1. **AGSC Content Area of Alignment:** Area IV: History, Social and Behavior Sciences

2. **SLO(s) being assessed:** Student will.

   SLO 8: Students will be informed and engaged citizens of the U.S. and the world.

   SLO 9: Students will understand and appreciate diversity of an within societies of the U.S. and the world.

3. **Assessment Method(s):**

   [Explain how assessment for the measures associated with this SLO - not grading for the course as a whole - was conducted. You my cut/paste rubrics for inclusion here, identify faculty reviewing committees, or identify specific kinds of test questions important to your method. Is this the method you initially planned to use? Provide a separate paragraph for each method.]

   The Technology and Civilization program assessed achievement of the two SLOs directly through essays and indirectly through surveys. Faculty members included essay questions addressing each SLO in their finals in both terms (Appendix A: Direct Assessment Essay Questions: Fall 2011, Spring 2012). At the end of the fall term, they administered a survey but for the spring term, faculty administered a survey both at the beginning and at the end of the term. The survey consisted of ten statements which students answered by filling in scantron bubbles. The program coordinator read and assessed the essays using the attached rubric (Appendix B: Direct Assessment Essay Rubric). The Office of Information Technology processed and collated the scantron survey results.

4. **Findings: What assessment data did each assessment method produce?**

   Direct assessment: A total of 338 students enrolled in the Technology and Civilization program in the academic year 2011-2012: 185 students in the fall and 153 students in the spring. The program coordinator selected 18 essays in the fall and 15 in the spring (10%) using a random letter generator. Faculty members photocopied selected essays and submitted them to the coordinator for assessment. Assessments of student answers to essay questions are combined in the chart below for fall and spring terms. Following the rubric, the program coordinator graded each category on a scale of 5-1, attempting to assess how well students demonstrated that, for SLO 8, they were informed, analytical, and engaged, and for SLO 9, that they recognized diversity, made meaningful distinctions, and demonstrated awareness of the need for diversity. See attached full report for data.

   Indirect assessment: While ten percent of Technology and Civilizations were sampled for the direct assessment, one hundred percent were surveyed for the indirect assessment. At the beginning of the fall term and at the beginning and end of the spring term, faculty members distributed a list of ten questions, which students answered by filling scantron bubbles. In the fall 178 students completed the post-course survey; in the spring 148 students completed the pre-course survey while 141 completed the post-course survey. The pre-survey attempted to elicit how students assessed their own level of awareness while the post-survey attempted to measure how or if the course changed it. Both pre- and post-course surveys are attached (Appendix C: Assessment Survey Statements: Pre- and Post-Course Surveys). Generally speaking, we found the results of the surveys unenlightening and largely incongruous with the results of the essays. Combined in the chart below are the mean or average rankings for the academic year under review. For each of the ten statements or questions students had five choices: A=Disagree Strongly, B=Disagree, C=Neutral, D=Agree, and E=Agree Strongly. Following standard practice the list was presented in reverse order with the first choice, “A,” registering highest disagreement and the last choice, “E,” registering the most agreement. One explanation for the relatively low mean values across surveys may be that students assumed that “A” represented highest approval and “E” the lowest. Nevertheless a majority of students on all three surveys registered “neutral,” “agree,” and “agree strongly” responses. See attached full report for data. Only three questions, one on each
survey, received a mean score of 2.5, and none higher. In fall 2011, 54% of 178 students “agreed” or “strongly agreed” that “The course helped me apply the lessons of the past to contemporary issues” (Statement 4), a position reinforced in the sampled essays. In spring 2012 on the pre-course survey for the same statement, 49% either “agreed” or “strongly agreed” that “I apply the lessons of the past to contemporary issues.” On the post-course survey 73% of 141 students either “agreed” or “strongly agreed” but the statement received a mean score of 2.1. Statement 7 received the highest score (2.5) in the spring post-course survey. Fifty percent of students surveyed believed that that “The course gave me a new appreciation for cultures and religions other than my own.” The “neutral” response recorded by 49 students (34.8%) bumped up the mean value. The value contrasted favorably with the reciprocal pre-course survey question, “I appreciate cultures and religions other than my own,” which received a mean value of 1.9. These two statements suggest that students entered the course with some knowledge of diversity (constructed perhaps as non-American) and that the course augmented that knowledge, expanding their awareness and appreciation. The essays demonstrated that students want even more exposure to non-American, non-European cultures. Also noteworthy was the student response to statement 8: Pre-Course: “I value intercultural diversity”; Post-Course: “The course increased my awareness of intercultural diversity.” The mean value increased from 2.0 in the pre-course survey to 2.4 in the post-course survey. Here again is evidence that the spring term, ostensibly perceived as Eurocentric, actually broadened students’ perspectives on diversity, broadly conceived and defined.

