

Appendix D: Course Development Methodology

An initial estimate is that each online course will require about 200 hours of development. We have staffed the LTU Online organization to provide the capability of producing at least five to six new classes per semester. Some existing textbooks used for Lawrence Tech courses have available Blackboard™ “cartridges” that can be installed into our Blackboard™ environment to serve as a framework for developing an online course. Other courses will need to be built “from the ground up.”

All courses will need a range of supporting materials such as production of original lecture or case study video, integration of library materials, integration of existing web content, development of new web sites, purchase and integration of simulation software, or perhaps original software development. Some courses will require the use of synchronous delivery methods.

LTU Online Course Development Template

The template shown in Figure 11 is used to gather and organize appropriate materials and theory, practice, and assessment activities to a weekly schedule, giving faculty members and developers a basic structure from which to design the course.

Instructions:

1. Please gather together your initial syllabus, your existing instructional documents, web links, student activities, and assessment instruments.
2. Use this template to initially map your course contents into modules. Please target no more than one module per week for the length of the course (either 13 or 15 weeks):
 - a. The “Pre-0” module can contain prep materials needed by students to successfully complete the class (e.g. review of basic statistics, review of fundamental financial principles, etc.).
 - b. The “0” module contains course orientation activities (e.g. syllabus review, course overview, group formation, etc.).
 - c. Modules “14” and “15” are optional depending on whether the course is designed to fit within a 13-week or 15-week delivery schedule.
 - d. Module “Post-n” contains the final examination and closing activities for the course.
3. After mapping your course contents, please consider the various ways in which the material, theory, practice, and assessment components can be delivered to students. LTU Online staff will assist you in developing these learning objects after the initial planning process has taken place.

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Module	Activities and Assessment			
	Material	Theory	Practice	Assessment
Pre-0 (prep skills)				
0 (orientation)				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
(14) (opt)				
(15) (opt)				
Post-(n) (Exam)				
	Materials options: 1. Textbook 2. PowerPoint presentation 3. Streaming video 4. Streaming audio 5. Case study 6. Captivate movie 7. Library readings 8. Other handouts 9. Simulation 10. Graphic 11. Photograph 12. Student-produced material	Theory options: 1. Read textbook 2. Play PowerPoint presentation 3. Watch video 4. Listen to audio 5. Read case study 6. Play or interact with Captivate movie 7. Read library material 8. Read handouts 9. Interact with simulation	Practice options: 1. Group discussion 2. Short paper 3. Summarize 4. Ask questions 5. Respond to discussion board 6. Term paper 7. Analyze 8. Synthesize 9. Compare/contrast 10. Concept mapping (graphic organizer) 11. Web site creation 12. Error analysis	Assessment options: 1. Mid-term exam 2. Final exam 3. Module quizzes 4. Discussion board grader 5. Papers 6. Pretest/posttest 7. Periodic tests 8. Presentations 9. Projects 10. Self-assessment 11. Portfolio 12. Rubric

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Module	Activities and Assessment			
	Material	Theory	Practice	Assessment
	13. Discussion board readings 14. Survey 15. Game 16. Glossary 17. Reusable learning objects 18. Open source content	10. View graphic 11. View photograph 12. Peruse student-produced material 13. Field work 14. Web site research	13. Experiment 14. Journal 15. Role play	

Figure 11 - LTU Online Course Development Template

Course Development Tools

A wide range of technology tools are used to develop LTU Online classes. Figure 12 shows many of the tools in active use or under evaluation at this time.

Tool	Description
Blackboard™	Blackboard™ is used by all Lawrence Tech courses, including LTU Online courses. Below are some of the tools internal to Blackboard™.
<ul style="list-style-type: none"> ● Announcements 	Announcements are of two types, general and course-specific. General announcements may appear on the pre-login page and once one has logged in. Announcements usually are listed chronologically, with the most recent first. However, one announcement may be "pinned" to the top of the list.
<ul style="list-style-type: none"> ● Discussion boards 	The discussion board is one of the most popular tools within Blackboard™.
<ul style="list-style-type: none"> ● Discussion board grader 	Lawrence Tech has deployed the Blackboard™ discussion grader tool for use in all courses. This tool enables instructors to review and evaluate the contributions of each student to a discussion forum and to enter a grade for that student directly into the gradebook.
<ul style="list-style-type: none"> ● Assignment submission and grader 	Instructors can create assignments that are linked directly to the gradebook. Students submit their work to the assignments section where instructors can pick up, evaluate, and return the student's work.
<ul style="list-style-type: none"> ● Surveys 	Instructors can prepare surveys to which students respond. Survey results are easily evaluated and can be posted for student review.
<ul style="list-style-type: none"> ● Quizzes and exams 	Blackboard™ has extensive features for construction of quizzes and exams. A wide range of question types can be included in quizzes and exams. Delivery of quizzes and exams can be scheduled, and students may be restricted to one or many attempts to complete the quiz or exam.

