Syllabus:
TEDU 510: Technology Use and Assessment
Department of Technology, Ball State University
Muncie, Indiana, USA
This document can be found at: http://techweb.bsu.edu/jcflowers1/rlo/510syl.htm

Description | Objectives | Rationale | Content | Format | Bibliography

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Course Description

"Analyzes the use and assessment of technology. Topics include usability testing, user surveying, technology assessment techniques, environmental impact assessment, and forecasting."

Objectives

By the end of this course, the learners should be able to the following:

1. Identify individuals and other resources helpful in the study of technology use and assessment.

2. Analyze how individuals and organizations adopt technologies.

3. Analyze product usability and perform usability research.

4. Interpret and perform a formal technology assessment or environmental impact assessment, using forecasting techniques to predict future outcomes and impacts of technological decisions.

5. (Please note: The course's fifth learning objective is to be written individually by each student and applies specifically to that student's learning needs and expectations related to the course topic. After the student and instructor contractually agree to the fifth objective, the student will identify a project or learning activity to best meet this learning objective. This project and the method of assessment will also be subject to contractual agreement between individual students and the instructor.)

Rationale

Too often, people use technology inappropriately. Both individual and societal decision making regarding technology would be improved by an in depth examination of how we use technology, and how it could be more wisely used. Students take a detailed and critical look at how people use technology, including a study of usability research, criteria of usability, and trends of use. Problems and solutions regarding usability are examined.

Technology assessment is an important tool for industry, agencies, consumers, and citizens to ensure that technological decisions are sound and appropriate. In this course, students assess the impacts of technology on the environment, society, and the individual.

Content Outline

1. Orientation to the online course format:

  A. Intro
  B. Logging in to the course

C. Navigating Blackboard
D. Online communication.
E. Conducting research using the Web
and the BSU Library
F. Getting help
G. Schedule of lessons, readings,
activities, and due dates.

2. Introduction to technology use and assessment

A. Intro
B. The scope of technology
C. Intro to the study of using technology

3. Proposing an individualized course objective

A. Introduction
B. Developing the objective

4. Product usability

A. Introduction
B. Product design criteria
C. User-centered design
D. Product users
E. Anthropometrics
F. Application of anthropometrics or
ergonomics
G. Universal Design

5. Usability research

A. Introduction
B. Usability
C. Usability engineering
D. Usability tests
E. Planning usability tests
F. Conducting usability tests
G. Reporting usability test results

6. Web page creation

A. Introduction
B. Planning
C. Server space
D. Tools
E. Hyperlinks
G. Posting
H. Verifying
I. Maintenance

7. Other issues related to the study of the use of technology

A. Introduction
B. Other use-related research
C. User surveys
D. Instructions for users

8. Introduction to technology assessment

    A. Overview of TA
    B. Local & informal TA
    C. TA in technology education
    D. TA in technology education
    E. Health technology assessment
    F. Environmental impact assessment
    G. Sustainability
    H. TA documents
    I. Critiquing technology assessments

9. Performing a technology assessment

    A. Introduction
    B. Logistics
    C. Technology assessment techniques

        1. Risk analysis
        2. Brainstorming
        3. Interpretive structural modeling
        4. Trend extrapolation
        5. Opinion measurement
        6. Scenarios
        7. Checklists
        8. Relevance trees
        9. Cross-effect matrices
        10. Simulation models
        11. Sensitivity analysis
        12. Probabilistic techniques
        13. Benefit-cost analysis
        14. Export base models
        15. Decision analysis
        16. Policy capture
        17. Life cycle analysis
        18. Force field analysis

Format

This course is offered completely over the Internet.

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Texts (not required)

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Online

- Online resources related to the study of the use of technology have been compiled for students at: http://techweb.bsu.edu/jcflowers1/rlo/linus.htm
- Online resources related to the study of the technology assessment have been compiled for students at: http://techweb.bsu.edu/jcflowers1/rlo/linta.htm

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