GECC Assessment of
TECH 393 - Technology in World Civilization

Winter Quarter 2010

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Section 02 – Facilitated by: Dan Sisson
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International Studies classes must meet 4 goals with related objectives. This assessment method applies the International Studies goals and objectives directly to Technology in World Civilization (TECH 393).

Approach:

Step 1: The four International Studies goals and objectives are restated in specific terms relating to the Technology in World Civilization (TECH 393) course content. The assessment is based on these course specific objectives.

Step 2: Class assessment criteria are stated for each of these TECH 393 course specific objectives. The criteria define excellent, good, adequate, and inadequate performance for each objective.

Step 3: TECH 393 is taught by a few faculty members and covers a wide range of topics. Each of the faculty members brings a different emphasis to the course, based on their background, within the range of acceptable course topics. This assessment method requires each faculty member to choose assessment instruments within their sections (exams, student projects, essays, etc.) and use them to assess their sections. Specific instructions are given in this assessment method to guide the faculty member in using this assessment.

Submitted: March 31, 2010
1. Goals, Objectives, and Rubrics

**International Studies Goal 1:** For students to understand at least one modern problem or topic linking societies within the global community.

**Objective:** Demonstrate factual knowledge about a broad problem or topic related to the global community.

**Tech 393 specific objective:** Upon completion of Tech 393 a student will be able to describe the historical development and current situation in at least two of the following areas: warfare, terrorism, global warming, the green revolution or public health.

**Excellent performance:** Student can describe the development and current situations noted above and additionally extend the concepts to predict possible future outcomes.

**Good performance:** Student can describe the development and current situation noted above and additionally identify important trends in current situations.

**Adequate performance:** Student can describe the development and current situation noted above.

**Inadequate performance:** Student is not able to describe either the development or current situation noted above.

**International Studies Goal 2:** For students to understand the dimensions of a modern international problem or topic from a non-US perspective.

**Objective:** Demonstrate an understanding of a region or culture outside of the US sufficient for analyzing its approach to a global problem or topic.

**Tech 393 specific objective:** Upon completion of Tech 393 a student will recognize the cultural effects in the adoption and diffusion of technology worldwide.

**Excellent performance:** Starting from a non-US cultural standpoint, predict the possible outcomes of adoption and diffusion of a technology within the culture.

**Good performance:** Starting from a non-US cultural standpoint recognize the adoption and diffusion of a technology within the culture.

**Adequate performance:** Understand the adoption and diffusion of a technology within another culture, as explained with minimal supporting information.

**Inadequate performance:** Student does not understand the adoption and diffusion of a technology within another culture.
**International Studies Goal 3:** For students to gain the skills to find, use, and critically assess information about a foreign culture or international problem or topic.

**Objective A:** Demonstrate the skills to evaluate published sources based upon editorial policy and readership and perceive cues to authorial, political, national, or other preconceptions.

**Objective B:** Compare and synthesize the information and perspectives presented in multiple sources.

**Tech 393 specific objective:** Upon completion of Tech 393 a student will recognize the editorial bias in articles concerning technology and be able to synthesize their own informed perspective.

**Excellent performance:** Intuitively recognize the bias of an author and use critiquing techniques of the article relating to technology. Compare the author’s position to other positions.

**Good performance:** Independently analyze the bias of the author using guided techniques. Compare the author’s bias to opinions formed in the class.

**Adequate performance:** Analyze the bias of the author using guided techniques within the classroom. Compare this bias with possible views of the technology developed within the classroom.

**Inadequate performance:** Student is not able to analyze the bias of an author or compare with other views.

**International Studies Goal 4:** For students to recognize and understand a diversity of opinions and perspectives, in written and oral discourse, concerning the course content.

**Objective A:** Demonstrate an ability to analyze multiple perspectives on a given issue related to the course content.

**Objective B:** Form and support an opinion on a modern international problem or topic.

**Tech 393 specific objective:** Upon completion of Tech 393 a student will be able to evaluate a technology from several aspects including: system aspects, applied knowledge, specific goals, organizational forms, winners/losers, cultural effects, etc.

