General Education Assessment Report
Challenges for the 21st Century University in the High School program 2019-20
The University at Albany, SUNY

Prepared by:
Steven Doellefeld, Ph.D., MBA
Director of Assessment

With assistance from
Bryce Colvin
&
Tocorey Oughterson
Graduate Assistants

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Categories Assessed: Challenges for the 21st Century, Mathematics

Background

In Spring 2020, the University at Albany assessed the degree to which students were achieving student learning objectives in Challenges for the 21st Century and Mathematics. A total of 19 courses that meet the Challenges for the 21st Century General Education requirements were offered by the University in the High School program during the 2019-20 academic year. Since no instructor is ever sampled for more than one section, there were 12 courses eliminated from the sample pool, as the instructor was already being sampled in another course. An additional course were removed from the sample as the course was cancelled due to lack of enrollment after sampling had been conducted. The Challenges for the 21st Century sample consisted of 6 classes from high schools across the state that participate in the University in the High School program. The maximum student N in the sample is 45. Enrollments in the sampled courses ranged from 3 to 60.

All six of the instructors sampled (100%) submitted all necessary documentation and end of semester data for the assessment. One instructor submitted end of semester data that was not in a usable format, and did not respond to requests for usable data. The data compiled in the charts and tables of this report reflect the submissions of the other 5 instructors. There was a 100% response rate for the assessment of this category in 2014-15 as well, though it’s important to note that Challenges for the 21st Century was a brand new General Education category at that time, and there were only 2 courses sampled as part of that assessment. Thus, while this report will provide comparisons between the 2019-20 and 2014-15 assessment cycles, the reader is cautioned not to provide too much weight to any differences in performance or extrapolate particular interpretations as the sample sizes for both assessments are very small.

As we have noted for the past few years, the instructor participation rate and quality of documentation received on this administration of the General Education assessment was excellent. We believe this is attributable, at least in part, to better communication from IRPE, including earlier notification of selection for the sample, and a pre-notification of all instructors in the two categories by the Assistant Director of the University in the High School program, who functioned as a liaison between the IRPE office and the high school teachers who were instructors of the UHS courses. Instructors mapped their courses to specific learning objectives, reflected on assessment results, and discussed how their findings would influence their course design and pedagogy for these courses in future semesters. This is exactly what we hoped the assessment process would produce. Appendix B illustrates these activities and reflections.

It is important to note that the COVID-19 pandemic occurred in the middle of this assessment cycle, and with it came the mid-stream transition to virtual learning for the students in these UHS courses. While the

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1This unusually high number of courses removed from the pool is largely attributable to one instructor, who taught 8 sections that met the Challenges General Education requirement.

2 Note that the numbers in this report may vary slightly from learning objective to learning objective—this is reflective of students who may have added or dropped a particular section of a course, as well as those who may have been absent on a day when a particular assessment was conducted.
response rate was excellent, there remains the possibility that student performance may have been affected by this transition.

Learning Objectives and Course Embedded Assessment

Assessment results indicated that the majority of students “Exceeded” or “Met” expectations in the Challenges for the 21st Century General Education category, as shown in the composite graph below, as well as graphs for each of the individual learning objectives on the following pages. Large majorities of students were reported to have either met or exceeded each of the four learning objectives, with the combined “Exceeded” and “Met” values being 96%-100% for all four objectives.
The Learning Objectives for the category are as follows:

Courses meeting Challenges for the 21st Century enable students to demonstrate:

1. Knowledge and understanding of the historical roots, contemporary manifestations, and potential future courses of important challenges students may encounter as they move into the world beyond the university;
2. Familiarity with these challenges in areas such as cultural diversity and pluralism, science and technology, social interaction, ethics, global citizenship, and/or others;
3. An integrated understanding of how challenges often affect individuals and societies simultaneously in many of these areas;
4. An appreciation for interdisciplinary approaches to understanding contemporary and future challenges.

Figure 2: Challenges for the 21st Century Learning Objective 1
2) Students will demonstrate: Familiarity with these challenges in areas such as cultural diversity and pluralism, science and technology, social interaction, ethics, global citizenship, and/or others

3) Students will demonstrate: An integrated understanding of how challenges often affect individuals and societies simultaneously in many of these areas
Comparison between UHS and On-campus Student Populations

In the Challenges for the 21st Century category, comparisons of performance between the UHS and on-campus populations appear dramatically skewed. While this is not uncommon when looking at the “Exceeded” and “Met” numbers separately, in this particular case the numbers remain skewed even when the “Exceeded” and “Met” numbers are combined. In all cases, the UAlbany students trail UHS students by 9 to 14 percentage points.

