Introduction

The fifth component of OSA contains the questions for Technology and Applied Science. The first question asks if students took their Technology and Applied Science course as a core requirement at TTU.

The following pie chart shows that out of the 704 participants, 472 (i.e., 67.05%) indicated that they took their Technology and Applied Sciences course for core curriculum credit at TTU and 232 (i.e., 32.95%) indicated that they took it elsewhere.
Results

The student learning outcome for Technology and Applied Science is:
- To enable the student to understand how profoundly scientific and technological developments affect society and the environment.

This learning outcome aligns with the four agreement questions. The Technology and Applied Science portion of the assessment contains four agreement questions. These are shown below as a screenshot from the actual instrument. For analysis purposes, the answers were coded from 1 to 5 (1 corresponding with “Strongly Disagree” and 5 corresponding with “Strongly Agree”).
Technology and Applied Science 1:

The chart below shows the distributions of answers for the first question for participants who took their class for Technology and Applied Science core requirement at TTU (bottom) and participants who took their class for Technology and Applied Science core requirement elsewhere (top). From the histogram it appears that there are more students in the “TTU” group that “Agree” or “Strongly Agree” and more students in the “Else” group that are “Neutral”. Overall, it appears that students who take their Technology and Applied Science course at TTU are more likely than students who take their Technology and Applied Science degree elsewhere to agree that “the development of technology raises ethical issues related to the impacts of that technology.”
Technology and Applied Science 2:

The chart below shows the distributions of answers for the second question for participants who took their class for Technology and Applied Science core requirement at TTU (bottom) and participants who took their class for Technology and Applied Science core requirement elsewhere (top). From the histogram it appears that there are more students in the “TTU” group that “Agree” and more students in the “Else” group that are “Neutral”. Overall, it appears that students who take their Technology and Applied Science course at TTU are slightly more likely than students who take their Technology and Applied Science course elsewhere to agree that “biomedical ethics principles should pertain to a wide range of developments in applied science.”
Technology and Applied Science 3:

The chart below shows the distributions of answers for the third question for participants who took their class for Technology and Applied Science core requirement at TTU (bottom) and participants who took their class for Technology and Applied Science core requirement elsewhere (top). From the histogram it appears that there are more students in the “TTU” group that “Agree” or “Strongly Agree” and more students in the “Else” group that are “Neutral”. Overall, it appears that students who take their Technology and Applied Science course at TTU are more likely than students who take their Technology and Applied Science course elsewhere to agree that “new developments in technology and applied science should be subject to evaluation for their ethical implications before they are marketed or distributed to the public.”
Technology and Applied Science 4:

The chart below shows the distributions of answers for the fourth question for participants who took their class for Technology and Applied Science core requirement at TTU (bottom) and participants who took their class for Technology and Applied Science core requirement elsewhere (top). From the histogram it appears that there are more students in the “TTU” group that “Agree” and more students in the “Else” group that are “Neutral”. Overall, it appears that students who take their Technology and Applied Science course at TTU are slightly more likely than students who take their Technology and Applied Science course elsewhere to agree that “ethical principles should apply to use of electronic information.”
Technology and Applied Science Overview:

Overall, it appears that students who take their Technology and Applied Science course at TTU are more likely than students who take their Technology and Applied Science course elsewhere to agree that there are ethical principles and concerns with the development and use of technology. This would imply that students who take their Technology and Applied Science Course at TTU are more likely to agree that technology has an impact on society and the environment.

Comparison: 2008 vs. 2009

In both the 2008 and the 2009 assessment, the “TTU” group seems to agree more with the four statements than the “Else”. This difference seems to be slightly greater in 2009.

Limitations

It is difficult to come to definite conclusions with questions measuring agreement. It could be that “Agree” for one person means the same thing as “Strongly Agree” for another. With a large enough sample, though, these small differences should be controlled for by the number of subjects. Any differences between the results from the “TTU” group and the “Else” group could be differences in emphasis of curriculum. It could be that the extra agreement from the “TTU” group might only be the result of a different focus and not a matter of the way things were taught. It is difficult to tell without more information about courses taught elsewhere.