**Excellent performance:** Relate the unspoken cultural assumptions about technology to the effects on society.

**Good performance:** Relate stated cultural assumptions about technology to the effects on the society.

**Adequate performance:** Recount various historical opinions about technology.

**Inadequate performance:** Student is not able to recount various historical opinions about technology.

Submitted: March 31, 2010
II. Assessment Instrument with Scoring Rubric

**Instructions for use:**
1. Pick the assessment instrument (exam, essay, project, etc.) to be used for each Tech 393 specific objective. Note the instrument being used in the appropriate box in the table (below).
2. Determine what grade level range (percentage range, grade point, etc.) you have assigned that best matches the verbal description of excellent, good, adequate, and inadequate performance listed with each specific objective.
3. Determine what percentage of students within your section fall into each category of excellent, good, adequate, and inadequate for each of the objectives. Note this percentage within the appropriate boxes in the table.
4. Add comments as necessary or desired explaining any pertinent information that the assessment fails to cover.

<table>
<thead>
<tr>
<th>Instructor:</th>
<th>Section:</th>
<th>Quarter:</th>
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<tbody>
<tr>
<td><strong>TECH 393 Technology in World Civilization Assessment</strong></td>
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**Tech 393 specific objective 1:** Upon completion of Tech 393 a student will be able to describe the historical development and current situation in at least two of the following areas: warfare, terrorism, global warming, the green revolution or public health.

**Assessment Instrument:**

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<th>Excellent</th>
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<th>Adequate</th>
<th>%</th>
<th>Inadequate</th>
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**Tech 393 specific objective 2:** Upon completion of Tech 393 a student will recognize the cultural effects in the adoption and diffusion of technology worldwide.

**Assessment Instrument:**

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<th>Excellent</th>
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<th>Adequate</th>
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**Tech 393 specific objective 3:** Upon completion of Tech 393 a student will recognize the editorial bias in articles concerning technology and be able to synthesize their own informed perspective.

**Assessment Instrument:**

<table>
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<th>Excellent</th>
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**Tech 393 specific objective 4:** Upon completion of Tech 393 a student will be able to evaluate a technology from several aspects including: system aspects, applied knowledge, specific goals, organizational forms, winners/losers, cultural effects, etc.

**Assessment Instrument:**

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<th>Excellent</th>
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<th>Good</th>
<th>%</th>
<th>Adequate</th>
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<th>Inadequate</th>
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**Instructor comments regarding assessment:**

**Instructor recommendations for improving the course:**

Submitted: March 31, 2010
III. Summary of Scores

| TECH 393 Technology in World Civilization Assessment |
|---------------------------------------------|-----------------|----------|
| Instructors: Loendorf, Sisson, & Geyer        | Sections: 01, 02, 85, & 86 | Quarter: Winter 2010 |

Tech 393 specific objective 1: Upon completion of Tech 393 a student will be able to describe the historical development and current situation in at least two of the following areas: warfare, terrorism, global warming, the green revolution or public health.

Assessment Instrument: Essay

| Excellent | 55 % | Good | 38 % | Adequate | 7 % | Inadequate | 0 % |

Tech 393 specific objective 2: Upon completion of Tech 393 a student will recognize the cultural effects in the adoption and diffusion of technology worldwide.

Assessment Instrument: Essay

| Excellent | 57 % | Good | 35 % | Adequate | 8 % | Inadequate | 0 % |

Tech 393 specific objective 3: Upon completion of Tech 393 a student will recognize the editorial bias in articles concerning technology and be able to synthesize their own informed perspective.

Assessment Instrument: Essay

| Excellent | 46 % | Good | 44 % | Adequate | 9 % | Inadequate | 1 % |

Tech 393 specific objective 4: Upon completion of Tech 393 a student will be able to evaluate a technology from several aspects including: system aspects, applied knowledge, specific goals, organizational forms, winners/losers, cultural effects, etc.