5. How did you (or will you) use the findings for improvement?

[What questions / issues / concerns did your data raise for the faculty teaching the course? What discussion did the faculty have about the findings? What future actions to improve student attainment of this outcome will the department / program take as a result of this analysis?]

What the sampled essays suggest was a mixed record of satisfaction and disappointment. For both fall 2001 and spring 2012, the essays demonstrated that students had become informed and engaged. They wrote, sometimes eloquently, on historical topics from antiquity up to the present, situating issues and artifacts in appropriate contexts and relating them to current circumstances. Even when they struggled with historical details they formed meaningful associations. Even as they struggled with the meaning of diversity they nevertheless acquired awareness and sensitivity to religious, class-based, and gendered differences. The Technology and Civilization faculty intend to incorporate ideas students shared with them in order to improve course outcomes and program goals. Additionally faculty members intend to make learning outcomes clearer to students, particularly SLO 9 and the concept of diversity. Faculty members also need to address the problem several spring term students displayed in their essays namely their struggle to recall events accurately and chronologically. Faculty members should also rethink their assessment essay questions for both fall and spring.

6. Additional Comments:

[What else would you like the Committee to know about your assessment of this course or plans for the future?]

None

7. Committee Comments

Mean of rubric score = 3.48 (out of 4) Lots of details were presented about direct and indirect assessment. The details were also presented about the rubric and student responses. A detailed report was attached by stopped at page 11 before Appendix A to E. Lengthy report describes methods in great details. Excellent for assessment! However, could not find appendices in the attachment. In spite of this, the report does provide a
clear description of all methods. It was obvious that the person who wrote the attached assessment report was well informed as to the course material and this implies much discussion with relevant faulty. It was rather complete. Did the faculty meet to discuss? Of the thirteen sections how many of the faculty are on this committee?
CONTENTS

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OVERVIEW

The Technology and Civilization program offers undergraduate students a survey of world history with an emphasis on technology. Both halves of the course emphasize human agency as they explore how different peoples developed and deployed technologies to exploit their environments, structure their societies, and interact locally and globally with others. All students attend a once-weekly plenary lecture delivered by a member of the Technology and Civilization faculty. They then divide into twice-weekly sections of no more than thirty-five students where faculty facilitate discussion of the plenary lecture and reading assignments and direct written, oral, and other exercises. Faculty members convene weekly to discuss the past and pending weeks, compare pedagogical approaches, and review coverage. In fact, it was in discussing SLO 9 that we realized that we do not do enough in the second half of the course to address its requirements. Our collaboration results in a dynamic, constantly updated course that offers undergraduates an opportunity to approach conventional history from a distinct and enlightening perspective.

Student Learning Outcomes 8 and 9

The program assessed achievement of Student Learning Outcomes 8 and 9. SLO 8 is that “students will be informed and engaged citizens of the United States and the world.” Secondary goals included assessment of students’ general knowledge of the socio-cultural and economic contexts of world history, their ability to analyze “systems and relationships,” and their ability to “demonstrate awareness” of social and individual responsibility and the avenues as well as the limits of change. In SLO 9 evaluates students’ ability to recognize, appreciate, and understand diversity. Among the sub-points addressed by SLO 9 are that students recognize the roles different people play in their cultures, that students appreciate socio-cultural and international diversity, and that students “demonstrate understanding of the need for awareness of intercultural diversity when relating to others in various cultures and situations.”

