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# LEARNING, DESIGN AND TECHNOLOGY

## CAPSTONE PROJECT GUIDELINES

*For CUIIN LDT Master's Students*

### PURPOSE OF THE LDT CAPSTONE PROJECT

As part of the program requirements for the Learning, Design & Technology (LDT) Master's program, you will complete a Capstone Project. The Capstone Project demonstrates the depth and breadth of your educational growth through the LDT program and highlights the knowledge and skills you have gained as well as your development as a reflective practitioner.

The LDT Capstone Project provides you with the opportunity to apply, integrate and synthesize key concepts that you learn from courses in your program of study. The Capstone Project requires that you identify an authentic and challenging technology-related problem and then design, develop, implement and evaluate a proposed solution to meet that need.

You should begin thinking about your Capstone Project during your first semester of study. The role of your advisor is to provide feedback on your ideas, approve your proposal, and supervise the work you do for the Capstone Project. This advisor may be your coursework advisor who is assigned at the beginning of your program or you may change advisors for the Capstone Project based on a faculty member's area of expertise related to your topic.

In addition to the project components described in detail below, the Capstone Project may also include an additional face-to-face oral defense in which you will explain, clarify and answer questions posed by the LDT faculty. Upon your successful defense, a copy of your Capstone Project will be shared on the LDT website for other students and interested parties to view.

### STRUCTURE OF THE CAPSTONE PROJECT

Your Capstone Project should highlight your knowledge and understanding of the instructional systems design process (part of the curriculum in CUIIN 7390: Instructional Design taught every spring), including analysis, design and development, and formative evaluation activities. In the LDT Capstone Project, you will identify a need or problem in an instructional setting, develop a technology-based solution to that instructional problem, conduct a formative evaluation on the proposed solution, make recommendations for future implementation, and provide a dissemination plan. The design and development of much of this project can be accomplished as part of several LDT courses in your program of study; however, we expect you to complete some work outside of coursework.

## LDT SKILLS AND COMPETENCIES

The LDT Capstone Project is intended to demonstrate that students have the knowledge, skills, and disposition required to master the International Society for Technology in Education (ISTE) Curriculum Guidelines for Basic Endorsement in Educational Computing and Technology Literacy for Technology Coach (<http://www.iste.org/docs/pdfs/ncate-tech-coaches-standards.pdf?sfvrsn=4>). These foundational competencies are also applicable to instructional technology-related careers in higher education, corporate, and non-profit settings.

## CAPSTONE PROPOSAL

Once your thoughts have developed through your experiences in coursework, write a draft capstone proposal and set up an appointment to discuss it with your advisor. The topic of your capstone project is your decision. You should choose a topic about which you have some prior knowledge. Your project should address an instructional need that you can identify and that can be effectively addressed by a technology solution. You should submit a brief (1-2 page) Capstone Proposal prior to your beginning work on the project and at least two semesters before graduation.

The proposal should contain the following elements:

1. **TITLE PAGE:** your name, date, advisor, the semester you entered the LDT program, and the title of your Capstone Project
2. **SETTING/CONTEXT:** In what environment are you going to complete your capstone project? Who is the audience for the project? Provide a brief audience analysis.  
*Assessment criteria: The proposal is situated in an appropriate context that is adequately described. The audience analysis presents a clear picture of demographic data that is relevant to the proposed project.*
3. **CAPSTONE PROBLEM AND RATIONALE:** Describe the need or problem that you will address by your project. Justify how technology can help to effectively address this need.  
*Assessment criteria: The description makes it clear that a need/problem exists, and that it could be addressed by a technology solution.*
4. **PROJECT GOAL AND OBJECTIVES:** List the goal(s) of your project and the performance objectives.  
*Assessment criteria: The goal is appropriate and realizable. The objectives are formatted using the four parts of an objective (audience, behavior, condition and degree).*
5. **PROJECT DESCRIPTION:** This section should include: a) a brief description of the project, b) a timeline for your completion of the project, and c) any resources you will need to complete the project and how you will obtain them.

