

## Principles of Finance: The Design and Implementation of an Online Course

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### Abstract

This case study outlines the structure and implementation of an online introductory finance course developed at the University of Nebraska-Kearney. The instructor describes the components for an effective online finance classroom. The paper contributes to the body of knowledge for distance education through a first look at an online undergraduate finance course.

**Keywords:** online education, undergraduate finance, quantitative online course, online syllabus, discussion board

### Introduction

Online education continues to grow in numbers: the number of students taking online courses, the number of online offerings, and the number of academic leaders that see online education as critical to the long-term strategy of their institution (Sloan Consortium 2006). Despite the rapid growth in online education, barriers to distance education remain. The Sloan Consortium (2006) survey of Chief Academic Officers revealed that the greatest impediment to the adoption of online education is due to a perceived lack of student self-discipline. The second and third cited barriers were greater faculty time and effort required to teach online and a lack of faculty acceptance of online education. The percentage of administrators that believe their faculty accepts the value and legitimacy of online education is approximately 25%; this percentage has remained relatively constant over the period 2003 – 2006. Faculty acceptance has not kept pace with the reported increases in online students, the number of online class offerings, and perceived importance by senior administrators.

Factors affecting faculty participation in online education are outlined in Maguire (2005). The study showed that both administrators and faculty agree on the following barriers to online education: lack of technical support, lack of release time, and concerns about workload. Specific guidelines for the design of online courses within individual subject areas directly address the frequently cited impediment of faculty time and effort.

Research focused on general online education principles is plentiful. However, applications to online finance courses are scant. The objective of this paper is to provide a resource for instructors of finance and other quantitative-based courses. Similar papers across disciplines collectively have the potential to positively affect two of the three most frequently reported barriers to online education: faculty time and effort and faculty acceptance levels.

Building blocks for a successful classroom include: a detailed syllabus, comprehensive course content, engaging classroom communication, and clearly defined student assessment measures. Section one of this paper provides a general description of the undergraduate finance class. An outline of the course building blocks follows in section two. Results and future implications are discussed in sections three and four.

## The Course

This case study outlines the Principles of Finance course offered online at the University of Nebraska-Kearney. The course is a core requirement for business degree completion; therefore, sections consist of students with various program emphases (accounting, economics, finance, management, management information systems, and marketing). Principles of Finance is offered both online and face-to-face (F2F). Students have the option to enroll in either a F2F section, offered each semester, or in the online section, offered approximately one semester per year. Student enrollment for both the online and F2F sections is a combination of traditional residential students, traditional commuter students, and non-traditional students. Prerequisites for the class are Accounting I and II, Principles of Macroeconomics, and Principles of Microeconomics. Students access the online class through the University's Blackboard course management system.

## Course Components

### *Syllabus*

A comprehensive syllabus alleviates student anxiety and reduces faculty time and effort during the first few weeks of a course. This course syllabus provides detailed steps for locating and accessing course content, assignments, student discussion forums, and the virtual classroom. The syllabus contains standard F2F sections such as course materials, course description and objectives, student and instructor expectations, and grading policies. Course structure, course schedule, course requirements, and communication guidelines are expanded to convey the type of information typically covered in the first meeting of a F2F class. To alleviate potential concerns over the length of the online syllabus, the instructor provides access to each section via inserted hyperlinks.

The course structure section outlines a learning framework for the online student. A portion of the course structure is provided in Figure 1. The class is divided into segments of one week. Due to the cumulative nature of the material, students should complete the chapters in the suggested order. The recommended course of study is:

1. read assigned chapter in textbook
2. participate in Powerpoint lecture materials, *take notes*
3. utilize flashcards to reinforce learning
4. complete the chapter review, self-test problems, concept review and critical thinking questions in the textbook
5. at a minimum, solve the recommended homework problems; students should work additional end-of-chapter problems until you feel that you thoroughly understand the material
6. take the online quiz (not graded) to test your understanding
7. throughout the learning process, utilize the discussion boards for questions and comments regarding chapter problems and content

Figure 1. Course structure

The course schedule numerically lists the tasks to be completed during each week. A partial course schedule is shown in Figure 2.

