

Live Campus Classes On Videotape Provide New Outreach

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The College of Applied Sciences at Western Illinois University implemented the Applied Sciences Televised Education (hereinafter, "ASTE") program in 1987. The purpose of this article is to present the per-student costs of four ASTE Agricultural Economics courses.

The WIU ASTE Program

The WIU ASTE program is designed to provide the off-campus professional with undergraduate, graduate, and non-credit courses. Courses are delivered to the student via video cassettes, instruction is at the convenience of the student, and cassettes are returned to the WIU campus. In a previous issue of this Journal (Leach et al.) we described the ASTE delivery method, and the potential regional instructional impact of the program. Additionally, we presented the per-semester costs of two Agricultural Economics courses that we video-taped in 1987 and 1988 as part of the ASTE program: namely, Commodity Markets and Futures Trading (three semester credit hours), and Marketing Grain and Livestock Products (three semester credit hours).

ASTE Program Per-student Costs

In 1989, we video-taped two additional Agricultural Economics courses: namely, Market Logic (two semester credit hours), and Options on Futures (one semester credit hour). As the ASTE program matured, it became necessary to develop guidelines related to the setting of compensatory ASTE registration fees; as a result, we calculated program costs on a per-student basis. Crawford (1988) developed a budget planning format to estimate the income and expense of a video course in the planning stage; some of the data utilized by the format are hypothetical. Our estimated per-student costs (Table 1) reflect actual expenses.

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Individual Cost Items

The fixed cost of studio-use was converted to a per-student cost by assuming a three-year life of the course (after which time, it is updated), and by allocating the fixed cost over the average annual ASTE enrollment of each course. The total studio cost and the average annual ASTE enrollment, respectively, of the four courses in question are as follows: course A) \$2,700 and 27, course B) \$3,300 and 16, course C) \$2,400 and 18, and course D) \$1,200 and 21.

The cost of video-cassette dubbing is based upon a per-hour dubbing costs of \$10, and a \$5.50 cost per cassette; it is assumed that cassettes are dubbed in units of 15 copies per run. Course handouts are reproduced and wrapped at a cost of \$0.09 per page. The shipping cost reflects the sending of video cassettes and course handouts to off-campus students located within a five-state region of the Midwest, plus the returning of cassettes to campus.

During each year of the first two years of the program, 4,500 one-page brochures describing the courses were printed and sent via bulk mail to potential off-campus students. Instructor compensation is at the rate of \$22 per semester credit hour; this amount is the standard instructor compensation for WIU continuing education courses, and reflects the instructor's time devoted to individual student interaction, examination-grading, and record-keeping. One student worker is employed to coordinate the distribution and receipt of video cassettes, handouts, and examinations; this cost re-

Table 1: Estimated WIU ASTE Program Per-Student Costs. Summer Semester 1987 Through Summer Semester 1989.

Cost Item	Estimated Cost Per Student			
	ASTE Course: A	B	C	D
Studio	\$ 33.34	\$ 68.75	\$ 44.45	\$ 19.05
Cassette Dubbing	123.00	123.00	75.20	34.20
Handout Duplication	22.45	26.55	19.80	10.90
Shipping	15.00	15.00	10.00	6.00
Brochure & Postage	6.15	6.15	6.15	6.15
Instructor	66.00	66.00	44.00	22.00
Student Worker	6.70	6.70	6.70	6.70
Supplies	4.50	4.50	4.50	4.50
Telephone	5.00	5.00	5.00	5.00
Secretary	65.90	65.90	65.90	65.90
Total Cost	\$348.04	\$387.55	\$281.70	\$180.40

Course A: Commodity Markets and Futures Trading (18 two-hour cassettes)

Course B: Marketing Grain and Livestock Products (18 two-hour cassettes)

Course C: Market Logic (11 two-hour cassettes)

Course D: Options on Futures (five two-hour cassettes)

fects two hours of activity per ASTE student. Telephone cost reflects the telecommunication cost of one-on-one interaction between the instructor and the student. Finally, the service of a one-half time secretary has been required for correspondence with ASTE students, and for record-keeping; this cost is based upon the average annual ASTE enrollment.

