The purpose of the gerontology certificate undergraduate program is to provide specific courses in gerontology (the study of aging) to provide students the opportunity to study the aging process and to gain knowledge associated with human development and psychosocial issues of the later years. The gerontology certificate undergraduate program assessment plan is a strategic plan designed to assist faculty members associated with the gerontology certificate to measure both student and overall program effectiveness. The key assessments that follow attempts to provide evidence to inform gerontology certificate faculty with regard to a) student progress and b) reflective consideration of ways to continue to develop and enhance the gerontology certificate undergraduate program.
The Gerontology Certificate Undergraduate Program

The gerontology certificate undergraduate program is a joint program shared by faculty in the Community Health and Human Development and Family Science programs in the Department of Health and Human Development at Montana State University. The undergraduate gerontology certificate will provide knowledge and skill development associated with aging issues. The purpose of the gerontology certificate program is to provide specialized training to undergraduate students to enhance career opportunities and to incorporate an aging perspective into the student’s existing program of study. The gerontology certificate requires the completion of 15-credits of gerontology course work and works in conjunction with the student’s existing program of study. The gerontology certificate program is available to any student, in any major at Montana State University.

Gerontology Certificate Undergraduate Program Learning Outcomes

The gerontology certificate undergraduate program established the following program learning outcomes. These learning outcomes were created in alignment with standards from the Association for Gerontology in Higher Education (AGHE) Gerontology Competencies for Undergraduate and Graduate Education (2014). The program learning outcomes include:

1. Utilize gerontological frameworks to examine human development and aging.
2. Relate biological theory and science to understanding senescence, longevity, and variation in aging.
3. Relate psychological theories and science to understanding adaption, stability, and change in aging.
4. Relate social theories and science of aging to understanding heterogeneity, inequality and context of aging.
5. Develop comprehensive and meaningful concepts, definitions and measure for wellbeing of older adults and their families.
6. Develop a gerontological perspective through knowledge and self-reflection.
7. Promote older persons’ strengths and adaptations to maximum wellbeing, health, and mental health.
8. Promote quality of life and positive social environment for older persons.
9. Employ and generate policy to equitably address the needs of older persons.
Alignment of Program Learning Outcomes by Gerontology Course

Table 1 shows the alignment of gerontology certificate courses to the program learning outcomes for the gerontology certificate undergraduate program as established by the AGHE Gerontology Competencies for Undergraduate and Graduate Education (2014).

Table 1. Gerontology Course Alignment to Gerontology Certificate Program Learning Outcomes

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>HDFS 261</th>
<th>CHTH 245</th>
<th>CHTH 325</th>
<th>CHTH 405</th>
<th>CHTH 430</th>
<th>CHTH 461</th>
<th>CHTH 495</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilize gerontological frameworks to examine human development and aging.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relate biological theory and science to understanding senescence, longevity, and variation in aging.</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relate psychological theories and science to understanding adaptation, stability, and change in aging.</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relate social theories and science of aging to understanding heterogeneity, inequality and context of aging.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop comprehensive and meaningful concepts, definitions and measure for wellbeing of older adults and their families.</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Develop a gerontological perspective through knowledge and self-reflection.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Promote older persons’ strengths and adaptations to maximum wellbeing, health, and mental health</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Promote quality of life and positive social environment for older persons.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Employ and generate policy to equitably address the needs of older persons.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Formative and summative evaluation of the gerontology certificate undergraduate program is an iterative process that relies on consistent input from faculty, students, and community-based professionals working with older adults.

Data points in the gerontology certificate undergraduate program assessment plan include:

- Alignment of program learning outcomes as established by the AGHE Gerontology Competencies for Undergraduate and Graduate Education by courses required in the gerontology certificate undergraduate program.
- Development of benchmarks to evaluate student knowledge and skill level associated with program learning outcomes.
- Benchmark data collected throughout the student's academic program in the gerontology certificate undergraduate program to assess student knowledge and skills as aligned with the program learning outcomes set forth by the AGHE Gerontology Competencies for Undergraduate and Graduate Education (2014).

The assessment plan for Montana State University-Bozeman Gerontology Certificate Undergraduate program proceeds through a series of benchmarks, which are assessed through test scores, designated assignments, and final grades designed to meet specific program learning outcomes as established by the AGHE Gerontology Competencies for Undergraduate and Graduate Education (2014).

