STUDENT LEARNING OUTCOMES ASSESSMENT REPORT

Hagerstown Community College
11400 Robinwood Drive
Hagerstown, Maryland 21742

May 2007

EXECUTIVE SUMMARY

Overview

The central purpose of Hagerstown Community College (HCC), as a small, comprehensive regional community college in Western Maryland, is the offering of a diverse array of courses and programs designed to address the curricular functions of university transfer, career entry or advancement, adult basic skills enhancement, general and continuing education, as well as student and community service. Undergoing transition and facing many challenges, HCC's vision is to strive to be above all else: *"a learner-centered, accessible lifelong learning institution dedicated to student and community success..."*

A culture of accountability has been created at Hagerstown Community College. HCC's assessment initiatives are intended to be an integral component of a long-term institutional process of planning, review and the feedback of outcomes information to improve the quality of HCC's instruction, programs and services. With its limited resources, the College focuses on its mission based functions and related vision, carefully choosing strategically important directions that support all mission based areas. The College's integrated planning, budgeting and evaluation model is the central process for the College's future growth and development. This "plan, do, assess, and adjust" model is the foundation for strengthening and continuously improving the institution. Student learning outcomes assessment is a vital component of strategic planning. Outcomes data supports planning at the unit level, which helps shape institutional goals and priorities. As a result, HCC is implementing outcomes assessment programs in academic and non-academic areas to move the College toward a successful future with a clear vision, effective planning, institutional effectiveness and resource allocation processes.

Institutional effectiveness at HCC is an internal process of planning and evaluation intended to ensure that its performance matches its strategic goals and objectives. The term "institutional effectiveness" refers to the process by which HCC articulates, in measurable terms, its mission, vision and values, and then assesses success levels using internal and external data as part of the College's annual and strategic planning/budgeting/improvement cycles. The Institutional Effectiveness Plan is the blueprint and key to attaining the College's vision. Along with the Institutional Effectiveness Plan, the College's mission and vision is being realized with the integrated implementation of its strategic and annual operational plans, the Student Learning Outcomes Assessment (SLOA) Plan, the 2004 Middle States Self-Study, the Facilities Master Plan, and other major institutional planning documents.

As HCC has become more experienced with student learning outcomes assessment, strategies, activities, results, interventions and planning have become more integrated and broadly based. Faculty workshops have frequently focused on SLOA. External and internal SLOA consultants have worked with faculty to develop course and program outcomes and assessment processes. As the SLOA effort has broadened to encompass virtually all courses and programs, the College has recognized a need to provide more concentrated, in depth assistance to faculty.   Beginning in Fall 2006, five SLOA facilitators have served as academic division liaisons. They work with faculty in their divisions to continue the assessment process, analyze assessment data, make curricular modifications and identify resource needs as part of the College's unit planning and evaluation process.

The College is working toward the goal of assessing the general education outcomes of all students graduating with associate degrees. Through general education assessment, the College demonstrates that its graduates and students can effectively: communicate; think critically and apply scientific and quantitative reasoning skills; and demonstrate technological competence, as well as other general education learning outcomes. The six areas of study, which align with the Middle States Commission on Higher Education (MSCHE) and Maryland Higher Education Commission (MHEC) standards, that have been identified to ensure that students achieve the desired goals include English, Arts and Humanities, Information Literacy, Behavioral and Social Sciences, Mathematics, and Biological and Physical Sciences. For each area of study, general education learning outcomes have been established. The College uses, but is not limited to, the methodologies and instruments listed below, which are described in detail in the Student Learning Outcomes Assessment Report to measure each of the general education competencies identified by MSCHE and MHEC.

❖ **Written and Oral Communication**
- Collegiate Assessment of Academic Proficiency (CAAP)
- Measure of Academic Proficiency and Progress (MAPP)
- Community College Survey of Student Engagement (CCSSE)
- Capstone activity using scenarios and rubrics: Introduction to Sociology (SOC 101)
- Research paper rubric: English Composition (ENG 101)
- Human Anatomy and Physiology Society National Competency Exam for Human Anatomy and Physiology I (BIO 103) and II (BIO 104)
- National Council Licensure Examination – Practical Nursing (NCLEX-PN)
- Portfolio – Graphic Design Technology Program
- Interdisciplinary Assessment Activity (Capstone) - Mock mass casualty practical assessment for Administration of Justice, Nursing and Paramedic Emergency Services