Methodology

The Technology and Civilization program assessed achievement of the two SLOs directly through essays and indirectly through surveys. Faculty members included essay questions addressing each SLO in their finals in both terms (Appendix A: Direct Assessment Essay Questions: Fall 1011, Spring 2012). At the end of the fall term, they administered a survey but for the spring term, faculty administered a survey both at the beginning and at the end of the term. The survey consisted of ten statements which students answered by filling in scantron bubbles. The program coordinator read and assessed the essays using the attached rubric (Appendix B: Direct Assessment Essay Rubric). The Office of Information Technology processed and collated the scantron survey results.

DIRECT ASSESSMENT: ESSAYS

A total of 338 students enrolled in the Technology and Civilization program in the academic year 2011-2012: 185 students in the fall and 153 students in the spring. The program coordinator selected 18 essays in the fall and 15 in the spring (10%) using a random letter generator. Faculty members photocopied selected essays and submitted them to the coordinator for assessment. Fall: All faculty members used the same two questions with minor variations, covering the Paleolithic Era to the 16th century.

SLO 8: This semester we studied many societies in the Old World and the New. Which society do you remember the most about? Briefly discuss its distinguishing characteristics. What lessons from this society can you apply to the United States and the world today?

SLO 9: During this semester we studied the history of various civilizations quite different from our own and in time periods far removed from the present. Choose two civilizations from the list below and briefly explain how they came to terms with nature and technology in ways different from European Christian civilization: Civilizations of Ancient Mesopotamia and
Egypt, Chinese civilization, Islamic civilization, Tropical African civilizations (specify), Pre-Columbian civilizations (specify).

Spring. Faculty members used variations of the first question below for SLO 8 and shared the second question to address SLO 9 (Please see all faculty questions, Appendix A):

SLO 8: Our final Monday lecture for the semester opened with the statement: “Many of the best and worst things happening in our time stem from the same trend: the globalization of commerce and culture.” Choose one of three following themes in the history technology: (1) transportation; (2) communication; or (3) production & consumption. Using specific examples, describe the relationship between world events over the past two centuries and technological developments related to your chosen theme, from the start of the Industrial Revolution to the present day, including the benefits and unintended consequences. Use specific examples from our readings, lectures, and weekly discussions to support your answer, remember that this is a history class so cause-and-effect matter, and be sure to approach your topic from a global (not just U.S.) perspective.

SLO 9: SLO 9 says that “students will understand and appreciate the diversity of and within societies of the United States and the world.” In order to do this, the objective states that students should learn to “appreciate socio-cultural and international diversity among people; be able to demonstrate knowledge of issues in the United States and the world that concern people of different races, ethnicity, nationalities, religions, gender, sexual orientation, socioeconomic status, or those with disabilities or from different geographical locations; and be able to demonstrate knowledge of cultures outside the US, including knowledge of values, beliefs, traditions, and customs within other nations,” among other things.

Clearly the second semester of T&C fails to live up to this objective. When dealing with the history of technology after the industrial revolution, it is really easy to concentrate only on the achievements of privileged Europeans and Americans. They industrialize first, they take over the world, they set up and justify exploitive economic systems, they fight technological wars; they invent cars, airplanes, and computers, and so on. Doing basic history almost forces us to put SLO 9 aside.

So here’s your question: how do you think we should change the class to meet the goals of SLO 9? In other words, how might one view the history of technology after the industrial revolution from non-European or American perspectives? Think not only of the times when the class did take those perspectives into consideration but also what added perspectives we might bring in.

