



King Fahd University of Petroleum and Minerals

DEANSHIP OF ACADEMIC DEVELOPMENT

KFUPM ONLINE COURSES:

A Guide for Course Developers



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1. INTRODUCTION

Online courses represent a form of distance education and hence represent an alternative to the customary face-to-face class meeting. The University is interested in exploring, and taking advantage of the potential of this new medium. Online courses are developed and conducted in a variety of formats and extents. It is however important to note that, for the purpose of this grant, an online course can be defined as:

*A distance-education, **multimedia-rich** course that utilizes the features and tools of Internet/Intranet environment, and is conducted and delivered completely through the medium. The **Online Course** should use the necessary tools and be **comprehensive enough** so that it is considered a **viable replacement** of the traditional **face-to-face** method of teaching. The course should encourage engaging the learner actively and effectively with the instructor, monitoring, providing prompt feedback, evaluating and facilitating **enjoyable, self-directed and active learning**.*

A course that has both online and face-to-face components is called a ‘Hybrid Course’. Such a course does not conform to above definition and thus is not eligible for the DAD online course grant.

2. ESSENTIAL FEATURES OF AN EFFECTIVE “KFUPM” ONLINE COURSE

Good Teaching Practices for online instruction are not really different from Good Practices for traditional on-campus instruction. An Online Course should therefore ultimately conform to the well-known seven principles of **Good Teaching Practice** as provided by *Chickering and Gamson's* seminal work (1987). These are as follows:

- Encourages **Contacts** between students and faculty
- Encourages **Cooperation** among students
- Encourages **Active Learning**
- Gives prompt **Feedback**
- Emphasizes **Time on Task**
- Communicates **High Expectations**
- Respects **Diverse Talents and Ways of Learning**



The above seven good principles can be viewed by the Online Course developer as objectives that must be accomplished via whatever innovative means and tools he sees appropriate and possible with the course system/delivery tools. There are teaching and learning principles and strategies, which can be applied with equal effectiveness **face-to-face** or **online**. Achieving certain objectives could be easier in one medium than other depending on the teacher and students circumstances and needs. **The effectiveness basically depends on how you apply these principles and strategies and not the medium itself.** A recommended model of a virtual classroom is shown in the following figure below [figure 1]:

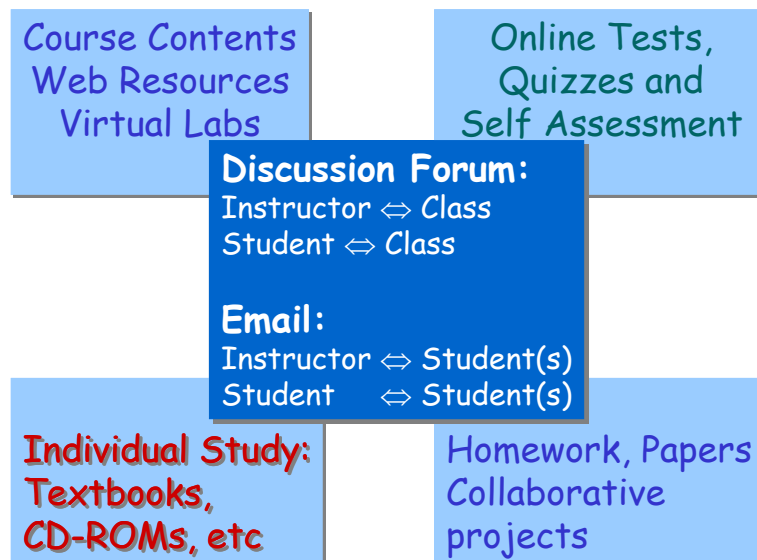


Figure 1: A Recommended Model of a Virtual Classroom

KFUPM Online Course must consist of the following components:

- ☐ **COURSE CONTENTS**
 - ☐ **COMMUNICATIONS**
 - ☐ **ASSESSMENT and FEEDBACK**
 - ☐ **MANAGEMENT**
- KFUPM has two e-learning platforms, *WebCT* and *Blackboard* available to faculty and students. These e-learning platforms:
 - Facilitate many of the functionality and address the four components mentioned above.



- Provide many tools that can be utilized to achieve good teaching practices giving the course developer ample time to direct his efforts towards detailed and careful planning of his course contents.
- Consider implicitly the issues of portability (i.e. a course developed using one platform can be moved to the other).
- It is **required** that developers of Online Courses utilize the **WebCT** e-learning platform.