❖ **Scientific and Quantitative Reasoning**
- Collegiate Assessment of Academic Proficiency (CAAP)
- Measure of Academic Proficiency and Progress (MAPP)
- Community College Survey of Student Engagement (CCSSE)
- Human Anatomy and Physiology Society National Competency Exam for Human Anatomy and Physiology I (BIO 103) and II (BIO 104)
- Common five-question supplement to all final exams/rubric in College Algebra (MAT 101*)
- Assessment Technologies Institute (ATI) Examinations - Practical Nursing
- National Council Licensure Examination – Practical Nursing (NCLEX-PN)
- Interdisciplinary Assessment Activity (Capstone) - Mock mass casualty practical assessment for Administration of Justice, Nursing and Paramedic Emergency Services students
- American Chemical Society (ACS) exams: General Chemistry (CHM 101, 102)

❖ **Technological Competence**
- On-line common exams for content units: Introduction to Information Technology (IST 102)
- Common on-line assessment questions
- Community College Survey of Student Engagement (CCSSE)
- Portfolio – Graphic Design Technology Program
- Interdisciplinary Assessment Activity (Capstone) - Mock mass casualty practical assessment for Administration of Justice, Nursing and Paramedic Emergency Services

❖ **Critical Analysis and Reasoning**
- Collegiate Assessment of Academic Proficiency (CAAP)
- Capstone activity using scenarios and rubrics: Introduction to Sociology (SOC 101)
- Research paper rubric: English Composition (ENG 101)
- High impact course assessment: Introduction to Information Technology (IST 102)
- Human Anatomy and Physiology Society National Competency Exam for Human Anatomy and Physiology I (BIO 103) and II (BIO 104)
- Community College Survey of Student Engagement (CCSSE)
- Portfolio – Graphic Design Technology Program
- Interdisciplinary Assessment Activity (Capstone) - Mock mass casualty practical assessment for Administration of Justice, Nursing and Paramedic Emergency Services students
- External validation and departmental juries – Music

The process of assessing student learning in a systematic way has led to positive outcomes for students, as well as for faculty and staff. The involvement and leadership of faculty as the content specialists is essential as they bring relevant experience and expertise to the outcomes assessment process. They must have ownership to maintain a commitment over time and determine useful interventions and strategies for change. Assessment has fostered communication among faculty,

including adjuncts, and helped to create uniformity across course sections. Faculty have begun to use more formative assessment techniques to support outcomes assessment. As part of the institutional effectiveness process, including SLOA, faculty and staff have become more familiar with the importance of data analysis and interpretation for planning purposes.

Assessment, curriculum development and review, and planning are interrelated processes that foster accountability at all levels. An effective outcomes assessment program supports and feeds vital and relevant curriculum that meets the needs of students and the community. The relationship between these variables, which includes measured outcomes and strategic goals, drive the assessment process toward continuous improvement, accountability and the fulfillment of the College's mission.

INSTITUTIONAL EFFECTIVENESS

As evidence of HCC's commitment to strategic planning and institutional effectiveness, inclusive of student learning outcomes assessment, the Institutional Effectiveness Plan (IEP) was developed in Spring 2006. Institutional effectiveness at HCC is an internal process of planning and evaluation intended to ensure that its performance matches its strategic goals and objectives. In this plan, the term "institutional effectiveness" refers to the process by which HCC articulates, in measurable terms, its mission, vision and values, and then assesses success levels using internal and external data as part of the College's annual and strategic planning/budgeting/improvement cycles.

The IEP is designed to focus on assessment initiatives in both academic and non-academic units and provides for formative review of established targets, as well as an overall view of College effectiveness. Assessment activities at Hagerstown Community College have expanded significantly to better align with the Middle States accreditation standards, which were used in the design of the IEP. Specifically, Standard 7 addresses the need for an institutional assessment plan, Standard 12 covers general education and Standard 14 addresses student learning outcomes assessment. HCC's effectiveness plan has as its two objectives accountability and improvement presented in a comprehensive, yet simple and manageable model.

Creation of a continuous data-driven assessment process which focuses on the actual results of student learning outcomes assessment and institutional effectiveness is taking form as the Institutional Effectiveness Plan has been implemented. The College's strategic goals, institutional priorities, key performance indicators and data measures align with each major area of the College, thereby facilitating the involvement of all units in shaping the College's strategic future. It is the relationship between measured outcomes and the strategic goals (Appendix A) that drives the assessment process toward continuous improvement.

The College's vision, mission, strategic goals, and annual institutional priorities serve as the foundation of HCC's planning, evaluation and budgeting system. Through its planning process, the College ensures efficient utilization of institutional resources and receives significant feedback related to planning, assessment and resource allocation activities. The achievement of strategic goals commences with unit planning meetings, which involve each area of the College. As each unit addresses strategic goals and action plans delineated in the 2012 strategic plan, the unit planning system improves efficiency, enhances communication, contains costs, and redirects resources to support mission-based priorities that have strategic importance.