Assessments of the answers to these questions are combined in the chart below for fall and spring terms. Following the rubric, the program coordinator graded each category on a scale of 5-1, attempting to assess how well students demonstrated that, for SLO 8, they were informed, analytical, and engaged, and for SLO 9, that they recognized diversity, made meaningful distinctions, and demonstrated awareness of the need for diversity.

<table>
<thead>
<tr>
<th>AY</th>
<th>SLO 8.1</th>
<th>SLO 8.2</th>
<th>SLO 8.3</th>
<th>SLO 9.1</th>
<th>SLO 9.2</th>
<th>SLO 9.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-12</td>
<td>Informed</td>
<td>Analytical</td>
<td>Engaged</td>
<td>Recognizes</td>
<td>Distinguishes</td>
<td>Demonstrates</td>
</tr>
</tbody>
</table>
Essay Assessment: SLO 8

The essays showed that faculty members succeeded in producing informed, engaged, and to a lesser degree, analytical students, with students in the fall demonstrating a slightly better attention to historical detail than those in the spring. In general students identified discrete cultures in the fall and technologies in the spring and made broad points citing specific and relevant evidence to support their positions. Students in both terms also evaluated historical content in terms of its consequences, contingencies, and relevance. Fewer students included critical analyses of culture, cultural practices or technologies, preferring to describe them in neutral terms or praise “advancements.”

Examination of a few essays from the fall term exemplifies the above points. The term began in the Paleolithic Era with the earliest evidence of human activity and it ends in the sixteenth century with European conquests and imperialism. Five out of eighteen sampled students in the fall wrote essays on Egypt as the society that most fascinated them. That was significant because the topic fell on a holiday Monday for which there was no unifying plenary lecture. Faculty members had compensated in the discussion sections with memorable presentations and discussions. Students wrote about Dynastic Egypt’s pyramids, writing systems, mummification practices and medicine, social mobility, and state enterprise system. On the latter one student discussed how royal monopoly ironically led to social stability. On Egypt’s geographic isolationism, the student wrote, “Rather than expend resources to fight costly wars to conquer territory, the Egyptian army primarily focused its efforts on protecting existing territory and fighting off outsiders.” Connecting antiquity to the present the student continued, “In a world where nations such as the United States spend overwhelming sums of money and resources to fight wars in distant countries, Egypt provides a lesson that stability is fostered by defensive, not offensive action.” Sensitive to class distinctions, another student saw in Egypt’s monuments evidence of the “hard working people during this time in Egyptian history [that] is similar to that of the hard working men and women in the United States.”

A student who chose Han China as the most memorable society cited the civil service system it initiated, which the Song Dynasty implemented. Of its relevance to today the student wrote, “With application on a broader scale, Chinese society helps show us that one born into a class has the capacity to improve once given the right tools. Classes should not be walled off from one another like they are in many countries still today.”

One student saw in the example of Ancient Rome a model for U.S. foreign policy writing, “The other trait about Rome that I find enviable is the heavy influence on military strength. The U.S. recently drastically cut defense spending while China and Russia are both ramping up their militaries. This is frightening. The United States needs to learn from Rome that a powerful military is the best way to attain peace.” Displaying a grasp of history that the student supported with evidence and carried forward to the present, he nevertheless neglected to include the military’s central role in Rome’s ultimate decline and fall.

The spring term began with the Industrial Revolution and followed the spread of European hegemony. Rather than focus on cultures, weekly plenary lectures focus primarily on technologies embedded in global contexts with emphasis on intended and unintended consequences. For the
spring assessment essay most faculty asked students a closed question rather than an open question as in the fall. Students were to choose one of three “themes”: transportation, communication, production/consumption, war/domination, and relate the theme to major events in world history. It was a difficult question and, judging by students’ answers, a less successful one. Students’ essays generally lacked the specificity of the fall essays and several blurred history and confused details.

