

Creating Online Courses

A Collaborative Design Process that Works

UNIVERSITY
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Online Courses Don't Simply Happen

In recent years, the phrase “online learning” has taken a prominent seat whenever education reform is on the table. And given its potential to disrupt long-accepted models of instruction, it often triggers passionate responses all along the reform continuum. For its part, the University of California has recognized online education’s potential to transform the student experience at the university by broadening access to gateway courses and general education and major requirements. It can also give faculty the opportunity to create unique and effective online learning experiences.

The University of California, through its ongoing funding of the Innovative Learning Technology Initiative (ILTI) and local campus-based programs, has provided resources to faculty and instructors who want to design and develop their own online and hybrid courses. But online courses don’t become available simply because faculty or an administrative body will them to be. In fact, it takes a great deal of planning to design an effective learning experience. It can also benefit from the collaborative efforts of a team of specialists, including faculty, technologists and instructional designers to turn a vision into an experience that students can consume.

And therein lie some of the greatest hurdles for many faculty:

“How do I create a new online course from scratch?”

“How do I convert my existing on-ground course into an online experience that is equally rigorous and engaging?”

“How long will it take to build? And what tools do I need?”

Getting accurate answers to these and similar questions often presage faculty success in creating high-quality online learning environments. ILTI has helped faculty answer these and similar questions and assisted them in creating engaging online learning environments.

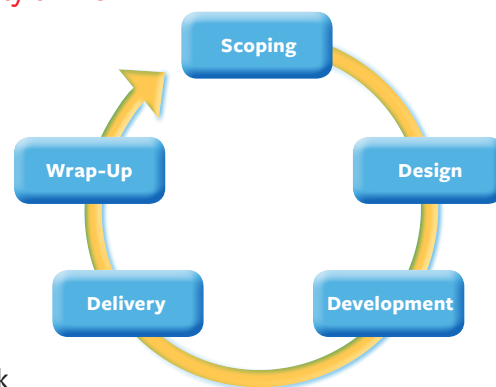
In this white paper, we will share the ILTI approach to designing and developing online courses, which is based in large part on the ADDIE model. We will also describe how we partner with faculty and on-campus ed-tech teams to create online learning experiences that challenge and engage students. Whether you are considering your first foray into online learning or you have a handful of courses under your belt, we think you’ll find this provides insight on the many factors that can impact the quality of your output.

The ILTI Course Design Process

ILTI supports campus and system-wide cross-campus initiatives that focus on meaningful uses of technology in order to expand student access to high quality online learning. We are a team of educators, designers and technologists based out of the UC Office of the President in Oakland, and since our inception in 2011 we have assisted faculty and campuses in developing and/or offering **30 high-quality online undergraduate courses to more than 4,000 students.**

Given our deep background in academic learning for both classroom and online environments, we are well positioned to help faculty both articulate their vision for an online course and then develop the course to ensure that it meets the learning outcomes for students. Our design methodology is a five-step process that’s flexible enough for brand-new online courses, on-the-ground conversions to hybrids and fully online courses, or updates and revisions to existing online offerings.

The process is also iterative. Each step builds on decisions made and work



concluded during previous phases; the result is an evolving vision of a learning environment that meets student needs. And as the image on **Page 1** illustrates, a course’s conclusion in any given term will naturally inform future revisions and offerings.

Let’s take a look at the five steps in our process.

Step #1: Scoping



Figure 1: Scoping should take place six months (or more) prior to anticipated launch of a course.

Scoping is the essential first step that defines a course’s broad parameters, and a course’s syllabus is often a great source for the details we need to accurately and thoroughly scope a course. Whether or not any course documentation exists, in this initial phase we guide faculty through a series of conversations that enable us to:

- Identify media and technical elements that will support course content and activities
- Build a production budget that accounts for software and hardware requirements as well as design and technical expertise
- Create a schedule that takes into account course complexity and external commitments to ensure on-time delivery

While the outputs of these conversations—road maps, budgets and schedules—are integral to the ILTI design process, sponsor agencies and committees often ask award recipients to prepare similar documentation as a condition of funding approval. So even if a course’s faculty wants to own the bulk of the planning, ILTI can provide valuable insight to guide thinking and give structure to the details of a particular course.

Step #2: Design



Figure 2: The design phase can run in parallel with course scoping, but a design approach cannot be finalized without a completed road map and budget.

Once a course’s parameters have been broadly defined and agreed upon, course creation with ILTI enters the design phase. We’ll assemble a team of designers and technologists that partners with the faculty (and the people on her own campus already assigned to the course). Our designers have taught in the classroom (online, on the ground, or both), so they understand many of the challenges that faculty and instructors wrestle with, from preparing thoughtful lectures to designing engaging group activities to writing assessments that align with learning outcomes.

Our instructional designers are also media specialists who have deep experience with the tools and platforms that can turn the online classroom into a dynamic learning environment. The ed-tech marketplace is a maze of competing and overlapping products and technologies, and knowing which ones will most effectively address the needs of a given course requires insight. This insight comes from road-testing what’s available in various contexts (i.e., subject areas, learning outcomes, student populations, course access criteria) to understand both strengths and breaking points.