The assessment process comprehensively addresses both knowledge and skill outcomes. The following benchmarks have been identified as most important to the assessment of the gerontology certificate undergraduate program as a means to evaluate the attainment of knowledge and skills associated with the program learning outcomes. Key assignments were identified for the evaluation of student knowledge and skill attainment and are used as benchmarks to assist faculty in identifying whether undergraduate students in the gerontology certificate program are meeting/exceeding program learning expectations.

Benchmarks for the assessment of the Gerontology Certificate Undergraduate Program and student knowledge and skill acquisition were developed. These benchmarks are listed below:
- **Benchmark 1- Utilize gerontological frameworks to examine human development and aging.**

  Benchmark 1 will be assessed by student performance in either the CHTH 245 or CHTH 261 course. The focus of these courses is to understand gerontological frameworks associated with human development, theories associated with aging, and theories associated with physical activity, nutrition and health specific to older adults. The final grades from one of these courses will be used to assess student competency. The following scale will be used to report benchmark data: A/A- = 1, B+/B- = 2, C+/C- = 3, C- = 4, and D+ or lower = 5; Students pass Benchmark 1 with a score of 1, 2 or 3.

- **Benchmark 2- Relate biological theory and science to understanding senescence, longevity, and variation in aging.**

  Benchmark 2 will be assessed in the CHTH 245 Physical Activity, Nutrition, and Health course. Students learn about different biological theories associated with aging process. This benchmark will use student final grades as the assessment measure. The following scale will be used to report benchmark data: A/A- = 1, B+/B- = 2, C+/C- = 3, C- = 4, and D+ or lower = 5; Students pass Benchmark 2 with a score of 1, 2 or 3. Anything lower and the student must retake the course.

- **Benchmark 3- Relate psychological theories and science to understanding adaption, stability, and change in aging.**

  Benchmark 3 will be assessed in the CHTH 430 Mental Health and Aging course. Students explore various mental health issues and social factors that impact the health of older adults, particularly dementia and Alzheimer’s disease. Components of advocacy are incorporated into this course. Final grades will be used as the assessment measure. The following scale will be used to report benchmark data: A/A- = 1, B+/B- = 2, C+/C- = 3, C- = 4, and D+ or lower = 5. Students pass Benchmark 3 with a score of 1, 2 or 3. Anything lower and the student must retake the course.

- **Benchmark 4- Relate social theories and science of aging to understanding heterogeneity, inequality and context of aging.**

  Benchmark 4 will be evaluated through the assessment of final grades in the CHTH 430 Mental Health & Social Issues in Aging course. In this course students learn about social theories and the impact of aging on social opportunities and social support. The following scale will be used to report benchmark data: A/A- = 1, B+/B- = 2, C+/C- = 3, C- = 4, and D+ or lower = 5. Students pass Benchmark 4 with a score of 1, 2, or 3. Anything lower and the student must retake the course.
- **Benchmark 5-** Develop comprehensive and meaningful concepts, definitions and measure for wellbeing of older adults and their families.

Final grades earned in the CHTH 405 course will measure wellbeing in families, whereas final grades earned in HDFS 461 will measure the development of comprehensive and meaningful concepts, definitions, and measure for wellbeing of older adults. The following scale will be used to report benchmark data: A/A−=1, B+/B− = 2, C+/C= 3, C− =4, and D+ or lower = 5. Students pass Benchmark 5 with a score of 1, 2 or 3. Anything lower and the student must retake the course.

- **Benchmark 6-** Develop a gerontological perspective through knowledge and self-reflection.

Benchmark 6 will be assessed in the CHTH 495 Practicum Experience in Aging course. This course requires the direct contact with older adults. One element of evaluation for this course is a reflective journal describing student experiences working with older adults. One of the prompts that students must discuss is how this experience and the course work in the gerontology certificate undergraduate program has a) impacted them as an individual, b) impacted their perception of aging and the impact of aging on families, and c) how the practicum experience has impacted them as a future professional working with older adults. These concepts will be assessed by the student responses to this question in the students’ reflective journal. Based on student responses, the following scale will be used to score the students’ responses for the reporting of benchmark data: A/A−=1, B+/B− = 2, C+/C= 3, C− =4, and D+ or lower = 5. Students pass Benchmark 6 with a score of 1, 2 or 3. Anything lower and the student must retake the course.

- **Benchmark 7-** Promote older persons’ strengths and adaptations to maximum wellbeing, health, and mental health.