A majority (8 out of 15) chose transportation. One began “Transportation is an area that has made vast progress, underwent many changes, and forever impacted civilization in the last century or two.” In the next paragraph the student collapsed history by juxtaposing travel by animal (ca. 8,000 BCE) to travel by the railroad (18th century). Another student began “Transportation has taken a great leap over the past centuries to where it is today.” The student then dated the beginning of transportation to the beginning of the term, that is with the Industrial Revolution and “the invention of the steam engine,” having forgotten the lessons of the fall term. Not all made these errors. One student who also began his history of transportation with the steam engine explicitly cited the earlier technologies. What was nevertheless problematic in these essays was that they demonstrated that students had forgotten that the steam engine was designed to lift water from mine shafts not to power vehicles. All students had heard this in the plenary lecture and read it in the textbook and assigned articles but across the sections but they had not retained the information.

Students did much better who narrowed their essays to the automobile and placed it in the context of mass production and consumption. Many remembered an article on gender and how it influenced the success of the internal combustion engine-powered car over steam and electric engine-powered models. Students cited details including Henry Ford’s assembly line and low-cost although uniform Model T along with Alfred P. Sloan’s annual model change-strategy at General Motors. Many were disturbed by the subsequent consumerism, a sentiment fueled by a lecture on “Garbage” which used automobile junk yards as a signifier of social decay. One student clearly disturbed by the conjunction wrote,

“With the flood of information and the producers’ push to make us desire their products we are constantly told we need to improve ourselves or that there is something wrong with us that only a certain product can fix. This message on such a large scale constantly attacking our self-esteem can have a very negative effect and has. Depression is at an all-time high with anti-depressant medications promising a solution.”

Imperialism and war permeated the term but only one student attempted to link them to themes in the history of technology. He wrote, “During WWI a series of related technological developments occurred. First was the machine gun which could take down many enemy soldiers very quickly. Then came trench warfare to avoid this rapid succession of bullets. After this was the use of barbed wire to under the progress of any enemies [to] cross the no man’s land....” The student admirably tried to apply logic to the technological innovations that factored in the war. Unfortunately he blurred much of the actual history: machine guns, trench warfare, and barbed wire all predated World War I. Yet the student concluded with poignant remarks on the nuclear bomb:

People gained the ability, the power to cause mass loss of life and destruction with just the push of a button. This idea completely changed the way human life can be viewed. Instead of considering the individual lives being lost, a nuclear attack could wipe out millions of people without so much as a thought. This idea is difficult to try to come to terms with. These developments of warfare can seem to decrease in a way the value of human life.”

Students in the spring term may have blurred the details but they developed a clear sense of the consequences of the technologies on the societies they studied.

**Essay Assessments: SLO 9**
In both terms faculty members hoped to elicit students’ recognition, appreciation, and demonstration of cultural diversity in the open-ended questions they asked. In the fall they asked students to choose two societies and discuss how each reconciled nature and technology in ways different from Christian European societies. In the spring they appealed to students to offer suggestions on how faculty could better integrate the history of non-Western societies in the Euro- and techno-centric history of the nineteenth, twentieth, and twenty-first centuries. In general students succeeded in drawing contrasts and comparisons between non-western societies but only tangentially with the West. In the spring they made thoughtful and useful suggestions for how faculty might improve coverage. The essays in both terms however suggested that students had no clear perception of the concept of “diversity.”

In the fall, most students handled the faculty’s diversity assessment question as a “compare and contrast” exercise. They selected two non-Christian European societies and recapitulated—generally accurately—historical points and technological developments specific to the two societies. They referenced Christian Europe with phrases like, “as in Europe …” or “unlike Europe…,” without further elaboration. Students compared and contrasted Islamic civilizations with Mesopotamia, Tropical Africa, and China; and China with the Americas, Mesopotamia, Tropical Africa, and Islamic civilizations.