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Tool	Description
<ul style="list-style-type: none"> ● Digital drop box 	Students and instructors can post documents to a shared file repository for review by all class participants.
<ul style="list-style-type: none"> ● Staff information 	Instructors can post biographical and contact information for student reference.
SafeAssignment™	Lawrence Tech has purchased the SafeAssignment™ anti-plagiarism tool and provides the tool for all Blackboard™ courses. SafeAssignment™ establishes assignments which check student work for plagiarism against a wide range of web information sources.
Respondus™	Respondus™ allows instructors to construct exams using Microsoft Word™ that can be imported directly into Blackboard™ quizzes and exams. LTU Online owns development licenses.
Course Genie™	Course Genie™ is a Microsoft Word™ plug-in that lets instructors build Blackboard™ quizzes and tests. LTU Online has development licenses.
Impatica™	Impatica™ allows instructors to convert narrated Microsoft PowerPoint™ presentations into a Java applet which is integrated directly into Blackboard™ course shells. Lawrence Tech and LTU Online own development licenses.
Captivate™	Captivate™ allows instructors to “record” a software session and add narration and call-out boxes for student instruction. The resulting Flash™ file can be directly integrated into a Blackboard™ course. Lawrence Tech and LTU Online own development licenses.
SnagIt™	SnagIt™ is an advanced screen capture and recording tool that allows instructors to prepare instructional streams for students. LTU Online owns development licenses.
Pinnacle Studio™	Studio™ is an advanced video editing suite used to prepare video presentations from content captured via digital video recorders. Video can be rendered as RealVideo™ files for streaming from Lawrence Tech’s video streaming server. LTU Online owns development licenses.
E-mail	Lawrence Tech provides e-mail accounts to all faculty and students. Students or faculty members can choose to use their own e-mail account by changing their information within Lawrence Tech’s Banner™ and Blackboard™ systems.
Gradepoint™	Gradepoint™ is a hosted web collaboration service for which Lawrence Tech has an annual contract. Gradepoint™ is not integrated with Blackboard™ and therefore requires separate administration. Replacement services are being evaluated including WebEx™, Horizon Wimba™, and Elluminate™.
Streaming video and vodcasting	Lawrence Tech maintains a streaming video service that provides RealVideo™ streams for student viewing. These streams can be directly integrated into Blackboard™ course shells.

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Tool	Description
Streaming audio and podcasting	Lawrence Tech provides streaming audio services using Real™ technology, and can serve podcasts directly through its Blackboard™ environment.
RSS Feeds	Lawrence Tech support Real Simple Syndication (RSS) feeds through its Blackboard™ environment, enabling courses to present current news and podcast menus to students.
Webcasting	Lawrence Tech provides webcasting services through its videoconferencing facility located in the Teaching Learning and Technology Center. Students view webcasts using RealPlayer™ software.
Voice over IP	Voice over IP (VOIP) allows students to converse with faculty members over an Internet connection. LTU Online encourages faculty members and students to use the free Skype™ VOIP service for personal calls and group conference calling.
Teleconferencing	Lawrence Tech provides the InterCall™ reservationless telephone conferencing service. Instructors can establish a telephone conference call that students access using a free 1-800 number. Conference calls can be recorded for later playback.
Instant messaging	LTU Online instructors are encouraged to use one or more instant messaging services for contact with students. Students and instructors can use one of many IM “aggregators” to manage conversations using the major IM services. ²⁶
Office Productivity Suites	Microsoft Office™ is included in Lawrence Tech’s laptop image that is provided to all undergraduate students. Open Office is an open source alternative that can be downloaded from http://www.openoffice.org . Instructors can create presentation materials with either product for posting to Blackboard™ course shells.
Adobe PDF™	PDF™ formats can be used to provide lecture and other print material to students through Blackboard™. LTU Online owns development licenses and the Acrobat Reader™ software is free for student use. Open Office allows students to save their work in PDF™ format.
Blogging	Lawrence Tech maintains a blogging service for use by faculty members and administrative staff. Many other commercial blogging tools are available for free use.
Wikis	Wikis are web collaboration tools that allow participants to build shared knowledge bases. Lawrence Tech is evaluating the deployment of Wiki technologies.

Figure 12 - LTU Online Course Development Tools

²⁶ Trillian is an example of an IM aggregator. See <http://www.ceruleanstudios.com>

SCORM Considerations

LTU Online’s course development process considers the SCORM requirements shown in Figure 13 to maximize the potential for exporting LTU Online learning objects to SCORM-compliant learning management systems. Designing learning objects to be SCORM-compliant helps prepare LTU Online to make use of the Blackboard™ Content System when it is implemented during the 2006-2007 fiscal year.