To facilitate reporting and planning, units of the College use outcomes assessment data provided by the Office of PIE, as well as their own data. Each unit submits annual productivity reports in which it uses the outcomes data to assess its goal attainment in the previous year, thereby evaluating its overall effectiveness and specific accomplishments. Plans and requests for resources for the coming fiscal year, which include unit goals and strategies reflecting institutional priorities and strategic goals, are based upon needs determined through assessment data and trend analysis.

HCC's activities follow a continuous cycle of "plan, do, assess, and adjust." Central to this process are the outcomes of the programs and services that contribute to student and community success. Feedback validates and helps assure that the information obtained through internal and external studies leads the College to make relevant and necessary changes to its programs and services. Actions are based upon plans, which are the prescription for bringing vision and outcomes together.

Components of the Institutional Effectiveness Plan

Key Performance Indicators

HCC has developed ten key institutional performance indicators (KPI) related to its eight strategic goals. The performance indicators are integrated into the College's strategic plan and its action plans. The documentation of the use of evaluation results closes the loop in the College's assessment and evaluation processes for academic and non-academic units of the College.

HCC's mission and vision-based key performance indicators, which fall into three categories, include:

PURPOSE AND PLANS *Mission, Vision, and Values Components*	CAPACITY/ ORGANIZATIONAL STRUCTURE *Resources Components*	PERFORMANCE AND SUCCESS
Student Access and Development	Operating Funds / CIP / Foundation Funds	Student Success (Student Learning Outcomes Assessment)
Curricular Development	Facilities	Community Service
Community Development	Personnel and Organizational Structure	College Operational Performance / Core Systems and Processes
	Technology	

Data Measures

Over 250 data measures that broadly demonstrate how well the College operates as an organization were developed to measure the ten KPI. The data measures are the foundation for institutional renewal, which is defined as the improvement and/or enhancement of effective teaching and learning, and educational and administrative support services. As outcomes results become available, they are analyzed to determine how the College can best direct its attention to achieving its strategic objectives. Assessment results are reviewed, analyzed and discussed as a part of the College's unit planning process. Additionally, analyses by groups such as the Student Learning Outcomes Assessment (SLOA) Council, the Academic Council, the Student Affairs Council, and the Governance Council may result in revisions to strategies, increased or decreased resource allocations and further new or refined assessments.

All assessment data opportunities are important for validating institutional effectiveness when they are analyzed and used to improve student learning, programs, services and overall efficacy of the College. Benchmarks for key performance indicators will be established over the next year using multiple sources, including, but not limited to internal data and data from comparable community colleges, the Maryland Association of Community Colleges, the Maryland Higher Education Commission, the National Student Clearinghouse, and IPEDS.

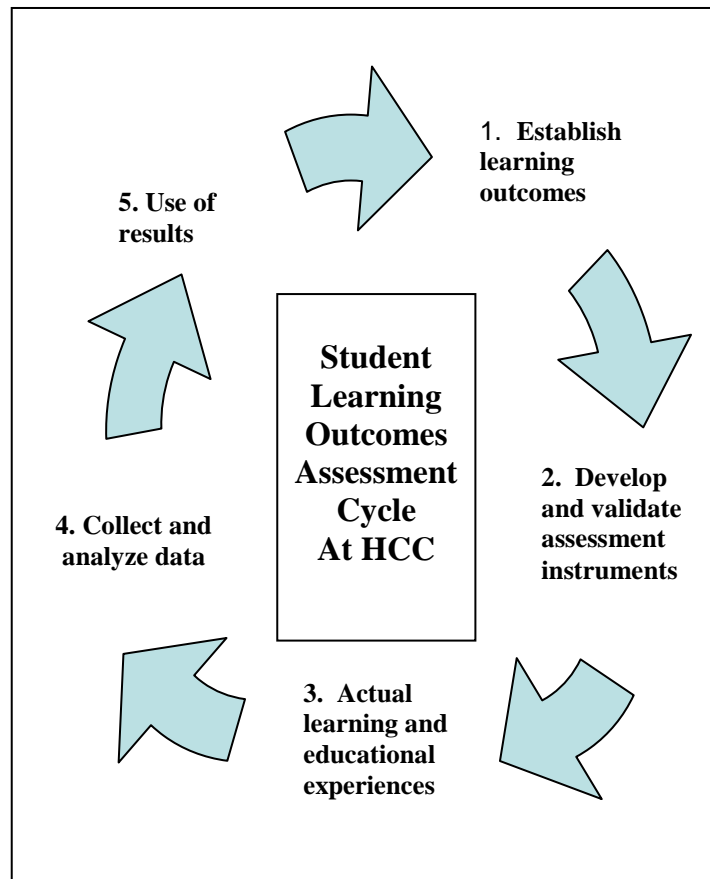## STUDENT LEARNING OUTCOMES ASSESSMENT

Outcomes assessment of student learning provides feedback to faculty members and professional staff for the purpose of improving academic programs, teaching and learning. It is through the analysis of student learning that the College is able to improve learning in a systematic and effective manner. Student learning outcomes assessment, a primary component of the IEP, is a comprehensive effort focused on measuring student academic achievement.

