when appropriate.

**Deadlines, late work, and absence policy:**

Major Writing Assignments

- Major writing assignments will be due on Sundays at midnight (11:59 PM). No late work will be accepted if the reason is not considered excusable. Submission of late work, make up assignments, or others will need to be discussed directly between the student and the instructor in a case by case basis.

Quiz and Discussion Assignments

- All quizzes and discussion board assignments will be due on Sundays at midnight (11:59 PM). No make-up or retakes of quizzes and late discussion entries will be allowed.

**Make-up work:** Make-up work will be given only in the case of a documented emergency. Note that make-up work may be in a different format than the original work, may require more intensive preparation, and maybe graded with penalty points. If you miss an assignment and the reason is not considered excusable, you will receive a zero. It is therefore vital to reach out to me—in advance if at all possible—and explain with proper documentation why you missed a given course requirement. Once a deadline has been established for make-up work, no further extensions or exceptions will be granted.

**Alternative means of submitting work in case of technical issues:** I strongly suggest that you submit your work with plenty of time to spare if you have a technical issue with the course website, network, and/or your computer. I also suggest you save all your work (answers to discussion points, quizzes, exams, and essays) in a separate Word document as a back-up. This way, you will have evidence that you completed the work and will not lose credit. If you are experiencing difficulties submitting your work through the course website, please contact the UTEP Help Desk. You can e-mail me your back-up document as a last resort.



**Incomplete grade policy:** Incomplete grades may be requested only in exceptional circumstances after you have completed at least half of the course requirements. Talk to me immediately if you believe an incomplete is warranted. If granted, we will establish a contract of work to be completed with deadlines.

**Accommodations policy:** The University is committed to providing reasonable accommodations and auxiliary services to students, staff, faculty, job applicants, applicants for admissions, and other beneficiaries of University programs, services and activities with documented disabilities to provide them with equal opportunities to participate in programs, services, and activities in compliance with sections 503 and 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA) of 1990 and the Americans with Disabilities Act Amendments Act (ADAAA) of 2008. Reasonable accommodations will be made unless it is determined that doing so would cause undue hardship on the University. Students requesting accommodation based on a disability must register with the [UTEP Center for Accommodations and Support Services](#) (CASS). Contact the Center for Accommodations and Support Services at 915-747-5148, or e-mail them at [cass@utep.edu](mailto:cass@utep.edu), or apply for accommodations online via the [CASS portal](#).

**COVID-19 Accommodations:** Students are not permitted on campus when they have a positive COVID-19 test, exposure, or symptoms. If you are not permitted on campus, you should contact me as soon as possible so we can arrange necessary and appropriate accommodations.

**Scholastic integrity:** Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes, but is not limited to, cheating, plagiarism, and collusion. Cheating may involve copying from or providing information to another student, possessing unauthorized materials during a test, or falsifying research data on laboratory reports. Plagiarism occurs when someone intentionally or knowingly represents the words or ideas of another as ones' own. Collusion involves collaborating with another person to commit any academically dishonest act. Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. All suspected violations of academic integrity at The University of Texas at El Paso must be reported to the [Office of Student Conduct and Conflict Resolution \(OSCCR\)](#) for possible disciplinary action. To learn more, please visit [HOOP: Student Conduct and Discipline](#).

**Class recordings:** The use of recordings will enable you to have access to class lectures, group discussions, and so on in the event, you miss a **synchronous** or in-person class meeting due to illness or other extenuating circumstances. Our use of such technology is governed by the Federal Educational Rights and Privacy Act (FERPA) and UTEP's acceptable-use policy. A recording of class sessions will be kept and stored by UTEP, in accordance with FERPA and UTEP policies. Your instructor will not share the recordings of your class activities outside of course participants, which include your fellow students, teaching assistants, or graduate assistants, and any guest faculty or community-based learning partners with whom we may engage during a class session. **You may not share recordings outside of this course.** Doing so may result in

disciplinary action. Any student found to be in violation of this policy will be subject to disciplinary action that may include dismissal from the course, the CLS program, and the University.

**Test proctoring software:** Major course assessments will make use of Respondus LockDown Browser and Respondus Monitor inside of Blackboard to promote academic integrity. You are encouraged to learn more about how to use these programs before the first test.

