# Online Course Design Guide

Welcome! Designing a robust online learning experience requires a lot of up-front planning. This guide is contains two resources: a **course readiness self-check** and a **module design template**. The **quick resources** section includes links to the Center for Teaching and Learning (CTL) website, which has quick articles on topics that might help you plan to meet those standards.

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## Module Design Guide

*Please use this guide to organize the content for each week by filling in the highlighted areas. The guide may look long, but much it is notes and other helpful information meant as references to use when creating materials. In addition, you are welcome to include additional assignments, discussion forums, quizzes, etc., if that makes sense for your course.*

***Note:*** *Headers and sections align with the format in your Moodle master template, shown below.*Graphical user interface, text, application, email

Description automatically generated

### Module 1: Beginning Exploration of Research Methods

### Instructor Notes

*Please leave notes here if there are items that need to be hidden from students, but visible to course facilitators. This can be helpful for portal integration notes, instructions for facilitating group work activities if applicable, notes on how you use a course blog, or suggesting extra credit opportunities, etc.* *You might also* *consider where students will struggle in this lesson and suggest supplemental resources (which might already be available in the supplemental resources section) that may help students gain deeper understanding.*

#### Module Announcements

Draft key points which might be used in a message and/or announcement by the instructor during the live term concerning this module:

* Welcome to Research Methods and Biostatistics! This course is designed to help you gain an understanding of research in the medical and scientific field, and to understanding core concepts of biostatistics and how it relates to research.
* The format of this course is designed to be as interactive as possible. To aid in this process, there will be **two** Moodle discussion board posts to be completed each week. These posts will be due at the beginning of the following week.
* You also will be asked to find your critical analysis paper **article** this week using the “Searching Medical Literature” presentation as a guide. Please submit this article on the Moodle site under the appropriate assignment submission form, or email [the professor at XXXXX@aurora.edu].

### 

### Introduction and Objectives

*Please include an introduction to the lesson topic(s) here. The introduction should be one to two written paragraphs briefly discussing the importance/relevance of the topic. This should be written as if speaking to the student. (Video or audio are acceptable alternatives, but please provide a transcript or closed captioning as well.)*

*As you draft your introduction, consider how the module’s topics connect to the previous week, overall course and program objectives, and potential application beyond the learners’ academic career, including their future professional and personal development. This enhances the relevancy and frames the content.*

**Introduction**

Module 1 will be focused on exploring research methods and how it relates to medicine and science. This module will begin by introducing you to the main principles of research methods as it relates to health sciences and then will take you through the beginning portions of this course as it relates to searching for medical literature and types of non-experimental study designs. By the completion of this week, you will be able to adequately search for medical literature based on desired criteria using PubMed, you will know the differences between the various types of non-experimental study designs and when to implement them, and also be able to explain core concepts of research methods. This module will be very important for your success in the following modules in this course. You will often refer back to these materials when you’re learning and integrating the material that is in the course as whole.

**Objectives**

*Objectives should be stated clearly in measurable terms based on Bloom’s Taxonomy, which presents measurable objectives across various combinations of the cognitive process and knowledge dimensions. For a list of measurable verbs, we suggest* [*Revised Bloom’s Taxonomy Action Verbs*](https://www.apu.edu/live_data/files/333/blooms_taxonomy_action_verbs.pdf) *from Azusa Pacific University.*

*Refer to your Course Map for your objectives. For examples, refer to the Course Map Examples document.*

By the end of this module, students will be able to:

1. Will understand the overall guiding principles of research methods as it pertains to the health sciences and will be able to identify and define key terms as it relates to overall research methods.
2. Can find articles as it pertains to a specific research question or interest using the PubMed search engine and applying advance search criteria.
3. Will define and differentiate between the most important different types of study designs that are classified within the non-experimental study design type.

### Learning Essentials

**Required Reading and Viewing Resources**

*List and describe any textbook or other reading assignments, Internet links, library articles, videos, interactives, tutorials, etc. that you require students to read or interact with in this module. Ideally, course materials are presented within a narrative explanation with an introduction, relevance, and how students can use the materials to accomplish objectives.*

**Read**

Read pages 1- 84 in the textbook (Parts 1-24).

Read the three articles that are posted on the Moodle site under Module 1. They are guides to the 3 commonly encountered non-experimental study design types: cohorts studies, case-control studies, and cross-sectional studies.

**Tips/ Study Suggestions**

*Provide helpful hints and/or additional narrative to help students focus on the most important resources or concepts in the lesson. For example, give students guidance for how to move through the required materials or ask questions for them to consider while they work through the resources. This information is typically discipline specific, such as offering learners some acronyms to memorize parts of the body in nursing.*

The best way to study for this class is to read the powerpoints thoroughly and use the textbook as a supplement. The questions for the exams and quizzes will come from the lectures and powerpoints, however, the book is very useful in explaining the concepts gone over in class in more detail.