<u>Week</u>	<u>Chapter</u>	<u>Assignment</u>
6: 10/1-10/7	7	1. recommended problems – Ch. 7 2. discussion board participation 3. online quiz – Ch. 7
7: 10/8-10/14	8	1. recommended problems-Ch. 8 2. discussion board participation 3. online quiz – Ch. 8 4. SPREADSHEET #1 DUE: 10/8

Figure 2. Course schedule

Examination procedures are discussed in the course requirements section of the syllabus. This section also describes specific procedures for preparation and submission of the end-of-chapter (EOC) problems and spreadsheet assignments.

The communication section of the syllabus describes the role of active participation in the course. This section provides detailed procedures for asynchronous and real-time online communication. Guidelines for courteous communication among class participants are presented in the communication section.

### *Course Content*

The course content area is organized by chapter folders. Within each folder are: chapter summaries, narrated Powerpoint presentations, flashcards, online study guide activities, and links to financial resources on the Internet. The instructor also provides online practice chapter quizzes.

### *Communication*

Communication consists of asynchronous threaded discussions and real-time examination review sessions. The instructor also schedules weekly office hour chat sessions and exchanges individual emails. Students participate in a class discussion board and a group discussion board.

Display Order	Forum
1	<a href="#">Course Procedures: Weeks 1-3</a> Space for you to discuss course policies and procedures.
2	<a href="#">Course Procedures: Weeks 4-6</a> Space for you to discuss course policies and procedures.
3	<a href="#">Course Procedures: Weeks 7-9</a> Space for students to discuss course policies and procedures
4	<a href="#">Course Procedures: Weeks 10-17</a> Space for students to discuss course policies and procedures
5	<a href="#">Student Lounge</a> Use this space to relax and talk about what interests you. It is a place to talk about campus activities, your hobbies, a favorite sports team or restaurant.
6	<a href="#">Introductions</a> Class participants are encouraged to introduce themselves to the class.

Figure 3. View of Class Discussion Board

Class participants post introductions on the class discussion board during the first week of the semester. This assignment begins the development of a sense of community among class members and also directs students to a space where they may post course procedure questions. Example course procedure questions are: Where can I find the problem solutions?, I'm having difficulty entering the virtual classroom, what should I do?, and Why do I not receive a receipt when I send a document through the digital drop box?. Although answers to virtually all student course procedure and policy questions are available in the syllabus or prior announcements, the class discussion board serves as a valuable resource for students who may be overwhelmed during the first few weeks of a course. The instructor responds to all posts within 48 hours and, for future reference, also directs students to the online resource that contains the answer to their question. A student lounge area is also provided to facilitate community development within the online environment.

The class discussion board successfully separates the procedural issues and the course content addressed in the group discussion area. The group discussion board is an avenue for students to apply the analytic and quantitative concepts in the course. Students are expected to prepare solutions to all recommended EOC problems and post one problem solution by Wednesday of each week. Participants are required to post a solution for problems not previously addressed by other group members. This process maximizes the number of assigned problems that are discussed.

Group members are responsible for the accuracy of the submitted solutions. Student group activity during the second half of each week module involves reviewing the work of their colleagues and posting revised solutions, as necessary. The atmosphere among group members is cooperative; students often post additional questions on revised solutions or on other problems not previously addressed in the forum. Class participants are encouraged to respond to group members' questions. The instructor monitors the discussion board daily and responds to all queries that are not addressed in a timely manner. The instructor also provides suggestions and guides the discussion for problems that are relatively difficult to solve.

Students are also required to respond to a weekly instructor question dealing with a qualitative aspect of the chapter material. These asynchronous discussions focus on an aspect of the current chapter that merits additional reflection. The instructor question may be an extension to the chapter material and/or require students to locate and retrieve financial information from the Internet. The interactive discussion among the students and instructor delves into the issue to stimulate learning and encourage applications.