Benchmark 7 will be evaluated through the assessment of final grades in the HDFS Wellbeing in Aging course. In this course students learn about wellbeing theories and the importance of wellbeing throughout the lifespan. The following scale will be used to report benchmark data: A/A−=1, B+/B− = 2, C+/C= 3, C− =4, and D+ or lower = 5. Students pass Benchmark 7 with a score of 1, 2 or 3. Anything lower and the student must retake the course.

- **Benchmark 8-** Promote quality of life and positive social environment for older persons.

Benchmark 8 will be assessed in the CHTH 495 Practicum Experience in Aging course. This course requires direct contact with older adults. One element of evaluation for this course is a paper assignment documenting how the practicum site addresses issues of quality of life and how the site creates or does not create a positive social environment. Students will also be required to discuss the issue of quality of life and how community resources affect quality of life for older adults. Finally, students will assess community opportunities for the development of a positive social
environment for older adults. The student’s written responses in the assigned paper will be used to assess these concepts. The following scale will be used to report benchmark data: A/A=1, B+/B- = 2, C+/C= 3, C- =4, and D+ or lower = 5. Students pass Benchmark 8 with a score of 1, 2 or 3. Anything lower and the student must retake the course.

- Benchmark 9- Employ and generate policy to equitably address the needs of older persons.

The successful completion of the CHTH 325 course Leadership and Public Policies in Aging will determine benchmark 9. The following scale will be used to report benchmark data: A/A=1, B+/B- = 2, C+/C= 3, C- =4, and D+ or lower = 5. Students pass Benchmark 9 with a score of 1, 2 or 3. Anything lower and the student must retake the course.
Gerontology Certificate Undergraduate Program Assessment Data 2016-2017

The following data was collected as per the gerontology certificate undergraduate program assessment plan for AY 2016-2017. The data includes: the total number of students who have enrolled in gerontology courses, number of undergraduate students working towards the completion of the gerontology certificate, and benchmark data selected by gerontology certificate program faculty to assess undergraduate student knowledge and skill attainment.

Overview of Gerontology Certificate Undergraduate Students

At the conclusion of the 2016-2017 Academic Year, 15 students had declared the intent to work towards and complete the requirements for the gerontology certificate. Currently, these 15 students represent the following programs of study: community health, human development and family science, nutrition, and health and human performance. Moreover, 161 students enrolled in one or more gerontology courses for the AY 2016-2017 academic year.

Benchmark Data for AY 2016-2017

- **Benchmark 1- Utilize gerontological frameworks to examine human development and aging.**

Benchmark 1 will be assessed by student performance in either the CHTH 245 or CHTH 261 course. Student averaged grades will be converted into the scale listed below and reported as an overall average. Data for AY 2016-2017 was:

- **Overall average = 1.0**

A/A-=1, B+/B-=2, C+/C=3, C-=4, and D+ or lower = 5. Students pass Benchmark 1 with a score of 1, 2 or 3. Anything lower and the student must retake the course.
Benchmark 2- Relate biological theory and science to understanding senescence, longevity, and variation in aging.

Benchmark 2 will be assessed in the CTHH 245 Physical Activity, Nutrition, and Health course. Student averaged grades will be converted into the scale listed below and reported as an overall average. Data for AY 2016-2017 was:

- **Overall average = 2.2**

A/A- = 1, B+/B- = 2, C+/C= 3, C- =4, and D+ or lower = 5. Students pass Benchmark 2 with a score of 1, 2 or 3. Anything lower and the student must retake the course.

Benchmark 3- Relate psychological theories and science to understanding adaption, stability, and change in aging.

Benchmark 3 will be assessed in the CTHH 430 Mental Health and Aging course. Student averaged grades will be converted into the scale listed below and reported as an overall average. Data for AY 2016-2017 was:

- **Overall average = 1.0**

A/A- = 1, B+/B- = 2, C+/C= 3, C- =4, and D+ or lower = 5. Students pass Benchmark 3 with a score of 1, 2 or 3. Anything lower and the student must retake the course.

Benchmark 4- Relate social theories and science of aging to understanding heterogeneity, inequality and context of aging.

Benchmark 4 will be evaluated through the assessment of final grades in the CTHH 430 Mental Health & Social Issues in Aging course. Student averaged grades will be converted into the scale listed below and reported as an overall average. Data for AY 2016-2017 was:

- **Overall average = 1.0**

A/A- = 1, B+/B- = 2, C+/C= 3, C- =4, and D+ or lower = 5. Students pass Benchmark 4 with a score of 1, 2 or 3. Anything lower and the student must retake the course.

Benchmark 5- Develop comprehensive and meaningful concepts, definitions and measure for wellbeing of older adults and their families.