Assessment Instrument: Exam

| Excellent | 54 % | Good | 38 % | Adequate | 6 % | Inadequate | 2 % |

IV. Interpretation of Results

Instructor comments regarding assessment:

For objective 1: 93 % of the students fall into either the excellent or good categories which is acceptable. This means that students can demonstrate factual knowledge about a broad problem or topic related to the global community.

For objective 2: 92 % of the students fall into either the excellent or good categories which is also acceptable. This means that students recognize the cultural effects in the adoption and diffusion of technology worldwide.

For objective 3: 90 % of the students fall into either the excellent or good categories which is satisfactory. This indicates that students recognize the bias in articles concerning technology and are able to synthesize their own informed perspective.

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For objective 4: 92% of the students fall into either the excellent or good categories which is also satisfactory. This indicates that students are able to evaluate a technology from several specified aspects.

V. Recommendations

Instructor recommendations for improving the course:

During the Quarter under review, 125 students spread over four Sections took the TECH 393 Technology in World Civilization course. Last year a new Active Learning component was added to the course. Active learning encompasses techniques that engage and connect students within the subject matter they are studying through discussion, interaction, application, demonstration, or knowledge. By using controlled exercises and interventions active learning provided opportunities for involvement and interaction that is difficult to attain through traditional classroom activities. After the process of active learning was implemented, students were transformed from passive recipients of information into dynamic initiators of knowledge through participation.

New visual aides were required to display how old and even ancient technologies worked along with more detailed explanations of their functionality. Innovative PowerPoint slides were developed to show the basic technologies, how they were used, and their evolution over time. This change expanded how the material was covered and increased student awareness, understanding, and participation in the topics covered. However, this step was only part of the improvements that were made. Technological artifacts were also either recreated or collected for use during the class sessions. Most of the recreated artifacts were technologies from ancient times. The processes used to recreate and replicate technologies from the past duplicated those used by early humans. The reproductions were made using tools and techniques from their historical period to insure the accuracy of the replicas. The recreated artifacts became not only exhibits for display during class sessions but also examples of the processes utilized to make them.

The addition of collected or recreated artifacts has expanded the students learning experience from that of a passive observer to an engaged involved participant. They can now examine, handle, and pretend to use the artifacts whether they were technologies used as a tool, weapon, armor, or for a host of other purposes. Not only do the students understand how and why the devices were used, but they also understand how they were made including the time and effort involved.

The use of graphics, pictures, and videos, has made it easy for students to experience visually exactly how retro and ancient technologies were utilized. The uses of ancient and old technologies are no longer left solely to their imagination. Instead, they can see them in action. The technologies are brought to life in ways that words alone could never accomplish. The graphic images and pictures also added variety to the lectures. However, it was the videos that really displayed the capabilities of old and ancient technologies. Regardless of the length of the video, they depicted through reenactments exactly how technologies were operated and worked.

Submitted: March 31, 2010
Overall the results of the assessment are acceptable and the course is meeting its objectives. This indicates that the students understand the basic concepts related to the affects of technologies on civilizations past and present. It also means that students have the ability to understand the social, political, and economic implications and can apply those techniques to new and different technologies and situations. In addition, they can effectively discuss and write about a wide variety of issues and topics relating to technology and world civilizations.

However, the results of the assessment also indicate some room for improvement. A small percentage of the students (between 6% and 9%) were in the adequate category and an even smaller percentage (between 1% and 2%) were in the Inadequate category that require extra training to effectively communicate their knowledge of technologies impact on civilization. To improve and rectify this situation, additional classroom discussion time will be devoted to addressing the issues and ramifications. Essay assignments will be focused on improving these skills as well. In addition, the faculty will encourage students to utilize office hours to provide greater emphasis on individual training and coaching. The goal is to remove the students from the adequate and inadequate categories and move additional students from the good to excellent category.