### Graded Assessments & Activities

**Discussion Board**

The course includes intentional opportunities for peer interaction and collaboration. It is recommended that at least one discussion activity be included each week. Regular interaction with peers in the course is required. Discussion **forums should not be recall activities**, but drive students towards **application of skills or analysis**, in addition to evidence-based justification. Consider going beyond that to have a discussion where students tie the content to their own lives and engage in reflection or transfer of learning outside of the parameters of the course.

*Notes: AU Online requires student-to-student interactions in every module of the course. Also, the deadlines of Thursday/Sunday are standardized across all AU Online courses and all AU Online forums use the Q&A setting which requires learners to make their initial post before they can see their classmates’ posts.*

**General Discussion Instructions**

Please review the current discussion topic/question and post your initial response by 11:55pm Central time on Thursday and remember to respond to at least two (2) other classmates’ posts (respond to at least one peer who has the fewest responses) no later than 11:55pm Central time on Sunday.

Your response should be insightful, thoughtful, and analytical. Please note that you will not see your classmates’ messages until you create your initial post.

**Background/Context (1)**

*Introduce the discussion topic by providing any needed background information and context. Connect it to the module’s objective(s), content, and generate a broader sense of relevance.*

*You are a budding researcher and want to study the impact of homelessness on overall health and well-being. You decide to utilize a mixed methods research design in attempt to best capture the overall health and well-being in those experiencing homelessness.*

**Initial Post (1)**

*Consider drafting a sample response for learners, particularly for the first discussion board. This will “show” rather than “tell” them what is expected and they are more likely to move towards that level of achievement.*

Please list **two**quantitative variables and **two** qualitative variables that you would collect that you think would be important. Also explain briefly why you would want to collect information on these variables to describe overall health and well-being. **Important note**: these do not have to be anything that you can actually collect. Feel free to think outside the box and don't feel as though you have to find something that is actually used in research. I'm simply trying to get everyone thinking about variables and how they relate to research.

**Response Posts (1)**

Your response to your classmate’s posting must be be thoughtful, substantial, and polite – not just a “well done” phrase or “I agree.”

No additional instructions for response posts

*(Note: A rubric is required for the discussion forums and will be linked to each discussion activity. Please add your rubric to the Rubrics Shared folder, where you can review some example rubrics from other AU Online courses.)*

***(Note****: Remember your course needs to add up to 1000points. So keep this in mind as you decide on the total amount of your assignments/assessments.)*

*Upload your rubric for discussions in the Rubrics folder.*

**General Discussion Instructions**

Please review the current discussion topic/question and post your initial response by 11:55pm Central time on Thursday and remember to respond to at least two (2) other classmates’ posts (respond to at least one peer who has the fewest responses) no later than 11:55pm Central time on Sunday.

Your response should be insightful, thoughtful, and analytical. Please note that you will not see your classmates’ messages until you create your initial post.

**Background/Context (2)**

*Introduce the discussion topic by providing any needed background information and context. Connect it to the module’s objective(s), content, and generate a broader sense of relevance.*

*Imagine that you are a student in the very exciting and fascinating HLS 4000 course at Aurora University. Your teacher asks you to do your favorite project: a critical analysis paper. You decide that you're going to do your paper on COVID-19, but because you weren't paying attention in his class when he taught you about searching the medical literature, you only find three research manuscripts to choose from when writing your paper.*

**Initial Post (2)**

*Consider drafting a sample response for learners, particularly for the first discussion board. This will “show” rather than “tell” them what is expected and they are more likely to move towards that level of achievement.*

Here are the links to three papers on COVID-19. **Only** looking at the abstract, which paper do you think you would decide is the best paper based on concepts we have learned about in class? Think about important concepts of research methods, and how the paper's results might apply to a population of interest that is relevant to you or your research. **Challenge**: if you don't think any of these would be adequate, please feel free to comment with a link to a different article that you would use for a paper on COVID-19 and why.

A few sentences will suffice and please feel free to comment on other students' posts.

Here are the links:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7315690/>

<https://www.nature.com/articles/s41598-022-07538-0>

<https://www.nature.com/articles/s41598-021-89553-1>

**Response Posts (2)**

Your response to your classmate’s posting must be be thoughtful, substantial, and polite – not just a “well done” phrase or “I agree.”

No additional notes.