3. COURSE DEVELOPMENT

3.1 Course Content

Course contents form the core of any course. The components and important considerations in the development of contents for the online courses are outlined below:

- Course Contents delivery in the form of **hypertext** or **multimedia**
- Contents should include
 - Syllabus, Course Goals, Course objectives
 - Course Schedules
 - Grading Policy
 - Any other general information
- Course **Resources** (e.g. Indexes, Glossaries, Databases etc.)
- **External Links** and **References** (Links are made at the point where relevant information interconnects with discussed topic and other information)
- **Clear Directions** to students that how to navigate through the course
- Course Contents should encourage students to effectively utilize the course assigned textbook, however contents should not be centered on one particular textbook. This is to ensure the sustainability of the online course contents even when there is a change of the course textbook. Appropriate permissions should be obtained to all material for which the developers are not the originators.

3.2 Challenges for Course Content

A. Puts learners into perspective

Before beginning course development, online course developers should have a clear understanding of their target audience, the learners. Course content authors should know



learners' level of motivation, current knowledge level, their language skills and computer literacy. This will keep an online course developer focused towards developing better instructional material with a minimal chance of causing boredom and frustration.

B. Spells out learning contract clearly

The course rationale, measurable objectives, learner responsibility and learning outcomes should be clearly spelt out. Grading policies and related matters should also be highlighted early enough. Students should know what they are expected to be able to do after graduating from the course.

C. Covers course contents adequately

Without proper planning, online course developers may find themselves overwhelming the learners with material. Course contents must be up to date and appropriate choice of examples should be made to enhance the realization of the set learning outcomes.

Some subjects tend to be very dynamic as their knowledge areas are constantly evolving. As course developers, it's very important to keep up to date, to ensure that course preparation is incorporating the latest technologies. This will give a relatively longer lifetime to KFUPM online courses before revision or redesign becomes necessary.

D. Contains sufficient motivating elements

Probably the most critical factor in learning is the motivation of the learner. As online course developer, you must ensure that online learners are properly motivated. Include instructional elements that catch and hold learners' attention. Attention is like a flashlight in a dark room; one can observe the details of objects in the bright beam but notice less about objects in the dim shadows. Incorporation of graphic images, can serve as metaphors, alongside newly introduced concepts with a view to catching learner's attention.

E. Illustrates concepts adequately

Studies show that combining various media can increase the receptiveness of the human senses, shortening learning time and improving results. An online course should make use of multimedia elements (animations, sound, graphics, color etc) to illustrate and explain important concepts. Multimedia allows a variety of learning styles and preferences



to be accommodated. This is where the online author can really appeal to learners' intuition and, potentially, do better than what can be done in the traditional face-to-face method of instruction. Animations are one of the central vehicles for realizing learning effectiveness in online courses. Although animations require high time investment to be built, their effectiveness at enhancing learning is worth the time investment.

F. Engages learners actively

There is a general belief that “interactive engagement methods” enhance the effectiveness of teaching. Interactive engagement methods include: collaborative peer instruction, problem sets, tests and quizzes, computer-based simulation, and model building. Online courses can be delivered and deployed using *WebCT*, a rich learning management system, supporting a number of ways of achieving real-time interaction and assessment.

G. Provides regular feedback

In addition to intra-presentation feedback, an online course should provide feedback to learners through facilities provided by course delivery tools like e-mails, discussion groups, chats, online quizzes etc. Other means of assessment are projects, written assignments, case studies, and essay questions all coordinated using the delivery tool of choice. Regular assessment and feedback is necessary to assess whether learning has taken place and to identify problems early and institute corrective majors quickly.

H. Addresses originality issues adequately

Online course authors may find ready-made animations or video clips that they can incorporate into their course contents, if their authoring tool permits. Appropriate written permissions should be sought and acknowledgements or references should be given to all material for which the author is not the originator.

Note:

- The interface design must provide **ease of navigation**, **a sense of human interaction**, and helpfulness and responsiveness to the needs of learners studying in an information rich, self-directed medium. Learners need to feel confident that they know where they are at any one point in the course and that they can easily make contact with others as the need arises.



- The content development phase is a skill and labor intensive job. Apart from the necessary subject experts, the online course development team should have enough number of skilled and experienced content developers. In addition it is highly recommended that the team should have instructional designers.
- Document formats used with desktop application, e.g., MS Word Documents, PowerPoint Presentation, and PDF documents are not optimized for presentations on web. Formats specifically designed for web and are used in professional web development should only be used.

The process of content development is the most crucial part of the overall course development process. It is therefore important that online course development team well understands the issues and process of effective content development. This is discussed in further detail in the article “Tips for Developing Media-rich Online Courses”. The article is available online at <http://tojde.anadolu.edu.tr/tojde8/articles/developingmedia>. In addition to the content, the course should be developed considering all the other aspects of the course which are discussed in section 4.