Figure 5: Challenges for the 21st Century Learning Objective 4

Figure 6: Comparison of Combined “Exceeded” and “Met” Results, by Learning Objective
Amongst UHS students, between 0% and 2% of students “Did not meet” the respective learning objectives. In comparison, the number of on-campus students who “Did not meet” is between 6%- 11% for each of the learning objectives.

![Figure 7: Comparison of Results for UHS and On-campus Populations on Challenges for the 21st Century Learning Objective 1](image)

![Figure 8: Comparison of Results for UHS and On-campus Populations on Challenges for the 21st Century Learning Objective 2](image)
It is important to note that the majority of students who enroll in University in the High School courses tend to be highly motivated and high performing. In fact, only juniors and seniors with an overall average of B or better are allowed to enroll in UHS classes. One could reasonably expect students who have a high overall average to perform well in these classes. Additionally, on-campus students taking courses meeting this General Education requirement may be doing so only to fulfill the General Education requirement and that is a potential explanation of differences in performance that appear to exist across these populations. We also recognize that the UHS courses cover the same material as the on-campus offerings, but typically do so in a year-long format rather than the standard semester format. Additionally, the typical UHS course
meets every day, not a few times a week. Both of these could be contributing factors to explain
the high performance of UHS students relative to their on-campus counterparts.

Comparison to 2015 Results:

In comparison to the 2015 assessment of this General Education category, we see a gain of
between 5 and 10 percentage points in the students who exceeded or met each of the four
learning objectives.

Figure 11: Comparison of Combined “Exceeded” and “Met” Results for UHS Population, 2020, 2015

As noted in the introduction of this report, both the 2020 and 2015 results are based on very small samples. With a
sample this small, the results from a single course could strongly influence overall results.
Figure 12: Learning Objective 1 Through Two Assessment Cycles

Students will demonstrate: Knowledge and understanding of the historical roots, contemporary manifestations, and potential future courses of important challenges students may encounter as they move into th

Exceeded: 49% (2020), 76% (2015)
Approached: 2% (2020), 12% (2015)
Did Not Meet: 0% (2020), 0% (2015)

Figure 13: Learning Objective 2 Through Two Assessment Cycles

Students will demonstrate: Familiarity with these challenges in areas such as cultural diversity and pluralism, science and technology, social interaction, ethics, global citizenship, and/or others.

Met: 38% (2020), 10% (2015)
Approached: 10% (2020), 10% (2015)
Did Not Meet: 0% (2020), 0% (2015)
Time Required to Complete Assessment

The general education assessment forms that instructors complete as part of this assessment process asks them to record the length of time it took them to compile the data and complete the beginning and end of semester assessment forms (Please refer to Appendix C for the further detail). The average for the required preparation time of the data and the completion of the forms was 115 minutes at the beginning of the semester, and 120 minutes at the end of the semester.
Several respondents failed to follow the direction and provided narrative answers that could not be extrapolated into numerical data (e.g., “much longer than anticipated”, “a few minutes”). The amount of time reported by UHS instructors to complete the assessment forms is on average higher than the amount of time taken by on campus instructors (who reported taking an average of 87 minutes at the beginning of the semester, and 115 minutes at the end of the semester).

![Figure 16: Time Required to Complete Assessment Forms](image)

**Recommendations:**

1) As we have noted in this report, and many General Education reports in the past, there is a clear disparity between the performance of the UHS and UAlbany student cohorts. While we are able to explain some of the differences, this is an area where further study is needed, as time and human capital permits. It is possible that UHS instructors are transposing the high school grades into the General Education Assessment forms rather than keeping 2 grade books—one with the “high school” grade, and one with the “college” grade.

2) In recent years IRPE and UHS administrative leadership have worked diligently to improve the response rate from the instructors chosen to participate in the sample. The UHS offices, in particular the Assistant Director, have been instrumental in fostering and facilitating this improvement by reaching out to instructional staff and reminding them that participating in assessment is part of their obligation when they teach a course on behalf of the University at Albany. We recommend that these practices continue.