*(Note: A rubric is required for the discussion forums and will be linked to each discussion activity. Please add your rubric to the Rubrics Shared folder, where you can review some example rubrics from other AU Online courses.)*

***(Note****: Remember your course needs to add up to 1000points. So keep this in mind as you decide on the total amount of your assignments/assessments.)*

*Upload your rubric for discussions in the Rubrics folder.*

**Project Milestone/Group Assignment/Etc.**

*Please provide instructions if you have an assignment you would like submitted for this lesson. Examples might include partner work, peer reviews, group projects, draft submissions of individual projects or papers, etc. This could also be a reminder for learners to begin working on a larger assignment that is due in a future module.*

**Instructions**

CRITICAL ANALYSIS ARTICLE SUBMISSION: Please submit your critical analysis paper article to the professor for approval. **There is an example critical analysis paper from a student in the last semester to show students what a realistic critical analysis paper might look like.**

Due: by 11:55pm Central time on Sunday

Total possible points: Complete/Not complete

**Purpose**

The purpose of this is to find either an experimental article (i.e. randomized controlled trial) or a non-experimental article (i.e. cohort study or case-control study)

**Evaluation Criteria**

When evaluating for appropriateness, the article should have the following characteristics:

* Be truly non-experimental and have a clear study design that is looking at the association between an exposure and an outcome
* Be completed in humans and not in animals or at a molecular level
* **NOT** be a meta-analysis, systematic literature review, or review of any kind (*note to teacher – almost every student when I taught this class tried to submit one of these types of articles even after reiterating ad nauseum to these students that they could not submit this type of article)*
* Be somewhat recent (*I gave the stipulation of at least in the last 5 years)*
* A full article and not just the abstract or a portion of the full article

*(****Note:*** *Rubrics are required for each open-ended assignment and will be linked to the activity. Please add your rubric to the Rubrics Shared folder, where you can review some example rubrics from other AU Online courses.)*

***(Note****: Remember your course needs to add up to 1000points. So keep this in mind as you decide on the total amount of your assignments/assessments.)*

*Upload your rubric for discussions in the Rubrics folder.*

**Project Milestone/Group Assignment/Etc.**

*Please provide instructions if you have an assignment you would like submitted for this lesson. Examples might include partner work, peer reviews, group projects, draft submissions of individual projects or papers, etc. This could also be a reminder for learners to begin working on a larger assignment that is due in a future module.*

**Instructions**

JOURNAL CLUB GROUPS: I would either have the students pick groups, or most likely, I would just assign groups of 3 or so (depending on class size).

Due: by 11:55pm Central time on Sunday

Total possible points: Complete/Not complete

**Purpose**

I would just assign the groups so they know who they are working with from the start.

**Evaluation Criteria**

None

*Upload your rubric for discussions in the Rubrics folder.*

**Quiz/Test/Exam**

*An automatically scoring quiz/test/exam can be included where appropriate. These can be low-stakes formative activities or high-stakes summative assessments. A quiz/test can assess objective questions whereas the discussion forum will assess subjective. Quizzes can incorporate multiple choice, true/false, as well as short essay. A minimum of 10 questions is generally recommended.*

***Instructions***

All instructions for the quiz are on the quiz document itself at the very top. I gave students 30 minutes (often only needed 10 mins), I allowed open note and open book.

Please note any settings that should be applied to the quiz below:

Quiz Name: Quiz 1

Quiz Description (for students): You will have 30 minutes to complete this quiz.

Time limit (Yes/NO, if yes, duration): 30 minutes

Grade (total points): 50 (each question was 5 points)

Grade to pass (if applicable): N/A

Attempts allowed: 1

Number of questions per page (default is 5): Any

Shuffle withing questions (Yes/No): Either

Review Options: Note any changes to the below default settings.

Graphical user interface, text, application

Description automatically generated

Due: by 11:55 p.m. Central time on Sunday

### Summary and Look Ahead

**Summary**

**Module Checklist (optional)**

*Provide a list of actions learners should have completed for this module. For instance, a checklist might say something like:*

*Before moving on, be sure that you have (all required except those noted):*

* *Review all four of the lectures*
* *Read the textbook (pgs 1 – 84)*
* *Read the additional 3 articles that highlight different types of non-experimental research design*
* *Chosen and submitted your critical analysis article to the professor*
* *Have confirmed that you are in a group for the journal club project*
* *Have completed both of the discussion board posts*
* *Have submitted your quiz 1 answers*

**Looking Ahead**

*The next module will cover experimental study designs, measurement, sampling, and literature evaluation. These principles and concepts that you have learned in this module will adequately prepare you for the following lectures and concepts. You will be required to refer back to the content of Module 1 and will also be able to further apply the concepts that you learned in Module 1.*

## Quick Resources

**Content Structure**

* [Modular Course Design](https://ctl.wiley.com/modular-course-design/?hilite=%27content%27)
* [Organizing Instructional Materials to Maximize Student Engagement](https://ctl.wiley.com/organizing-instructional-materials-to-maximize-student-engagement/?hilite=%27content%27)