The revision of an on-campus course to a video-taped course requires some effort on the part of the instructor; our experience suggests, that these revisions require nearly one month of instructor time for a three semester-credit-hour course. This cost is not included in Table 1.

Total Costs

Since certain ASTE costs are fixed and were converted to a per-student cost based upon the average annual ASTE enrollment of each course, the total per-student costs of our ASTE Agricultural Economics courses vary among themselves dramatically. For example, although ASTE courses A and B are each comprised of 18 two-hour video-cassettes, their total costs differ by nearly \$40 per student.

Current Status of the ASTE Program

The ASTE program went on-line in Summer 1987; during the following two-year period, it was considered to be a pilot program, and received no appropriated funding. As a result, ASTE registration fees had to be set so as to cover total costs. Although, during this period, the program was limited in terms of exposure and enrollments, it was demonstrated to be a cost-effective distance-learning deliver-method. As a result, it was brought into the WIU School of Continuing Education during the Fall 1989 semester.

Additionally, on behalf of Western Illinois University, the Illinois Board of Governors of State Colleges and Universities has entered into marketing services agreements with two firms, whereby these firms now act as marketers of our Agricultural Economics courses. And, the Board has also entered into a royalty free license with the instructor, whereby royalty payments are made to the instructor for each set of tapes rented via the two marketing firms.

Summary

The Western Illinois University Applied Sciences Televised Education program is designed to provide the off-campus professional with undergraduate, graduate, and non-credit continuing education courses. Courses are delivered to the student via video cassettes, and instruction is at the convenience of the student. An analysis of the per-student costs of four-ASTE Agricultural Economics courses suggests that the program is a cost-effective delivery system that satisfies the instructional needs of off-campus students who are unable to attend class on the WIU campus.

References

- Crawford, Harold R. "Decision Making for Teaching With Non-Traditional Delivery." *NACTA Journal*, 32(3), 12.
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Biotechnology in Agriculture: Science and Socio-Economic Issues

L. G. Sterling, C. K. Halbrendt and S. L. Kitto

An interdisciplinary course was designed as an introduction to the applications of biotechnology in agriculture. Topics were presented from members of government and industry, as well as from faculty members in Animal Science, Plant Science and Food and Resource Economics. Students were asked to complete a survey covering a wide range of biotechnology-related issues before and after the course. Survey results showed that education is an effective means of increasing the understanding of, and allaying the fears associated with biotechnology.

The changes brought about due to the applications and products of agricultural biotechnology will have an enormous impact on society, potentially overwhelming producers, consumers and decision-makers. Commercialization of biotechnology-derived products will depend largely upon the nature of the technological advances, government regulation, and the public's education and perceptions. The rapid rate of technological growth in biotechnology has left a void in the education process. Students not majoring in the sciences may have little, or no knowledge of this emerging technology.

An interdisciplinary course was designed as an introduction to the applications of biotechnology in plant and animal science, and the related socio-economic issues. The topics were presented through a combination of faculty lectures, invited speakers from government and industry, and field trips. The objective of the course was to enhance the ability of both science and non-science majors to make informed judgments on biotechnology-related issues.

Course Development

Development of the course was funded by a competitive grant from the University Committee on Educational Innovation. Funds also were provided by the College of Agriculture and the Center for Teaching Effectiveness for additional teaching materials, field trips, video tapes, publication of proceedings, and honoraria for invited speakers. The course was developed and coordinated by three faculty members, one from each department represented in the course outline; Animal Science, Plant Science, and Food and Resource Economics.

Instructors were asked to provide a written transcript of their lecture. The manuscripts will be compiled into a proceedings that will be published and made available to the public. Proceedings also might serve as a model for those developing similar courses at other institutions.

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