*Assessment criteria: This section articulates the project in a way that the reader can envision what will take place. A realistic timeline is provided. Resources needed are realistic and obtainable.*

6. EVALUATION PLAN: This section should include: a) a description of how you will demonstrate you met your performance objectives, b) timeline for your evaluation, and c) samples of evaluation instruments such as a survey, an observation form, or interview questions.

*Assessment criteria: The evaluation plan articulates the relationship between the objectives of the project and the evaluation methods. The timeline is clear and realistic for the scope of the project. Samples of the evaluation instruments are included and well developed.*

The purpose of this proposal is to serve as a communication tool between you and your advisor. It will help you get started on the capstone project, as you put your thoughts on paper and review them with your advisor. The proposal is not part of your capstone grade, but you will expand on its content in the four components of the LDT capstone project described next.

## THE FOUR COMPONENTS OF THE LDT CAPSTONE PROJECT

The LDT Capstone Project consists of four components -

1. Design Document
2. Literature Review
3. Multimedia Product
4. Audio-Narrated Presentation

You may complete most of these components as part of your LDT coursework. The intention is that you select your topic during CUIIN 7390: Instructional Design, and then complete your literature review and develop your multimedia product on that same topic. In essence, your “Design Document” is your plan, your “Literature Review” presents relevant research and professional readings related to your plan, and your “Multimedia Product” is a technology-based solution that you have developed to address the problem you identified in your Design Document.

*\*It is therefore highly recommended that you take CUIIN 7390: Instructional Design early in your Master’s coursework, so that you will have a topic identified and Design Document from which you can then develop the other components of the LDT Capstone Project. CUIIN 7390 is taught every spring semester.*

The courses that correspond to each component are as follows:

1. DESIGN DOCUMENT – CUIIN 7390: Instructional Design (taught every spring)
2. LITERATURE REVIEW – CUIIN 7347: Seminar in Learning, Design, and Technology (taught every fall)
3. MULTIMEDIA PRODUCT – Most LDT Master’s courses (taught on a rotating schedule) contain opportunities for the development of multimedia products, including
  - a. CUIIN 7350: Integrating Technology in Learning Environments
  - b. CUIIN 7374: Educational Multimedia
  - c. CUIIN 7358: Educational Uses of Digital Storytelling
  - d. CUIIN 7368: Digital Imaging
  - e. CUIIN 7376: New Tools for Creating Online Educational Materials
  - f. CUIIN 7389: Digital Media

#### 4. AUDIO-NARRATED PRESENTATION

You will complete the fourth component, “AUDIO-NARRATED PRESENTATION,” outside of coursework. However, the LDT Master’s coursework will provide you with opportunities to learn the technical and design skills to create such a presentation.

### DESIGN DOCUMENT

The Design Document component of the LDT Capstone Project is the final project in CUIIN 7390, Instructional Design. The Design Document consists of specific sections. They are as follows:

1. Need for the project, including statement of the problem, background of the problem (including citations to relevant literature), rationale for the need for instruction, and the instructional goal
2. Analysis of learning context
3. Analysis of learners
4. Analysis of learning task
5. Learning objectives
6. Strategies used
7. Use of appropriate media
8. Formative evaluation plan
9. Formative evaluation
10. Statement about personal learning

### LITERATURE REVIEW

The Literature Review component of the LDT Capstone Project is a large part of the CUIIN 7347: Seminar in Learning, Design, and Technology. You will learn about the process of gathering information and composing a literature review in this course. The literature review should be directly relevant to your Design Document and will provide background information on the problem and describe and support your rationale for the need for instruction. Through summary, classification, synthesis, and comparison you will analyze and organize a published body of knowledge. This includes relevant research studies, reviews of literature, and professional

articles related to your topic that will be useful for informing your Design Document and Multimedia Product development.