4. COURSE DELIVERY

4.1 COMMUNICATIONS

This is probably the most important area for success in online teaching; good communications are the key to keeping our students involved, helping them learn, and making the entire online experience worthwhile. Two types of communications can be established:

- **Asynchronous Communication** (in which the receiver gets the message minutes, hours, or days after it is sent i.e. with time delay):
 - Discussion Board (postings, anonymous or direct)
 - Announcement / Course Calendar (can be made by students as well as faculty to share links and/or information)
 - Student-created Homepages
 - Discussion and Communication among students groups
 - E-mail (sent between faculty and one or more students; between students)
 - File sharing areas.
 - Phone numbers for support (technical and academic)
- **Synchronous Communication** (in which the receiver gets the message instantly)



- Chat (multiple synchronous conversations)
- White Board (to draw synchronously with students)
- Video/Audio Conferencing

4.1.1 Challenges for Communications

- Students will cooperate with each other if you make that communications part of the class requirements
- It should be noted that the **degree** or the **extent** of established good communications might vary from one course to another depending on the field of study and the course topic(s).

4.2 ASSESSMENT and FEEDBACK

Students learning online can often feel isolated so a rapid feedback is required. Feedback can come back to students in many ways, including email as well as through the discussion forums, online chats, and whiteboards.

- **Quiz/Test/Exams** (with automatic feedback from self-tests and quizzes)
- **Assignments and Drop Boxes** (areas for students to submit assignments that can be quickly viewed, graded, and enhanced with comments).
- With every assignment, you may need to provide specific directions, and even control whether students can access assignments based on their success in quizzes.
- **Student Self-assessment** (students can see their grades and read what you think of their work)
- **Group and Individual** project presentation and discussion
- **Assessment based on participation** (in discussion board, postings, etc)
- The online course developer should address issues related to student's cheating or being dishonest. Some strategies to minimize cheating online are given at the end of this document. Useful links that address this particular issue are also recommended.

Note:

- The online course should be designed to include an integrated survey to test the effectiveness of the course in achieving its objectives. This type of assessment can be used to measure the course's strengths and weaknesses and help to continuously enhance it. The survey tool can also be helpful to the DAD to judge the quality of the online course and assess its success.



4.3 MANAGEMENT

At this stage, the online course content is now published on a learning management system. Select tools that provide a rich set of options that enable delivery of course material appropriately. For example, *WebCT* and Blackboard, KFUPM's e-Learning platforms, provide means for monitoring interactions, students' tracking, online quizzes and exams and for handling other course administrative matters.

In addition, *WebCT* and Blackboard contain course survey tools that can take advantage of in order to get feedback on the online course. Online course developers should conduct surveys to analyze the usability of their system, its efficiency, how its meets learners satisfaction etc. This is an important exercise because online courses rely on continuous and periodic improvements and learners' surveys are one of the best ways of getting such input.

- **Course Material Delivery Management**
 - Delivery of course contents /assignments /projects (e.g. sequential release)
 - Announcements
- **Student Tracking** (which will help students (and teachers) see where they have been, and see their participation in the discussions)
- **Student Progress Management**
 - Grade Management and delivery
 - Feedback to students
- **Technical and Accessibility Management**
 - Students can reliably access all online course components and instructions on what they can do if they face any technical or accessibility difficulties.



5. USEFUL LINKS

1. **Tips for Developing Multi-Media Rich Online Courses** (Dr. Sahalu Junaidu, KFUPM)
<http://tojde.anadolu.edu.tr/tojde8/articles/developingmedia>
2. **Creating Effective Instructional Materials for the World Wide Web**
<http://ausweb.scu.edu.au/aw96/educn/oliver/index.htm>
3. **Teaching Online with *WebCT***
<http://chabotde.clpccd.cc.ca.us/shildreth/webct/teaching.html>
4. **Designing for learning: What are the essential features of an effective online course?**
<http://www.ascilite.org.au/ajet/ajet13/brown.html>
5. **Strategies to Minimize Cheating Online**
<http://www.ion.illinois.edu/IONresources/assessment/cheating.html>
<http://leahi.kcc.hawaii.edu/org/tcon98/paper/rooks.html>
<http://www.depts.washington.edu/grading/issue1/honesty.htm>
6. **Proposed Standards for Developing and Teaching Online Courses**, Digital Campus, California State University, Fresno, December 2001, Revised May 2, 2002.
http://www.csufresno.edu/digitalcampus/faculty/standards_draft_revised5-2-02.pdf