AN ENVIRONMENTAL SCIENCE COURSE AT THE UNIVERSITY OF PHOENIX: ONE CLASS DELEVERED THREE WAYS AT MORE THAN 100 CAMPUSES

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1. INTRODUCTION

The University of Phoenix (UOP) is an accredited university that offers degree programs at the bachelor's, master's and doctoral level. Students have the opportunity to take courses using three different methods of delivery: conventional classroom, online, and UOP's FlexNet(r) method, which is a combination of classroom and online. UOP is the nation's largest private university, serving more than 160,000 students at 120 campuses and learning centers across the United States and in Puerto Rico and British Columbia (Fig. 1). Through the Online Campus, the University reaches students the world over.

States with University of Phoenix Campuses: ▮

Figure 1. States with UOP campuses (UOP 2003)

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The vision of UOP is described by Dr Craig Swenson, Provost and Senior Vice President for Academic Affairs: "University of Phoenix is a learner-centered institution. The University's academic vision is embodied in the answers to four crucial questions. At the end of every week of class, every course, and every academic program, we ask four questions: Do our working adult students know what they should know? Can they do what they should be able to do? Have we helped them develop values appropriate to their professions? Are we helping them achieve their life and professional goals? If we can answer yes, then we will fulfill our mission and our other goals will naturally follow."

The mission of UOP is to educate working adults to develop the knowledge and skills that will enable them to achieve their professional goals, improve the productivity of their organizations, and provide leadership and service to their communities.

UOP's five academic goals are described by Dr. Elizabeth Tice, Associate Vice President for Learning Assessment and Dean, College of General and Professional Studies: "University of Phoenix has identified five learning goals that each student should achieve. They are professional competence and values, critical thinking and problem solving, communication, information utilization, and collaboration. To that end, we are committed to providing the innovative support students need to achieve these goals" (UOP 2003).

2. UOP CURRICULUM

Curriculum for UOP courses is developed and presented with the vision and goals in mind. Most of the curriculum is developed at the Phoenix AZ headquarters location. The curriculum development staff calls on subject matter experts to

serve on development teams. A development team begins work with the student in mind -- according to the UOP vision and mission statements -- and proceeds to accomplish a UOP course template.

To ensure that academic programs reflect the current state of theory and practice, expert teams selected from both full-time and practitioner faculty collaborate to create course objectives, content, suggested activities, and assignments. Curriculum development managers provide oversight of the documentation process, and instructional designers ensure that courses "map" appropriately to program objectives and the University's Learning Goals. Armed with these resources, teaching faculty members are better able to integrate the sound theoretical foundation contained in the course module with their knowledge of current practice in their professions (UOP 2003).

The published curriculum for each course at UOP comes in two parts: a Course Syllabus and a Faculty Notes.

The Course Syllabus is a document prepared by the instructor and provided to the student before or during the first class meeting. The Syllabus contains course description, topics and objectives, faculty contact information, reading assignments, assessment and grading information, written assignments for week one, and any supplemental materials. The Syllabus is like a roadmap that helps the student progress through the course. The Syllabus should also indicate to the student how he or she will achieve UOP's five learning goals.

The Faculty Notes is a document that contains content information that an instructor uses to prepare classroom presentations, assignments and assessments. It contains information about course description, topics, and objectives, administrative notes, content notes, learning activities notes, and any supplemental materials. The instructor uses information in the Faculty Notes to create a personalized version of the Course Syllabus for his or her particular section of the UOP course.

Curriculum for UOP classroom and online courses is divided into two parts; the part presented by the faculty in the classroom, and the part that is self-discovered by the students in weekly meetings of their "Learning Team." UOP students are strongly encouraged to develop and exercise leadership and followership skills during the Learning Team portion of the course. This unique and innovative part of the UOP curriculum teaches skills needed for UOP graduates to be successful in most of today's workplace environments. Feedback from industry, government, and academic leaders confirms that teamwork skills emphasized at UOP are a critical component of successful employees.

3. COURSE CONTENT DEVELOPMENT

Curriculum development at UOP is an exercise in small team collaboration. The author recently participated in course development for UOP's SCI 256, Environmental Science, and SCI 362, Environmental Ethics, courses. The SCI 256 team was composed of an environmental scientist, a curriculum developer, a science educator, an instructional designer, and the dean of the college of education. The team's task was to write the Course Syllabus and Faculty Notes "modules" for SCI 256. These two modules would be used to teach and learn SCI 256 at all of UOP's campuses and online. The team completed the lion's share of the task in less than three days.