The Literature Review should be 8-10 double-spaced pages and include at least ten academic sources. Follow APA style (*APA Publication Manual*, 6<sup>th</sup> ed., 2<sup>nd</sup> printing) in the way that you format your literature review paper and how you cite sources in-text and in your reference list. The manual is available at the library or can be purchased at most bookstores. The Purdue Online Writing Lab website (<https://owl.english.purdue.edu/owl/section/2/10/>) provides clear instructions and examples for how to write using APA style. The UH Library on campus and online (including e-books and full-text articles) is a wonderful resource for literature review sources.

Visit the UH Library website for hours and links to online resources – <http://info.lib.uh.edu>.

## MULTIMEDIA PRODUCT

The types of technologies you use for your multimedia product will largely depend on your topic and your Design Document. LDT Master's coursework incorporates a range of technologies, including creating digital storytelling videos, websites, images and graphics, and screencasts. Whatever form your multimedia product takes, you should follow appropriate design principles for the medium selected.

For example, creating websites is part of CUIIN 7316: Development of Online Educational Resources. As you would learn in this course, an educational website should have clear navigation with no broken links, use an appropriate layout to organize information, incorporate color and media (such as images) effectively, be user-friendly and accessible, and have minimal typographical errors.

The Multimedia Product needs to be a fully developed instructional product that comes from planning specifications made in your Design Document. It is composed of "Multimedia," and as such should contain two or more types of media (text, images, video, audio, animations, etc.). Make sure that all media used in your Multimedia Product are appropriate for educational purposes. Media should be original or, if not original, be used under Fair Use guidelines (see <http://www.copyright.gov/circs/circ21.pdf> for more information on Fair Use). Media should also be appropriately cited in some manner in the Product (such as by having a "Sources" listing at the end of a video or by including citations listed below each image on a web page).

## AUDIO-NARRATED PRESENTATION

You will present your Capstone Projects via your Audio-Narrated Presentations to the LDT faculty. The Audio-Narrated Presentation is a video in which you present the first three components of your LDT Capstone Project (Design Document, Literature Review, and Multimedia Product).

There are many ways that you can create an Audio-Narrated Presentation. For instance, you could use a screencast tool to record your voice as you narrate PowerPoint slides, or you could video yourself as you discuss and show your work.

Your presentation must include a brief introduction of yourself and a reflection of the development of the project from beginning to end. The project presentation should also clearly communicate to viewers how your project followed the instructional systems design process; show highlights from the Design Document, Literature Review, and Multimedia Product components; and offer recommendations and implications for the LDT field. You should also acknowledge any copyrighted material you used (with permission from the copyright holder).

The Audio-Narrated Presentation should be 10-15 minutes in length.

RESOURCES AVAILABLE. There is a sound booth available for student use in the LDT LITE Lab suite (FH 315). Microphones are also available for student check out from the CITE Lab. Visit the CITE Lab website (<https://www.coe.uh.edu/current-students/technology-services/students/lab-location-hrs/index.php>) for hours and location information.

## ACADEMIC HONESTY

Please remember the academic honesty policy of the University of Houston (<http://catalog.uh.edu/content.php?catoid=6&navoid=1025>). All of the work for your Capstone Project should be original work that you completed, and you should acknowledge all of your sources in your references section.