3) We request that GEAC/CAA provide some guidance with regards to how to address portions of the population who don’t respond after being sampled, or those who provide the initial response at the start of the assessment process, but don’t respond to requests to complete the forms at the end of the assessment process. With the UHS population, these are often folks who claim to be “too busy” with end of the school year activities and promise to submit the materials after the end of the semester, but fail to follow through, leading to multiple reminders, cc’ing messages to
principals, etc. It makes administration of these assessments more time consuming and laborious than it should be.
Appendix A: Student Learning Objectives – Challenges for the 21st Century

Courses meeting Challenges for the 21st Century enable students to demonstrate:

1. Knowledge and understanding of the historical roots, contemporary manifestations, and potential future courses of important challenges students may encounter as they move into the world beyond the university;
2. Familiarity with these challenges in areas such as cultural diversity and pluralism, science and technology, social interaction, ethics, global citizenship, and/or others;
3. An integrated understanding of how challenges often affect individuals and societies simultaneously in many of these areas;
4. An appreciation for interdisciplinary approaches to understanding contemporary and future challenges.
### Appendix B: End of Semester Reflections

<table>
<thead>
<tr>
<th>Respondent #</th>
<th>Learning Objective #</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1</td>
<td>We gave students an opportunity to revise essays if they were not meeting expectations.</td>
</tr>
</tbody>
</table>
| 3            | 2                    | We like Redacted because students can take it an unlimited amount of times.  
When students create presentations we supply them with a sample so the expectations are clear. |
| 3            | 3                    | We would incorporate more QFTs. The one on sexism went well and started great discussion with the students. It also helped create more collaboration between students. |
| 3            | 4                    | We love bringing in pieces from or classic movies like Redacted or classic movies like Redacted.  
The students have never seen Redacted and they saw the similarities from Redacted to current day. |
| 4            | 1                    | I taught the history via lecture and tested with multiple choice items. This required rote memorization and is only effective for those who retain information that way.  
Next year I think I will have them learn it via research of a timeline project and then review the main points after they find it on their own. |
| 4            | 2                    | I assigned reaction papers to current event news articles and held discussions after the papers were turned in.  
I was happy with the level of engagement the students showed and will do the same next year. |
| 4            | 3                    | I assigned reaction papers to current event news articles and held discussions after the papers were turned in.  
I was happy with the level of engagement the students showed and will do the same next year. |
| 4            | 4                    | I assigned reaction papers to current event news articles and held discussions after the papers were turned in.  
I was happy with the level of engagement the students showed and will do the same next year. |
| 5            | 1                    | Objective 1: Through a variety of texts, students are introduced to the historical development and maintenance of systems of power and privilege. This allows them the foundation for understanding how those systems operate today and give them the tools with which to imagine a different reality in the future. It is most effective to engage with students around issues that are important to them and then help them understand these issues in a far broader context.  
While we engage in a variety of activities, we would like to develop more hands on, project based learning opportunities. |
<table>
<thead>
<tr>
<th>5</th>
<th>2</th>
<th>Objective 2: With our focus on the various isms: Racism, Sexism, Classism, Ableism, heterosexism, Linguicism, etc. and the intersectionality of all of these, our students are deeply engaged in understanding issues surrounding cultural diversity and pluralism. We spend a great deal of time looking at the role of science and technology in furthering social ideologies both in the past and in the present. This of course raises a great deal of ethical questions that the students must grapple with. Our mantra for this class is “Once you know, you are responsible.” In this way, we hope to encourage our students to take seriously their role as global citizens.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>3</td>
<td>Objective 3: When studying hierarchical systems of power, we must look beyond the interpersonal to uncover the institutional. Students come into class thinking of racism or sexism as individual acts. We work hard to illuminate the ways in which these isms and others are embedded in our systems. This is the most important and challenging aspect of our work.</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>Objective 4: We are a co-teaching team which includes an English teacher and a history teacher. We have developed an interdisciplinary curriculum that draws from both our areas of expertise.</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>We switched to online learning midway through the semester I used a variety of mediums including online poster creation to achieve the stated objectives. Mainly however they worked on their research papers. I do not have access to the assignments they completed nad turned in during the regular session of classes as these were left in our classrooms.</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>Students made posters in the classroom of these forms of oppression i do not have pictures of the items to include.</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>Blogs were completed before the online work and a sample is attached.</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>Students have watched documentaries on gentrification in DC and Brooklyn NY then compared their own neighborhood to it. Analyzing the video together allowed them to be able to see what was happening in their own area.</td>
</tr>
</tbody>
</table>
| 7 | 1 | 1. History and current status of forensic science technology, laws, and crime were taught using direct instruction (lecture), interactive instruction (labs, interactive videos and quizzes). Future challenges were mostly taught through class discussion.  
2. If I taught this course in the future, I would include more information on the science and technologies of the future and what problems or issues (ethical) that might arise through more structured assignments/activities. |
| 7 | 2 | 1. Students achieved these learning objectives often through case studies (diversity and ethics) and also through reading, videos and some lecture.  
2. The same basic strategies can be used, but I would improve and modify the assignments and assessments for even deeper thinking. |
| 7 | 3 | 1. An integrated understanding of how challenges affect individuals and societies when it comes to forensic science was taught through lectures and reading to gain knowledge of the specific information. Case studies, questions and discussion were used to understand how challenges affect individual and societies simultaneously.  
2. The same basic strategies can be used, but I would improve and modify the assignments and assessments for even deeper thinking. |
| 7 | 4 | 1. Lecture, reading and hands on activities helped students appreciate the interdisciplinary approaches to understanding challenges.  
2. The interdisciplinary approach to understanding current challenges is obvious within the content of the course. We learn about first responders, pathologists (medical examiners), scientists and analysts and many more. I would have a bit more focus on future challenges. |
### Appendix C: Time to Completion and Comments