It's in the design phase that we start to match the faculty's broad vision for a course with the instructional methodologies and tools that will enable students to achieve stated learning outcomes. As early as possible we'll apply selected approaches to course content and planned activities to ensure that their behavior in the online environment aligns with the faculty's vision for the course. Through testing we'll learn what works and what needs to be revised, and as we finalize decisions with faculty we'll build out a working prototype of a complete content module that becomes both a test-bed and a template for the course.

The output of this phase is a course design document. Where the road map provides broad definitions of scope, costs and effort, the design document details how a course will enable students to achieve the stated learning outcomes. Specifically, the document defines the following:

- Sequence of content by theme, week or unit
- How students will engage with content, the instructor and one another
- Assignments and projects students will be asked to complete
- Testing procedures and evaluation rubrics

Step #3: Development



Figure 3: Course development often continues right up to the week of a course launch, so the earlier the design team can get started the better.

The development phase consumes the bulk of the time (and effort) prior to a course launch. It's when the faculty collects and creates all course content, including asynchronous video lectures. In most cases the instructional designer will work very closely with the faculty to plan and produce asynchronous lectures and corresponding activities that are appropriate for consumption in an online environment. This includes factors such as:

- How to organize video lectures through the pace of delivery, duration of lectures and sequence of information
- The role of in-lecture multimedia that adds dimension to concepts and information
- Calls to action within and between lectures that give students an opportunity to reflect on concepts, test theories and practice skills

The instructional designer is also busy building out the course's learning environment inside the learning management system (LMS). The LMS is a hosting platform with a rich graphical interface in which students interact with content, the instructor and one another to complete course activities and assignments. Depending on the complexity of the course, instructional designers may be required to develop code or collaborate with technical experts at ILTI to ensure that unique course elements behave properly inside the LMS. The development phase is also an excellent opportunity for instructional designers to help PIs, instructors and TAs build fluency with the tools and techniques required for successful delivery throughout the term.

Step #4: Delivery

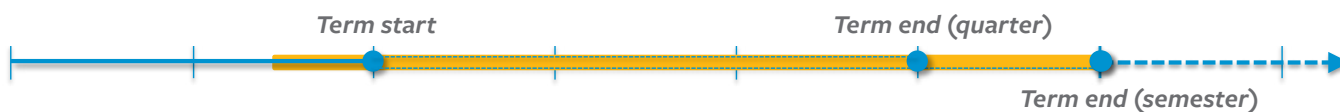


Figure 4: The ILTI instructional design team supports a course’s students and faculty throughout the term.

Once a course launches, the role of ILTI shifts from design to support. Tools training often continues during the first week or two of instruction; as instructors and TAs build fluency with tools and techniques additional questions will arise, and instructional designers are available to offer insight and advice. ILTI designers and technologists are also quick to remedy (or escalate) any issues that arise with respect to student access or other unforeseen problems.

As the term progresses and a course eases into a rhythm of its own, ILTI instructional designers maintain an eye on students enrolled in the course. They will monitor progress on assignments, participation in forums and contributions to group activities. They also meet with the faculty, instructor and TAs on a regular basis to address questions, proactively address emerging trends and/or respond to internal or external events that impact the content and/or flow of the class.

Step #5: Wrap-Up

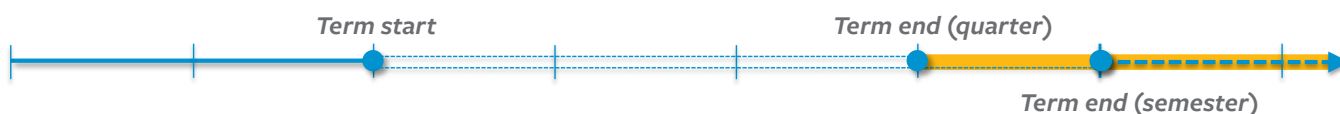


Figure 5: The wrap-up phase captures the lessons learned once a course concludes at the end of a term.

The wrap-up phase is an opportunity for ILTI to collect observations from all parties while the experience is still fresh in their minds. Automated surveys, delivered through the course’s learning management system, are effective ways to solicit input from students during the final days of the term. Quantitative data is another source of feedback on the student experience. Through the LMS we can capture a wide range of metrics including time spent consuming course content, participation in collaboration platforms, and performance on graded (and ungraded) assignments.

As the course is wrapping up, instructional designers conduct lessons-learned conversations with the faculty, instructor and TAs to get their thoughts on what worked and what could be improved. It is also a time to synthesize and review findings from a range of research projects the faculty and instructional designer may have built into the course itself and implemented during the term.

These observations, from students and faculty alike, plus conclusions drawn from analyzing course data, are presented in a course closure report. The deliverable is organized around a course’s intended learning outcomes and provides specific examples of how well its constituent elements engaged students and enabled them to achieve those outcomes. While the report is meant to convey a summary of the learning experience it should also be looked at as a valuable input when scoping and designing the next iteration or revision of the course.