**Finding and Writing Good Content**

* [Copyright Infringement and Plagiarism: Yes, Instructors Can Do It Too](https://ctl.wiley.com/copyright-infringement-and-plagiarism-yes-instructors-can-do-it-too/?hilite=%27content%27)
* [Instructional Materials](https://ctl.wiley.com/instructional-materials/?hilite=%27content%27)
* [Five Great uses of Video in Online Courses](https://ctl.wiley.com/five-great-uses-of-video-in-online-courses/?hilite=%27content%27)
* [Considerations When Using Publisher materials in Online Courses](https://ctl.wiley.com/using-publisher-materials-effectively-online-courses/?hilite=%27content%27)
* [Using Supplemental Resources in the Online Classroom](https://ctl.wiley.com/using-supplemental-resources-online-classroom/?hilite=%27content%27)
* [How to Find Quality Open Educational Resources (OERs)](https://ctl.wiley.com/how-to-find-quality-open-educational-resources-oers/?hilite=%27content%27)
* [Providing Context: Review, Preview, Motivate](https://ctl.wiley.com/providing-context-review-preview-motivate/?hilite=%27content%27)
* [Kinesthetic Learning in an Online Learning Environment](https://ctl.wiley.com/kinesthetic-learning-online-learning-environment/?hilite=%27content%27)

**Accessibility**

* [Web Content Accessibility Guidelines at a Glance](https://ctl.wiley.com/web-content-accessibility-guidelines-at-a-glance/?hilite=%27content%27)
* [How to Ensure Accessibility for Educational Videos](https://ctl.wiley.com/how-to-ensure-accessibility-for-educational-videos/?hilite=%27content%27)
* [Improving Accessibility for All Users](https://ctl.wiley.com/improving-accessibility-for-all-users/?hilite=%27content%27)

**Assessment**

* [Basics of Online Assessment](https://ctl.wiley.com/basics-on-online-assessment/?hilite=%27content%27)
* [Creative Methods of Assessment in Online Learning](https://ctl.wiley.com/creative-methods-of-assessment-in-online-learning/?hilite=%27assessment%27)
* [Scaffolding Learning in the Online Classroom](https://ctl.wiley.com/scaffolding-learning-in-the-online-classroom/?hilite=%27assessment%27)
* [Addressing Student Choice in Assignment Submissions](https://ctl.wiley.com/addressing-student-choice-in-assignment-submissions/?hilite=%27assessment%27)
* [Tools for Online Asynchronous Learning](https://ctl.wiley.com/tools-online-asynchronous-learning/?hilite=%27content%27)
* [Expanding the Virtual Classroom: Making Science Labs Available to Online Students](https://ctl.wiley.com/expanding-virtual-classroom-making-science-labs-available-online-students/?hilite=%27content%27)
* [Three Tips for Writing Measurable Objectives](https://ctl.wiley.com/3-tips-writing-measurable-objectives/?hilite=%27content%27)
* [The Benefits of Rubrics in Online Classes](https://ctl.wiley.com/the-benefits-of-rubrics/?hilite=%27content%27)
* [Authentic Assessment in the Online Classroom](https://ctl.wiley.com/authentic-assessment-in-the-online-classroom/?hilite=%27assessment%27)
* [Teaching with Instant Feedback in Automated Assessments](https://ctl.wiley.com/teaching-with-instant-feedback-in-automated-assessments/?hilite=%27assessment%27)

**Group Work**

* [Group Projects in Online Courses](https://ctl.wiley.com/group-projects-in-online-courses/?hilite=%27group%27%2C%27Project%27)

**Community**

* [Creating Module Introduction Videos](https://ctl.wiley.com/creating-module-introduction-videos/?hilite=%27content%27)
* [Establishing Presence: Quick Tips](https://ctl.wiley.com/establishing-presence-quick-tips/?hilite=%27group%27%2C%27Project%27)
* [When Should you Email Students in Your Online Class?](https://ctl.wiley.com/when-should-you-e-mail-students-in-your-online-class/?hilite=%27technology%27)
* [Tips for Designing Live Sessions](https://ctl.wiley.com/tips-designing-live-sessions/?hilite=%27technology%27)

**Discussion Boards**

* [Developing Deep Reflection in Discussion Boards](https://ctl.wiley.com/developing-deep-reflection-in-discussion-boards/?hilite=%27assessment%27)
* [Three ways to Encourage Conversation in Online Discussion Forums](https://ctl.wiley.com/three-ways-to-encourage-conversation-in-online-discussion-forums/?hilite=%27assessment%27)
* [Creating Engagement Through Discussion Forums](https://ctl.wiley.com/creating-engagement-discussion-forums/?hilite=%27group%27%2C%27Project%27)
* [Ensuring Students Are Thinking and Understanding in the Online Classroom](https://ctl.wiley.com/ensuring-students-thinking-understanding-online-classroom/?hilite=%27assessment%27)