A few students did first discuss in detail how Christian Europe reconciled nature and technology before they made linkages to non-Western societies. One asserted that Christian Europe viewed nature “as an objective collection of matter subordinate to man” while all other societies “fused nature with their spiritual inclinations,” citing “Muslim astrologers” and “tropical African civilizations” to support the point. Another compared and contrasted the Inca and Muslim society with feudal Europe discussing their respective geography, agriculture, record keeping, and labor systems. The student contrasted the two state religions (Christianity and Islam) making the point that Christian Europe suppressed competing ideologies while the “more permissive” Muslim world embraced them, diffusing texts and technologies that migrated into Western Europe. He concluded, “No two sets of conditions will produce the same society. Societies such as the Inca and Arabic Muslims reacted to local circumstances and came to terms with nature and technology in unique ways not found in Christian Europe.”

The essays showed that students recognized differences and appreciated a main theme of the course: that individuals everywhere faced similar challenges and met them in culturally distinctive ways. Yet the sampled fall students seemed unaware of or unwilling to discuss religious, racial, or other cultural conflicts within or among the societies studied. Curiously none used Greece and Rome, the two slave societies of the ancient world, in comparison with feudal Europe, nor did they engage the Slavic or African slave trades about which they heard, read, and studied.

The essays asked students for ways faculty could incorporate diversity, however defined, in the Technology and Civilization curriculum. In their answers, students demonstrated that they were indeed aware of religious, racial, gender, and other diversity issues, willing to discuss them, and disappointed that faculty members had not done more in that regard. One student expressed a general sentiment, writing, “The course succeeded in covering cultural, social, political, and technological issues of many countries other than America and the countries of Europe, like China, Japan and the Middle Eastern countries like Iran, Saudi Arabia, and Egypt, but where the course failed was making the correct balance. … We did not spend nearly enough time focusing on matters of the rest of the world, and therefore have left the course with the same perspective we entered it, an American one.”

Other students saw in the question an opportunity to express their exasperation with current world events. One wrote, “Just because we have more money and power than someone does that mean it is ok for us to force our way upon them?” Others voiced similar concerns from a distant
perspective. One wrote, “During the Cold War it is easy to paint the rest of the world as helpless onlookers – but is that all they are? … What were their perspectives on what was going on? … Perhaps spend a week discussing different cultural opinions on technology. Explore the possibility that not all societies approve or appreciate the development of certain technologies.” Reinforcing that perspective several students asked faculty for more depth on modern India and China. “China is the most populous country in the world yet it [was] discussed very little,” wrote one student. Another asked that faculty give more attention to automobility (automotive infrastructure) outside of the United States and Europe, writing, “If a certain technology is truly world-changing, we must study where in the world it changed something…. Take China for instance. They have the world’s largest population. Did they or do they have automobility?” Perspective is the key diversity issue for students. Overwhelmingly they asked faculty to increase coverage of different, non-Western perspectives on modern technology.

**INDIRECT ASSESSMENT: SURVEYS**

While ten percent of Technology and Civilizations were sampled for the direct assessment, one hundred percent were surveyed for the indirect assessment. At the beginning of the fall term and at the beginning and end of the spring term, faculty members distributed a list of ten questions, which students answered by filling scantron bubbles. In the fall 178 students completed the post-course survey; in the spring 148 students completed the pre-course survey while 141 completed the post-course survey. The pre-survey attempted to elicit how students assessed their own level of awareness while the post-survey attempted to measure how or if the course changed it. Both pre- and post-course surveys are attached (Appendix C: Assessment Survey Statements: Pre- and Post-Course Surveys). Generally speaking, we found the results of the surveys unenlightening and largely incongruous with the results of the essays. We will discuss better methods of indirect assessment over the upcoming academic year.

Combined in the chart below are the mean or average rankings for the academic year under review. For each of the ten statements or questions students had five choices: A=Disagree Strongly, B=Disagree, C=Neutral, D=Agree, and E=Agree Strongly. Following standard practice the list was presented in reverse order with the first choice, “A,” registering highest disagreement and the last choice, “E,” registering the most agreement. One explanation for the relatively low mean values across surveys may be that students assumed that “A” represented highest approval and “E” the lowest. Nevertheless a majority of students on all three surveys registered “neutral,” “agree,” and “agree strongly” responses.