Final grades earned in the CTHH 405 course will measure wellbeing in families, whereas final grades earned in HDFS 461 will measure the development of comprehensive and meaningful concepts, definitions, and measure for wellbeing of older adults. Student averaged grades will be converted into the scale listed below and reported as an overall average. Data for AY 2016-2017 was:
CHTH 405
- **Overall average = 1.0**

HDFS 461
- **Assessment will begin in AY 2017-2018**

A/A- =1, B+/B- = 2, C+/C= 3, C- =4, and D+ or lower = 5. Students pass Benchmark 5 with a score of 1, 2 or 3. Anything lower and the student must retake the course.

- **Benchmark 6- Develop a gerontological perspective through knowledge and self-reflection.**

Benchmark 6 will be assessed in the CHTH 495 Practicum Experience in Aging course. This course requires the direct contact with older adults. One element of evaluation for this course is a reflective journal describing student experiences working with older adults. One of the prompts that students must discuss is how this experience and the course work in the gerontology certificate undergraduate program has a) impacted them as an individual, b) impacted their perception of aging and the impact of aging on families, and c) how the practicum experience has impacted them as a future professional working with older adults. These concepts will be assessed by the student responses to this question in the students' reflective journal. Student averaged scores will be converted into the scale listed below and reported as an overall average. Data for AY 2016-2017 was:

- **Assessment will begin in AY 2017-2018**

A/A- =1, B+/B- = 2, C+/C= 3, C- =4, and D+ or lower = 5. Students pass Benchmark 6 with a score of 1, 2 or 3. Anything lower and the student must retake the course.

- **Benchmark 7- Promote older persons' strengths and adaptations to maximum wellbeing, health, and mental health.**

Benchmark 7 will be evaluated through the assessment of final grades in the HDFS Wellbeing in Aging course. Student averaged grades will be converted into the scale listed below and reported as an overall average. Data for AY 2016-2017 was:

- **Assessment will begin in AY 2017-2018**

A/A- =1, B+/B- = 2, C+/C= 3, C- =4, and D+ or lower = 5. Students pass Benchmark 7 with a score of 1, 2 or 3. Anything lower and the student must retake the course.
Benchmark 8- Promote quality of life and positive social environment for older persons.

Benchmark 8 will be assessed in the CHTH 495 Practicum Experience in Aging course. This course requires direct contact with older adults. One element of evaluation for this course is a paper assignment documenting how the practicum site addresses issues of quality of life and how the site creates or does not create a positive social environment. Students will also be required to discuss the issue of quality of life and how community resources affect quality of life for older adults. Finally, students will assess community opportunities for the development of a positive social environment for older adults. The student’s written responses in the assigned paper will be used to assess these concepts. Student averaged grades will be converted into the scale listed below and reported as an overall average. Data for AY 2016-2017 was:

- **Assessment will begin in AY 2017-2018**

  A/A- = 1, B+/B- = 2, C+/C- = 3, C- = 4, and D+ or lower = 5. Students pass Benchmark 8 with a score of 1, 2 or 3. Anything lower and the student must retake the course.

Benchmark 9- Employ and generate policy to equitably address the needs of older persons.

The successful completion of the CHTH 325 course Leadership and Public Policies in Aging will determine benchmark 9. Student averaged grades will be converted into the scale listed below and reported as an overall average. Data for AY 2016-2017 was:

- **Assessment will begin in AY 2017-2018**

  A/A- = 1, B+/B- = 2, C+/C- = 3, C- = 4, and D+ or lower = 5. Students pass Benchmark 9 with a score of 1, 2 or 3. Anything lower and the student must retake the course.

What Was Learned from the AY 2016-2017 Assessment

The completion of this assessment identified the need to market to programs outside of the department of Health and Human Development to reach students in other majors across campus. It will also be important to assess the program learning objectives and chosen assessment measures for this program due to the fact that the program is new. Therefore, gerontology certificate faculty will continue to monitor assessment measures to ensure that the correct measures have been selected to best assess student knowledge and skill for each of the program learning outcomes has noted it.
Program Responses Made from Data Collected for the AY 2016-2017 Assessment

Based on the information collected from this assessment, the program coordinator and one faculty member have started the development of a program marketing plan as means to disseminate information about the gerontology certificate undergraduate program across the MSU-Bozeman campus. Additionally, the program coordinator will work with gerontology certificate faculty to assess the effectiveness of the chosen program assessment measures to ensure best measurement practices as more students enroll in the gerontology certificate and more data becomes available.
References