Display Order	Forum
1	<a href="#">Week 16: Final Exam Preparation</a> Post 1 problem with a suggested solution that you are having trouble with. The quantitative problem may be from any chapter. This forum encourages all group members to identify any problem areas and to begin their final exam preparation in a timely manner.
2	<a href="#">Week 15: Bankruptcy</a> Is bankruptcy a sword or shield? Is it ethical to brandish the threat of bankruptcy to extract concessions from employees and to renegotiate terms with creditors? What do you think? You may use the recent developments in the airline industry, or any other firm/industry of your choice, to frame your answer.
3	<a href="#">EOC Problems/Questions: Ch. 16</a> A forum for posting EOC problem solutions and for any questions or comments regarding chapter content

Figure 4. View of Group Discussion Board

### *Student Assessment*

Students are evaluated on the basis of class participation, two spreadsheet assignments, and four examinations. Participation grades are based both on quantity and quality. To receive full participation points, each week students are required to respond to the instructor question, post one problem solution, show good effort with regard to the collaborative EOC solution corrections, and provide quality responses. Participation grades are assigned according to a grading rubric developed by the instructor.

All examinations are submitted electronically from a proctored location. The testing procedure is consistent with prior research that compared levels of learning in an online class where one group received proctored exams and one group completed exams without a proctor. The study revealed that a higher level of learning occurred in the group with proctored examinations (Wellman, 2005). The Principles of Finance students may choose to take the exam at an approved off-campus location or schedule an appointment with the distance education testing center on campus. The proctoring arrangement maintains flexibility for students while preserving the integrity of the examinations.

### **Results**

Preliminary results of the online course are based on student withdrawal rates, the percentage of students passing the class, and student evaluations. Reference information from the F2F sections is also provided.

The content of the online and F2F sections is comparable; however, the sections differ in terms of course design and implementation. For example, the online section utilizes collaborative quantitative problem solving methods, flashcards, and weekly quizzes to reinforce chapter content. The F2F sections are instructed in a traditional lecture format without electronic flashcards. On campus students take fewer quizzes and do not participate in formal small group problem solving activities. Student composition varies by delivery mode. Both the online and F2F classes contain traditional residential students, traditional commuter students and non-traditional students. However, the non-traditional students and traditional commuter students account for a larger percentage of the online enrollment.

The author has instructed five online and eight F2F Principles of Finance classes over the period of 2004-2007. Online student withdrawal rates range from 7% to 10% for fall and spring terms. Withdrawal rates for F2F sections taught by the same instructor (fall and spring terms) range from 0% to 3%. Online summer session withdrawal rates are higher: 11% for Summer 2004 and 20% for Summer 2006. One factor related to the higher summer session withdrawal percentage is the small class size. The instructor does not have comparison data for a F2F summer session.

The percentage of students passing the online course is 77%; the percentage of students receiving passing final grades in the F2F sections is 91%. Possible reasons for the pass/fail rate discrepancy between the online course and the F2F sections include the perceived difficulty of learning quantitative course material online, student difficulty with the online environment, lack of student discipline, and the higher percentage of full time employed, non-traditional students in the online sections. Future study directly comparing the two types of courses may identify significant variables related to the pass/fail rate.

Student evaluations for the course are positive and comparable to the evaluations from the F2F sections. Online enrollment is at the limit of 25 for the current semester. The instructor attributes the success of this course to the following factors: a comprehensive and detailed syllabus, student engagement through asynchronous and real-time communication, a 48-hour guaranteed instructor response time, and a systematic method of addressing the quantitative aspect of the course.

### **Future Implications**

One of the distinguishing challenges to effective online instruction of finance is the quantitative nature of the course. This case study is presented in response to a lack of prior studies on the creation and implementation of online finance courses.

Future work in this course will concentrate on improving the pass/fail rate. Efforts will continue to accommodate various learning styles. For example, during the Spring 2006 term, the author incorporated a Graphire tablet during real-time chats to accommodate visual learners. Focus will continue on student engagement. The literature reports a strong connection between the quality and quantity of online interaction and student satisfaction (Picciano, 2002; Sherry, 1996). Educators that effectively develop a sense of community among the class participants will achieve superior learning outcomes.

This case study has future implications for the frequently cited barriers to widespread acceptance of online education. Additional examples of course design across subject areas will reduce future faculty time commitments. Dissemination of online course design and implementation has the potential to positively impact the current level of faculty acceptance of online education.

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