## GRADING OF THE LDT CAPSTONE PROJECT

Though LDT Capstone Projects will be graded as **Pass/Fail** by LDT faculty, the following rubric outlines the expectations for each component of the LDT Capstone Project and is intended to guide you in creating a high-quality project that effectively highlights your knowledge and skills:

# LEARNING, DESIGN AND TECHNOLOGY CAPSTONE PROJECT RUBRIC

	Exceeds expectations	Meets expectations	Below expectations
<b>1. DESIGN DOCUMENT</b>			
NEED FOR THE PROJECT that includes: a) statement of the problem, b) background of the problem, c) rationale for the need for instruction, and d) the instructional goal	The problem statement is well written. Background information on the problem includes narrative with references of general professional or research literature and/or state/national reports that support and justify the instructional goal. The rationale for the need for instruction is well stated and provides a strong explanation and justification for why instruction is the best solution to this problem. An instructional goal is provided that is consistent with the stated need.	The problem statement is clearly written. Background information on the problem includes narrative with some references of general professional or research literature and/or state/national reports that support and justify the instructional goal. The rationale for the need for instruction is stated and offers some explanation and justification that points to instruction as a possible means to meet the need. An instructional goal is provided that is consistent with the stated need.	The problem statement is not provided or if provided, it may be unclear. Background information on the problem is not provided, incomplete, or vague. The rationale for the need for instruction is not stated or offers little explanation and justification that points to instruction as a possible means to meet the need. An instructional goal is not provided or is not entirely consistent with the stated need.
ANALYSIS OF LEARNING CONTEXT	The Design Document contains a clear and accurate context analysis of the performance setting and the learning environment.	The Design Document contains a context analysis of the performance setting and the learning environment.	A context analysis of the performance setting and the learning environment is either not conducted or reported, or it is incomplete or vague.

ANALYSIS OF LEARNERS	The Design Document contains a learner analysis with the following clearly reported: entry behaviors; prior knowledge of the topic area; motivation, education and ability levels; and general learning preferences.	The Design Document contains a learner analysis with most of the following clearly reported: entry behaviors; prior knowledge of the topic area; motivation, education and ability levels, and general learning preferences.	The Design Document does not contain a learner analysis or it is incomplete or vague.
ANALYSIS OF LEARNING TASK	The project appropriately addresses the instructional goal resulting from the needs assessment.	The project somewhat appropriately addresses the instructional goal resulting from the needs assessment.	The course does not address the instructional goal resulting from the needs assessment.
LEARNING OBJECTIVES	The Design Document contains project objectives that are written to show what the learner will be able to do after the instruction takes place. The objectives are clearly written and include clearly stated verbs that describe how each learning capability will lead to an observable behavior. In addition, the objectives are written at the appropriate level and scope.	The Design Document contains project objectives that are written to show what the learner will be able to do after the instruction takes place.	The Design Document contains project objectives that are poorly written and do not reflect what the learner will be able to do after the instruction takes place.
STRATEGIES USED	The project uses instructional strategies appropriate for the audience and all objectives.	The project uses instructional strategies appropriate for the audience and some objectives.	The instructional strategies of the lesson do not address the lesson objectives.
USE OF APPROPRIATE MEDIA	The project integrates instructional media in appropriate and creative ways.	The project integrates instructional media in appropriate ways.	The project does not use media in creative or appropriate ways.
FORMATIVE EVALUATION PLAN	The Design Document contains a formative evaluation plan that is designed for each of the following	The Design Document contains a formative evaluation plan that is designed for each of the following	The Design Document contains a formative evaluation plan that is designed poorly or does not address

	levels: expert review; one-to-one evaluation; small-group evaluation; and field trial. Each level describes what the evaluation will include, when it would be conducted, and the respective procedures for each (i.e. how). The plan should be consistent with the instructional objectives and should yield data informing the designer of necessary revisions.	levels: expert review; one-to-one evaluation; small-group evaluation; field trial. Each level describes what the evaluation will include, when it would be conducted, and the respective procedures for each (i.e. how).	all levels. It does not adequately describe what, when, or how the evaluation will be conducted.
FORMATIVE EVALUATION	The Design Document provides: 1. Description of the small-group field test with 3-5 participants representative of the target audience 2. Data directly related to student learning; 3. A summary of the results of the field test based on the data; 4. Insight into the effectiveness of the instruction; and 5. Recommendations for revisions.	The Design Document provides a description of the small group field test but meets only some of the criteria listed.	The Design Document does not provide a description of the small group field test, or if provided, it is not adequate and fails to meet all of the criteria listed.
STUDENT'S STATEMENT ABOUT PERSONAL LEARNING	The student's statement shows thoughtful reflection on personal learning, sets goals for continued learning, and details experiences that will allow goals to be reached.	The student's statement shows reflection on personal learning and sets goals for future learning.	The student's statement shows some reflection on personal learning, but other areas simply list the assignments completed in each course.
CLARITY AND MECHANICS	Written in an easy to read style that is free of grammar, usage, and spelling errors.	Writing is fair in quality and contains some errors in clarity or mechanics.	Writing contains multiple errors and is poorly written.