### Mean Survey Responses

(Computer Summaries, Appendix D)

<table>
<thead>
<tr>
<th>Statement or Question</th>
<th>Fall 2011 Post (N=178)</th>
<th>Spr 2012 Pre (N=148)</th>
<th>Spr 2012 Post (N=141)</th>
</tr>
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<tbody>
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<td>1</td>
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<td>2.2</td>
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Statement 7 received the highest score (2.5) in the spring post-course survey. Fifty percent of students surveyed believed that that “The course gave me a new appreciation for cultures and religions other than my own.” The “neutral” response recorded by 49 students (34.8%) bumped up the mean value. The value contrasted favorably with the reciprocal pre-course survey question, “I appreciate cultures and religions other than my own,” which received a mean value of 1.9. These two statements suggest that students entered the course with some knowledge of diversity (constructed perhaps as non-American) and that the course augmented that knowledge, expanding their awareness and appreciation. The essays demonstrated that students want even more exposure to non-American, non-European cultures. Also noteworthy was the student response to statement 8: Pre-Course: “I value intercultural diversity”; Post-Course: “The course increased my awareness of intercultural diversity.” The mean value increased from 2.0 in the pre-course survey to 2.4 in the post-course survey. Here again is evidence that the spring term, ostensibly perceived as Eurocentric, actually broadened students’ perspectives on diversity, broadly conceived and defined.

By the evidence of the survey, students’ engagement decreased in other areas. Mean scores dropped for seven out of ten statements in the post-course survey in fall and spring terms. Between the spring pre- and post-course survey statements, scores for seven out of ten statements remained the same or dropped. Only three statements, 6, on the power of individuals to change society, along with 7 and 8, addressed above, showed increased values and positive change (Appendix D: Assessment Survey Statements: Computer Summaries).

CONCLUSION

The sampled essays tempered what the surveys suggest was a mixed record of satisfaction and disappointment. For both fall 2001 and spring 2012, the essays demonstrated that students had become informed and engaged. They wrote, sometimes eloquently, on historical topics from antiquity up to the present, situating issues and artifacts in appropriate contexts and relating them to current circumstances. Even when they struggled with historical details they formed meaningful associations. Even as they struggled with the meaning of diversity they nevertheless acquired awareness and sensitivity to religious, class-based, and gendered differences.

The plenary lectures designed and delivered by all Technology and Civilization faculty members contributed to these gains. A review of the lectures all students heard and all faculty developed in sections reinforces points alluded to in the sampled essays and balances the survey results (Appendix E: Plenary Lecture Rosters: Fall 2011, Spring 2012).

Students heard thirteen lectures over the Fall 2011 term. Dr. Angela Lakwete opened the term with a lecture focused on the global Neolithic Era. Dr. Michael Kozuh delivered a lecture on Mesopotamia emphasizing a “conquest to control” paradigm. Dr. Guy Beckwith followed explaining the derivative yet innovative societies of the ancient Mediterranean, including Greece. Dr. Lakwete presented lectures first on Tropical Africa emphasizing its “empires of trade” and then on Ancient China emphasizing its shared cultural practices. Dr. Beckwith discussed the cultures of Central and South America highlighting their unique development. Dr. David Lucsko lectured on the Muslim Empires showing how they synthesized and spread ideas and inventions over three continents. Dr. Beckwith and Mr. Andrew Baird each lectured on Medieval Europe explaining the intellectual and cultural shifts that occurred during this pivotal era. Dr. Lucsko examined the
Renaissance and Reformation and Mr. Baird the Scientific Revolution, continuing the narrative of Western European emergence. Dr. Alan Meyer completed the roster with his lecture on European Imperialism challenging the “exploration” paradigm with the reality of “conquest for control,” introduced earlier by Dr. Kozuh. Eight of the thirteen lectures covered non-European topics while the five lectures on Western Europe necessarily engaged non-European ideas, inventions, and individuals.