The development of the Syllabus and Faculty Notes modules began by reviewing the course textbook, consulting with the subject matter expert (SME), and then writing a course description and general topic areas. It is critical to consult the SME when designing the course because the state of the art in some fields changes so rapidly that texts often do not keep up. The team then wrote supporting objectives under each general topic area. For example, two of the general topics, and some of their supporting objectives, for the SCI 256 course were:

1. Scientific Method
- Describe scientific method
- Interpret the use of scientific method in an environmental science issue
- Discussion question: What problem in your daily life could be solved by applying the Scientific Method?

2. Natural Ecosystems
- Describe structure and function of ecosystems
- Explain ecosystem balance and imbalance
- Identify natural cycles of progression within ecosystems
- Discussion question: What are three different ecosystems and their functions?

Notice that the Objectives all begin with action verbs. The team's instructional designer and science educator employed tools such as Bloom's Taxonomy to ensure that the Objectives were designed to the correct academic achievement level (appropriate for a 100-, 200-, 300-, or 400-level course).

Notice, also, that there is at least one "discussion question" for each general topic area and supporting objectives - this question is an aid for the faculty to help focus class discussion and to help assess whether the objectives for that topic area are achieved.

Some of the discussion questions are more open-ended and enable the students to exercise critical thinking skills. For example, the question of global warming is a good topic for open-ended discussion. The instructor may present multiple scientific analyses, more than one political viewpoint, and multiple social and economic dilemmas associated with this question.

After developing the topic areas, supporting objectives, and discussion questions, the team wrote sets of weekly assignments and activities that supported each of the objectives. The assignments were divided between "individual" and "Learning Team" assignments. The team assignments were constructed so a Learning Team could easily collaborate on the accomplishment and presentation of the team assignments. And, because the course would be taught using three modes of delivery, the developers wrote two or three different sets of assignments that could be completed by classroom, online, and directed-study students.

One example of an assignment is the one suggested for the Scientific Method objective. The assignment begins with reading UOP Supplemental Material provided at the end of the Syllabus, describing the Scientific Method. Then the student is given a scenario and asked to answer questions:

You notice that the grass around your house is brown, short, and dead. The grass around your neighbor's house is green, tall, and alive. Use your understanding of the Scientific Method to explain what you have observed.

1. Recognize a question or a problem

2. Develop a hypothesis

3. Design and perform an experiment to test the hypothesis

4. Analyze the data and reach conclusions about your hypothesis

5. Share your knowledge with the scientific community <your class>

The next part of the course development was the creation of an outline to be used by faculty to present the weekly instruction. One purpose for creating an outline of the course content is to help ensure that a given UOP course taught in one location, say, Seattle, has close to the same content as the same course taught in another location, say, Fort Lauderdale. This helps guarantee that all UOP courses, no matter where or by what method they are taught, satisfy prerequisite and other degree plan requirements.

The final part of developing the Faculty Notes module is to add the "administrative notes." These are reminders for faculty to accomplish classroom tasks such as: answer any content or logistical questions resulting from the previous week, check

on the progress of Learning Team projects, preview the learning objectives and content for this week, at the end of the class or week, preview the new content and assignments for the upcoming week, and be sure that you have received all assignments that are due.

Once the Syllabus and Notes templates are completed, the finished product is reviewed and approved by the UOP leadership. Then the new course curriculum replaces the older version in the UOP curriculum database, and is instantly available, online, to course instructors throughout the UOP system. One of the benefits of using standardized curriculum is the ability to maintain a consistent level of course quality across a spectrum of teaching skills in UOP's 17,000 instructors.

4. FINAL THOUGHTS

One might get the impression that this process of specifying course content down to the detail of administrative tasks would leave little or no academic flexibility to the faculty. In practice, the opposite is true. UOP encourages faculty to tailor the details and delivery of the course so that the needs of the local student community are satisfied.

Most faculty who've taught a course more than once modify certain details of the course content, taking care to preserve the course's core topics and objectives. When preparing to teach the course, an instructor is required to write and distribute a personalized course syllabus. The methods for achieving objectives and covering main topic areas, the assignments, grading scheme, and examinations are noted in the instructor's personalized syllabus. The students are responsible for following the requirements of the instructor's syllabus.

Each UOP course is reviewed every two to three years, providing a mechanism for the most current developments in the state of the subject area to be incorporated into the curriculum. This helps ensure that UOP provides a fresh, relevant, and useful educational experience to their student community.

REFERENCES

UOP. 2003. Factbook. University of Phoenix, http://www.phoenix.edu/factbookweb/default.asp. 49pp.