A Final Word

A great deal of thought and planning goes into the creation of online courses and the learning environments that enable students to achieve desired learning outcomes. And ILTI is happy to partner with faculty and campus support staff to scope, design and develop courses that meet one's vision. In the meantime, we encourage you print out the accompanying checklist that summarizes key questions that you and your design team should consider when designing and developing your next online course.

About The Innovative Learning Technology Initiative

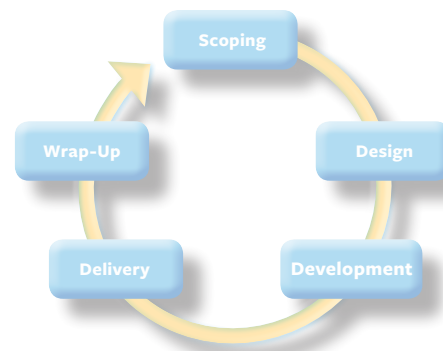
Aligned with the University of California's mission and commitment to education, ILTI supports campus and systemwide initiatives that focus on meaningful uses of technology in order to expand student access to high quality online learning. In order to meet this commitment, ILTI will:

1. Support the UC Provost in leading systemwide initiatives to expand and facilitate student access to courses and services across the UC campuses;
2. Partner with schools, departments, and campuses as they plan and implement online certificate or degree programs;
3. Develop and host online courses in association with faculty, departments and schools;
4. Provide support services to enhance the student experience and online learning; and
5. Identify, develop, and share best practices, engage in assessment, analyze and disseminate research, and provide expertise on pedagogy in online learning environments.

By working with faculty to develop engaging, academically-rich online courses, ILTI is focused on incorporating online learning as a part of the delivery of a world-class UC education. For more information about ILTI, please visit our website at <https://www.ucop.edu/innovative-learning-technology-initiative/> or contact Ellen Osmundson at Ellen.Osmundson@ucop.edu.

ILTI Course Design and Development Checklist

ILTI has compiled this checklist for the benefit of the entire course design team. It can be used throughout the design and development process as a reminder of what needs to get done and when. And while tasks have been assigned to either faculty or instructional designers, keep in mind that there will be a natural back-and-forth as both sides collaborate and support the other.



For Faculty	For Instructional Designers
Phase I: Scoping	
<ul style="list-style-type: none"> <input type="checkbox"/> Complete and submit all documentation (e.g., proposals, road maps, budgets) required by the governance committee awarding the funds. <input type="checkbox"/> Deliver course syllabus and any existing course content to design team. 	<ul style="list-style-type: none"> <input type="checkbox"/> Define media and technical production requirements to support vision for course. <input type="checkbox"/> Consult with faculty on all preliminary documentation. <input type="checkbox"/> Create a preliminary design and development schedule based on course vision.
Phase II: Design	
<ul style="list-style-type: none"> <input type="checkbox"/> Contribute to all aspects of the course design document. <input type="checkbox"/> Review prototype and provide feedback to design team. 	<ul style="list-style-type: none"> <input type="checkbox"/> Create course design document that details the learning environment (e.g., instructional methodologies, content strategy, activities) in which students will achieve course outcomes. <input type="checkbox"/> Build a prototype of a single course unit that includes access to all tools, content and functionality.
Phase III: Development	
<ul style="list-style-type: none"> <input type="checkbox"/> Develop all original course content. <input type="checkbox"/> Identify, source and secure permissions for existing content from external sources. <input type="checkbox"/> Conduct reviews of all course elements for accuracy and functionality. <input type="checkbox"/> Attend tools and platform training. 	<ul style="list-style-type: none"> <input type="checkbox"/> Manage all aspects of media development to budget, schedule and quality expectations. <input type="checkbox"/> Consult with technical resources when advanced programming is required. <input type="checkbox"/> Build the complete course in the LMS. <input type="checkbox"/> Conduct reviews of all course elements for accuracy and functionality. <input type="checkbox"/> Deliver training to instructors and TAs.
Phase IV: Delivery	
<ul style="list-style-type: none"> <input type="checkbox"/> Open course by sending a welcome email to all students. <input type="checkbox"/> Engage students: be proactive on all communication forums, monitor progress on activities and assignments, respond to student queries. <input type="checkbox"/> Generate additional content throughout term as appropriate to address emerging needs. 	<ul style="list-style-type: none"> <input type="checkbox"/> With technical lead, test enrollment data prior to launch. <input type="checkbox"/> Monitor traffic to ensure students have access to course and course elements. <input type="checkbox"/> Troubleshoot technical issues that arise throughout term. <input type="checkbox"/> Meet regularly with instructors and TAs to address concerns and refine approaches as needed.
Phase V: Wrap-Up	
<ul style="list-style-type: none"> <input type="checkbox"/> Release course surveys and evaluations to students. <input type="checkbox"/> Enter grades for all students in the LMS of record. <input type="checkbox"/> Provide feedback to design team on what worked and what needs to be improved. 	<ul style="list-style-type: none"> <input type="checkbox"/> Build course surveys and evaluations as needed. <input type="checkbox"/> Conduct 'lessons learned' meeting with instructor and TA(s). <input type="checkbox"/> Prepare and deliver course closure report.