In spring 2012 students heard fourteen lectures, all but one of them focused ostensibly on the West. Dr. Lucsko opened the term with a lecture on the Industrial Revolution making the point that faculty carried throughout the term that it irrevocably changed social and economic relationships around the globe. In the next week, for which there was no plenary lecture, faculty follow up with examinations of how the British Industrial Revolution affected discrete societies particularly Egypt, India, and China, introducing the concept of “underdevelopment.” Dr. Lakwete continued that theme with a lecture on “Technology and the New Imperialism” using the palm oil industry of the Niger Delta in western Africa as a case study. Dr. Kozuh next examined urbanization through the history of Chicago and its meat-packing industry. He delivered the following lecture on mass production and mass consumption, which he explained were the driving forces of the modern world. He centered the lecture on early-20th century United States and injected issues of immigrant labor. Dr. Beckwith next presented a history of mass media with a focus on radio, to which some faculty members added histories of racial and ethnic radio movements in the United States. Dr. Lucsko followed with a lecture on the car and automobility and Dr. Alan Meyer with a lecture on the airplane and aviation. Both professors injected global perspectives in their lectures. Dr. Lucsko also talked about Indian and Chinese car manufacturers and their investment in “automobility” or supporting infrastructure. Dr. Meyer also talked about the struggle that African Americans faced to learn how to fly and about the heroics of Bessie Coleman and other female pilots. Dr. Meyer next delivered the lecture on the “Military Technologies” of World War I and II, necessarily including global perspectives.

Six lectures followed the spring break. Dr. Meyer again engaged the globe in his lecture on the Cold War, including “hot wars” like Korea and Vietnam. Dr. Beckwith continued with the “Space Age” comparing and contrasting United States and Russian motivations and actions. Dr. Lakwete followed with a lecture on the Computer, taking the class back to the abacus of Ancient Mesopotamia before bringing it forward to the present-day Internet. Dr. Lucsko pictured automobile and computer junk yards in his lecture on “Garbage,” which put mass production and consumption in sharp relief. In sections students saw a video of Asian and African people disassembling toxic Western “junk,” discarded in favor of newer models. Dr. Kozuh synthesized the semester’s themes in his lecture on “Oil Politics.” He examined United States oil dependence from the 1920s to the present including United States involvement in Iran from the 1950s, in Iraq from the 1980s, and up to and through the war in Afghanistan. Dr. Beckwith ended the term with a review lecture on the “Global Economy.”

Of the spring term, one student wrote: “The course in totality was successful in broadening the knowledge the students had of different cultures and political systems.” A review of the plenary lecture roster demonstrates the commitment of Technology and Civilization faculty members to achieve this goal even more definitively. Faculty members are flexible and collegial and are committed to self-examination and change. While the lecture roster demonstrates that they do indeed incorporate the perspectives of non-Europeans and non-Westerners in their lectures and discussions, faculty intend to draw on students’ suggestions, including those not sampled, and inject more. Specific changes students called for that faculty members intend to implement are discussions of twentieth-century discoveries, inventions, and technological milestones achieved by Asians and Africans. One student asked in an unsampled essay that lecturers could have discussed more
African achievements such as the first heart transplant accomplished in South Africa in 1967. Another wanted coverage of the Japanese computer industry. Others asked for articles written by Africans and Asians on perspectives on colonization and European technologies; they want to read for themselves the words of people directly affected by the West.

Requests like these delight faculty members. They show that students want to learn and that they have ideas about what and how. The Technology and Civilization faculty intend to incorporate these and other ideas in order to improve course outcomes and program goals. Additionally faculty members intend to make learning outcomes clearer to students, particularly SLO 9 and the concept of diversity. Faculty members must also address the problem several spring term students displayed in their essays namely their struggle to recall events accurately and chronologically. Faculty members must also rethink their assessment essay questions for both fall and spring. They will continue to work on questions that students understand and that elicit responses more indicative of SLO goal achievement.