Phase	Considerations
Analysis	<ol style="list-style-type: none"> 1. Verify that the content will be deployed in a SCORM conformant LMS. If a SCORM conformant LMS will not be available, re-evaluate the requirement for SCORM conformant content. 2. Review the Data Model Element section of the SCORM 2004 Run-Time Environment Version 1.3 to learn about the data tracking opportunities. Determine the data tracking requirements for the content. 3. Identify potential secondary audiences for content. Determine which sections of the content can be shared by multiple audiences. 4. Identify an appropriate strategy for recording meta-data and storing content in a repository. Meta-data enables learning resources to be described in a common way so that they can be searched in a repository and retrieved for reuse.
Design	<ol style="list-style-type: none"> 1. Chunk your content so that sections can be reused. 2. Collaborate with technical developers who are familiar with the SCORM to determine the best way to organize the content to meet the project requirements. 3. Design Sharable Content Objects (SCOs) for content that requires data about the learner's experience with the SCO to be tracked. 4. Design assets for content that is launched by the LMS but does not require data to be tracked about the learner's experience.
Development	<p>For content that will be reused:</p> <ol style="list-style-type: none"> 1. Storyboard the content so that it can stand alone. For example, do not refer to a previous lesson if it appears in a different SCO. 2. Determine how the reusable content can be effective without context-specific information. Or, provide context-specific information externally from that content.

Figure 13 - SCORM Considerations

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Course Syllabus Template

The course syllabus template deployed for all LTU Online courses is shown in Figure 14.



LTU Online

Course # [ex: MGT6233-01]

Course Title [ex: Business Strategies in Electronic Commerce]

Course Information:	Course: CRN: Section: Campus Code:
Dates:	Start Date: End Date:
Instructor Contact Information:	Name and Title: [ex: Kamal Kakish, Adjunct Professor, Graduate College of Management] Telephone: E-mail: Online Chat Office Hours: Telephone Office Hours:
Course Text Books and Other Materials	Required Text(s): Optional Text(s): Supplementary Readings:
Course Description	
Course Objectives	
Course Policy	Lawrence Tech General Policies College specific policies LTU Online policies Academic Integrity Banned Errors Assignments Projects Use of Technology Any other policies specific to the course
Important Dates	Last day to drop course with 100% refund Last day to withdraw Other significant dates
Grading Policy	Grading Rubrics Grading Scale Grade Weights
Technical Support:	For software or hardware issues, contact the Lawrence Tech Help Desk Telephone: 248-204-2330

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	E-mail: helpdesk@ltu.edu For Blackboard issues, contact the Veraldi Instructional Technology Resource Center Telephone: 248-204-3750 E-mail: vitr@ltu.edu
Academic Support:	Library Telephone: 248-204-3000 Web site: http://www.ltu.edu/library/index1.asp E-mail: refdesk@ltu.edu Academic Achievement Center Telephone: 248-204-4120 E-mail: hobart@ltu.edu
Student Services Support:	Office of Student Affairs Telephone: 248-204-4100 Web site: http://www.ltu.edu/student_affairs/index.asp
Course Calendar	Session reading assignments and collaboration activities Assigned dates for assignments, exams, etc.

Figure 14 - LTU Online Course Syllabus Template

Appendix E: Teaching Expectations

An ad hoc online learning task force within the College of Management developed this draft list of teaching expectations for traditional, hybrid, and online courses. These expectations are offered here as an example of the type of observable and actionable objectives for Lawrence Tech instructors.

Baseline Teaching Expectations

All classes (traditional, hybrid, or online) should be supported by:

1. A comprehensive syllabus including
 - a. instructor information
 - b. course information
 - c. comprehensive schedule
 - d. comprehensive description of assignments
 - e. evaluation rubrics
 - f. grading scale
 - g. student and instructor expectations for the course, including expectations of Blackboard™ participation and e-mail response
2. Blackboard™ site for the course including
 - a. posting of the syllabus and bibliography
 - b. instructional resources for each class meeting or each schedule week of the class
 - c. discussion forums for selected topics in which the instructor actively participates
 - d. disabling Blackboard™ features not used for the course
 - e. posting period announcements for students during the course
 - f. other features as determined by the instructor
3. On-ground class meetings
 - a. delivered according to the schedule and as noted in Banner™
 - b. meet for the duration of the scheduled time
 - c. consist of a mix of instructional approaches
 - d. include active student participation and involvement
4. A formal assessment plan including
 - a. pre-assessment or intake assessment of entering student knowledge
 - b. formative assessments during the class in the form of quizzes, mid-term test, essay assignments, or other approaches
 - c. a summative assessment at the end of the semester in the form of a written examination, essay examination, terminal project and presentation, or other approaches
5. A formal course evaluation and improvement plan

LTU Online Course Delivery Expectations

During the delivery of an online class, several operational metrics should be established to be sure that classes are being conducted according to schedule, such as:

1. Course syllabus published to Bb by _____ date.
2. Instructor posts introductory e-mail message and welcome announcement to students by _____ date.
3. Instructor responds to each student's e-mail replies with an individual message within _____ hours after receipt.
4. Instructor posts _____ or more high-quality messages to each week's Bb discussion forum.
5. Instructor responds to student Bb contributions with at least _____ high-quality responses per _____ number of student responses.
6. Instructor is not absent from Bb participation for more than _____ hours or _____ days without advance notice to students.
7. Instructor returns all assigned homework to students within _____ days after receipt.
8. Instructor includes an "Instructor Expectations" section in his/her syllabus which includes all of these and other items.