Please review the following guidelines:

- The assessments will only be available at the times identified on the course calendar.
- You may take the test at any time during the 24-hour window.
- A reliable Internet connection is essential to completing the exam. If you must go to a location to take the exam (such as the library), be sure to follow their health and safety requirements.
- You have 1 attempt to take the test. Once the window closes, your answers will be saved, and no changes can be made. The higher score will be recorded.
- Respondus Lockdown Browser will require that all internet tabs are closed before the start of the test.
- Respondus Monitor requires a webcam and microphone.
- You will be required to show the webcam your student ID before the start of the test.
- Your face should be completely visible during the test. Blocking the camera will disable the test.
- No notes or textbook materials are permitted during the test. Respondus Monitor requires you to take a video of your surrounding area (desk, chair, walls, etc.)
- You should not have conversations with other people and/or leave and return to the area during the test.

**Plagiarism detecting software:** Some of your course work and assessments may be submitted to SafeAssign, a plagiarism detecting software. SafeAssign is used to review assignment submissions for originality and will help you learn how to correctly attribute sources rather than paraphrase.

**Copyright statement for course materials:** All materials used in this course are protected by copyright law. The course materials are only for the use of students currently enrolled in this course and only for the purpose of this course. They may not be further disseminated.

**Behavioral Conduct.** The student is expected to conduct themselves respectfully and professionally. No disrespect toward the instructor OR to other students will be tolerated. Students found to be acting contrary to this policy will be counseled, may be referred to the Program Chair, and may be subject to disciplinary action.

**University Counseling Center.** If you have personal issues and require assistance, counseling services and resources are available online and in-person through the Division of Student Affairs. You can access these services online (<http://sa.utep.edu/counsel/>), by phone (747-5302) or in person.

**Counseling Center  
202 Union West  
El Paso, Texas 79968**

**Course Resources:** Where you can go for assistance? UTEP provides a variety of student services and support:

*Technology Resources*

- [Help Desk](#): Students experiencing technological challenges (e-mail, Blackboard, software, etc.) can submit a ticket to the UTEP Helpdesk for assistance. Contact the Helpdesk via phone, e-mail, chat, website, or in-person if on campus.

*Academic Resources*

- [UTEP Library](#): Access a wide range of resources, including online, full-text access to thousands of journals and eBooks plus reference service and librarian assistance for enrolled students.
- [University Writing Center \(UWC\)](#): Submit papers here for assistance with writing style and formatting, ask a tutor for help and explore other writing resources.
- [Math Tutoring Center \(MaRCS\)](#): Ask a tutor for help and explore other available math resources.
- [History Tutoring Center \(HTC\)](#): Receive assistance with writing history papers, get help from a tutor, and explore other history resources.
- [RefWorks](#): A bibliographic citation tool; check out the RefWorks tutorial and Fact Sheet and Quick-Start Guide.

*Individual Resources*

- [Military Student Success Center](#): Assists personnel in any branch of service to reach their educational goals.
- [Center for Accommodations and Support Services](#): Assists students with ADA-related accommodations for coursework, housing, and internships.
- [Counseling and Psychological Services](#): Provides a variety of counseling services including individual, couples, and group sessions as well as career and disability assessments.

## Weekly Calendar

This calendar provides an overview of the course. More details and a weekly checklist are available in the weekly modules in Blackboard. The weekly calendar is subject to modification. It is the student's responsibility to carefully review all changes to scheduled readings and assigned materials before class, as well as deadlines.

### Module 1

<b>Module 1: An introduction to research</b>				
Week number and dates	Topics	Readings	Assignments	Due dates
<b>Week 1:</b> <b>8/24-8/30</b> Lesson 1:	Syllabus and course and overview	Syllabus	Complete pre-course evaluation	8/30
	An introduction to research.	Online content Jacobsen: Ch. 1	Complete self-assessment on syllabus content (BB)	8/30
	Critically evaluating research literature		Participate and enter comments in the weekly forum (grade and attendance)	8/30
<b>Week 2:</b> <b>8/31-9/6</b> Lesson 2	The scientific approach	Online content	Request and complete IRB training module. Upload copy of the completion certificate.	9/6
	The research process	Jacobsen: Ch. 6 & 21-22	Quiz # 1	9/6
	Ethics in research		Participate and enter comments in the weekly forum (grade and attendance)	9/6
<b>Week 3:</b> <b>9/8-9/13</b> Lesson 3	Coming up with ideas for selecting a research topic and study question.	Online content	Discuss and select group project research topics.	9/13
		Jacobsen: Ch. 2-4	Complete selection form (BB)	9/13
			Quiz # 2  Participate and enter comments in the weekly forum (grade and attendance)	9/13