<b>2. LITERATURE REVIEW</b>			
CURRENT LITERATURE	The project is well grounded in current literature relating to the LDT Master's Program. There is evidence that at least ten academic sources were incorporated into the literature review.	The project is somewhat grounded in current literature relating to the LDT Master's Program. There is evidence that at least five academic sources were incorporated into the literature review.	The project is not well grounded in current literature relating to the LDT Master's Program. Fewer than five academic sources are incorporated into the literature review.
APA FORMATTING	Follows APA style (6 <sup>th</sup> edition, 2 <sup>nd</sup> printing).	Somewhat follows APA style, with minor errors.	Does not follow APA style.
CLARITY AND MECHANICS	Written in an easy to read style that is free of grammar, usage, and spelling errors.	Writing is fair in quality and contains some errors in clarity or mechanics.	Writing contains multiple errors and is poorly written.
<b>3. MULTIMEDIA PRODUCT</b>			
DESIGN	Product is creatively and effectively designed, following appropriate design principles for the selected medium.	Product is somewhat creatively and effectively designed and follows some design principles, though there is room for improvement.	Product is poorly designed and ineffective in presenting the ideas to others.
CHOICE OF CONTENT	The content used in creating the product demonstrates an excellent connection to the topic (perhaps symbolically related) and could easily be used in an instructional setting.	The content used in creating the product demonstrates a fair connection to the topic and could probably be used in an instructional setting.	The content used in the creating the product demonstrates a poor connection to the topic and could only be used in an instructional setting with considerable modification.
MEDIA	The product's high quality media (audio, images, video, etc.), is appropriate to the topic, and is either original or follows fair use guidelines.	The quality of the media is fair, with some room for improvement, is somewhat appropriate to the topic, and for the most part is original and follows fair use guidelines.	The quality of the media in the product is poor and/or does not follow fair use guidelines.
ORIGINALITY	The project developer made an original contribution to the application of the topic(s).	The project developer made a somewhat original contribution to the application of the topic(s).	The product makes little to no original contribution to the application of the topic.

CLARITY AND MECHANICS	Written in an easy to read style that is free of grammar, usage, and spelling errors.	Writing is fair in quality and contains some errors in clarity or mechanics.	Writing contains multiple errors and is poorly written.
<b>4. AUDIO-NARRATED PRESENTATION</b>			
ORGANIZATION	Presentation is organized/ designed extremely well and is very engaging for the audience.	Presentation is adequately organized/ designed and somewhat engages the audience.	Presentation is poorly organized/ designed and does not engage the audience.
CONTENT	Presentation provides an adequate summary of design document, incorporates relevant literature from review, presents excerpts from multimedia product, and offers recommendations/ implications for the LDT field.	Presentation includes most, but not all of the required elements.	Presentation does not include most of the required elements.
NARRATION	The presentation contains excellent high quality audio narration that can be clearly heard and understood.	The project contains fair quality audio narration that could be improved with additional effort.	The project contains poor quality audio narration that needs a significant amount of additional effort.
TIMEFRAME	The presentation length is between 10-15 minutes.		The presentation length is longer or shorter than 10-15 minutes.