<table>
<thead>
<tr>
<th>Respondent #</th>
<th>Beginning of Semester (in minutes)</th>
<th>End of Semester (in minutes)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A few days</td>
<td>A few minutes</td>
<td>I am not sure what this form is truly asking for and how I can better respond or answer the questions as stated.</td>
</tr>
<tr>
<td>3</td>
<td>120</td>
<td>120</td>
<td>Some categories overlap is at times it was hard to figure out how to fill out. Distance learning made it a little more difficult for our students to exceed requirements but we are very proud of the work they completed. We increased our meetings because students wanted to discuss the recent protests. We are also very proud of the final projects. This was such a tough time to motivate but our students came through with some great analysis.</td>
</tr>
<tr>
<td>4</td>
<td>180</td>
<td>Much longer than anticipated</td>
<td>Also, this should be a living document as assessments change according to what is happening in class, i.e., an assessment I gave last may be incorporated/accomplished differently this school year. I am also worried about the amount of time needed to complete the form at the end of the term with close to 100 students enrolled in the course. Hi Albany, We took the liberty of combining the four learning objectives for this document, because as the last objective suggests, there is an interdisciplinary approach to teaching the historical (obj. 1), contemporary (obj. 1 + 4), and future (obj. 1 + 4) challenges to our notions of race, class, and gender. Within our course we integrate and scaffold for our students (obj. 3) as we integrate concepts from cultural diversity and pluralism, science and technology, social interaction, etc. (obj. 2). It was very difficult for me to parse out what one assessment fit versus another, and instead, I would like to ensure that all assessments meet all objectives, which will be the focus of our work for the remainder of the year.</td>
</tr>
<tr>
<td>5</td>
<td>A number of hours</td>
<td>No response</td>
<td>Also, this should be a living document as assessments change according to what is happening in class, i.e., an assessment I gave last may be incorporated/accomplished differently this school year. I am also worried about the amount of time needed to complete the form at the end of the term with close to 100 students enrolled in the course. Hi Albany, We took the liberty of combining the four learning objectives for this document, because as the last objective suggests, there is an interdisciplinary approach to teaching the historical (obj. 1), contemporary (obj. 1 + 4), and future (obj. 1 + 4) challenges to our notions of race, class, and gender. Within our course we integrate and scaffold for our students (obj. 3) as we integrate concepts from cultural diversity and pluralism, science and technology, social interaction, etc. (obj. 2). It was very difficult for me to parse out what one assessment fit versus another, and instead, I would like to ensure that all assessments meet all objectives, which will be the focus of our work for the remainder of the year.</td>
</tr>
<tr>
<td>6</td>
<td>40</td>
<td>120</td>
<td>Maybe an overview section could be added. Since this is my first time completing this document, I decided to write a general statement to help me clarify my thoughts about the general education standards as related to my course.</td>
</tr>
<tr>
<td>7</td>
<td>120</td>
<td>120</td>
<td></td>
</tr>
</tbody>
</table>
“An understanding of the history, science and technology, ethics, cultural diversity with regard to forensic science is important for the students to be informed, active, global citizen now and in the future. These concepts and understandings are in the forefront in helping people manage and cope with the challenges of the world in the current difficult times.”