## Module 2

### Module 2: Starting a research study

Week number and dates	Topics	Readings	Tasks to be completed	Due dates
<b>Week 4:</b> <b>9/13-9/20</b> Lesson 4	Narrowing down the research topic  The literature review.	Online content  Jacobsen: Ch. 3-4, 29 & 32	Conduct a literature review and develop the introduction and background sections. Upload file (BB)  Quiz # 3  Participate and enter comments in the weekly forum (grade and attendance)	9/20  9/20  9/20
<b>Week 5:</b> <b>9/21-9/27</b> Lesson 5	Identifying the research problem  Developing the problem statement, research question, and hypothesis.	Online content  Jacobsen: Ch. 15 & 27	Develop problem statement, research question, and hypothesis sections. Upload file (BB)  Quiz # 4  Participate and enter comments in the weekly forum (grade and attendance)	9/27  9/27  9/27
<b>Week 6:</b> <b>9/28-10/4</b> Lesson 6	Variables & Data	Online content  Jacobsen: Ch. 25-26	Select the variable & type of data to be collected, and include a table with the operational definitions to be studied. Upload file.  Quiz # 5  Participate and enter comments in the weekly forum (grade and attendance)	10/4  10/4  10/4
<b>Week 7:</b> <b>10/5-10/11</b> Lesson 7	Planning the research study: what do you have to do?  Selecting a research methodology  Basic science writing and use of APA style	Online content  Jacobsen: Ch. 5-6, 25 & 30.	Selected the appropriate research design and outline of the methodology section. Upload file.  Participate and enter comments in the weekly forum (grade and attendance)	10/11  10/11

10/11

Midterm examination: Lessons 1 - 7 (online)

**MODULE 3****Module 3: Selecting a population and research design**

Week number and dates	Topics	Readings	Assignments	Due dates
<b>Week 8:</b> <b>310/12-10/18</b>	Research design Part 1: Non-experimental research designs; qualitative and mixed methods research designs	Online content  Jacobsen: Ch. 8-12	Develop/select data collection instruments. Upload file.  Quiz # 6  Participate and enter comments in the weekly forum (grade and attendance)	10/18          10/18
<b>Week 9:</b> <b>10/19-10/25</b> Lesson 7	Research design Part 2: Experimental research designs	Online content  Jacobsen: Ch. 13	Develop the ethics/human subjects protection statement and reference sections. Upload file.  Quiz # 7  Participate and enter comments in the weekly forum (grade and attendance)	10/25          10/25
<b>Week 10:</b> <b>10/26-11/1</b> Lesson 8	Sampling	Online content  Jacobsen: Ch. 16-17	Estimate sample size and develop a sample strategy. Upload file  Participate and enter comments in the weekly forum (grade and attendance)	11/1          11/1
<b>Week 11:</b> <b>11/2-11/8</b> Lesson 9	Measurement theory	Online content  Jacobsen: Ch. 18-20	Develop the ethics/human subjects protection statement and reference	

			sections. Upload file.	11/8
			Quiz # 8	11/8
			Participate and enter comments in the weekly forum (grade and attendance)	11/8
<b>Week 12:</b> <b>11/9-11/15</b> Lesson 10	Overview of basic statistical methods. Part a: nominal and ordinal measures	Online content Jacobsen: Ch. 25-28	<b>Collect data</b> Participate and enter comments in the weekly forum (grade and attendance)	11/15
<b>Week 13:</b> <b>11/16-11/22</b> Lesson 11	Overview of basic statistical methods. Part b: continuous measures	Online content Jacobsen: Ch. 25-28	<b>Analyze data</b> Quiz # 9 Participate and enter comments in the weekly forum (grade and attendance)	11/22 11/22

## MODULE 4

Module 4: Planning the study				
Week number and dates	Topics	Readings	Assignments	Due dates
<b>Week 14:</b> <b>11/23-11/29</b> Lesson 12	Developing & writing a research proposal/protocol or research report.	Online content Chapters 29 -35	<b>Analyze data;</b> write a draft of the results sections. Upload file.  Participate and enter comments in the weekly forum (grade and attendance)	11/29 11/29
<b>Week 15:</b> <b>11/30-12/6</b>	Developing & writing a research proposal/protocol or research report.	Online content Jacobsen Ch. 29 - 35	Write discussion and conclusion sections. Include the references section. Upload file:  Participate and enter comments in the weekly	12/6

			forum (grade and attendance)	12/6
<b>Week 16</b>	<b>FINAL ONLINE EXAM - 12/11</b> <b>UPLOAD FINAL GROUP PROJECT REPORT - 12/13</b>			