Student Learning Outcomes Assessment Plan

Written in 2004, the Student Learning Outcomes Assessment (SLOA) Plan includes strategies for assessing all courses and programs, as well as procedures and timelines that encompass eight academic years from 2004 to 2012. It also includes methods and tasks for the assessment of general education. The initial emphasis of the SLOA Plan was at the course level. Major impact courses in each academic division were selected by faculty to be assessed in the first cycle. Assessment priorities are now focused at the program, as well as at the course level.

The SLOA cycle at HCC is a continuous cycle of developing outcomes, assessing the outcomes and using the data obtained to improve student learning. The process is illustrated below. Faculty in every academic division have developed student learning outcomes for courses and programs. Working in teams, they have determined and sought external validation for assessment instruments and methods to measure achievement of outcomes. Though the SLOA Plan sets forth a timetable for program outcomes and assessment activities, faculty engage in outcomes assessment work on a regular basis. In addition, academic divisions incorporate follow-up information on transfer and career program graduates into assessment reports and unit operational planning.

1. Establish learning outcomes

5. Use of results

Student Learning Outcomes Assessment Cycle At HCC

2. Develop and validate assessment instruments

4. Collect and analyze data

3. Actual learning and educational experiences

COURSE OUTCOMES IN GENERAL EDUCATION

At HCC, general education is designed to enrich the lives of students as they acquire knowledge, learn to think critically, and use methodologies of the various disciplines. Students also learn to prepare for participation in a democracy, appreciate a sense of shared cultural heritage, and to understand the environment. Through general education assessment, the College demonstrates that students who graduate have mastered these and other general education learning outcomes. The six areas of study, which align with MSCHE and MHEC standards, that have been identified to ensure that students achieve the desired goals include English, Arts and Humanities, Information Literacy, Behavioral and Social Sciences, Mathematics, and Biological and Physical Sciences. For each area of study, general education learning outcomes have been established. The College uses the instruments listed below and described in detail in the narrative that follows to measure each of the general education competencies identified by Middle Sates and MHEC, which include:

❖ **Written and Oral Communication - The ability to express ideas orally and in writing**

- Collegiate Assessment of Academic Proficiency (CAAP)
- Measure of Academic Proficiency and Progress (MAPP)
- Community College Survey of Student Engagement (CCSSE)
- Capstone activity using scenarios and rubrics: Introduction to Sociology (SOC 101)
- Research paper rubric: English Composition (ENG 101)
- Human Anatomy and Physiology Society National Competency Exam for Human Anatomy and Physiology I (BIO 103) and II (BIO 104)
- National Council Licensure Examination – Practical Nursing (NCLEX-PN)
- Portfolio – Graphic Design Technology Program
- Interdisciplinary Assessment Activity (Capstone) - Mock mass casualty practical assessment for Administration of Justice, Nursing and Paramedic Emergency Services

❖ **Scientific and Quantitative Reasoning - The ability to use numerical data and apply mathematical concepts appropriately, as well as the ability to access, process, analyze and synthesize scientific information**

- Collegiate Assessment of Academic Proficiency (CAAP)
- Measure of Academic Proficiency and Progress (MAPP)
- Community College Survey of Student Engagement (CCSSE)
- Human Anatomy and Physiology Society National Competency Exam for Human Anatomy and Physiology I (BIO 103) and II (BIO 104)
- Common five-question supplement to all final exams/rubric in College Algebra (MAT 101)
- Assessment Technologies Institute (ATI) Examinations - Practical Nursing
- National Council Licensure Examination – Practical Nursing (NCLEX-PN)

- Interdisciplinary Assessment Activity (Capstone) - Mock mass casualty practical assessment for Administration of Justice, Nursing and Paramedic Emergency Services students
- American Chemical Society (ACS) exams: General Chemistry (CHM 101, 102)

❖ **Technological Competence - The ability to use technology to gather, evaluate, process and communicate information**

- On-line common exams for content units: Introduction to Information Technology (IST 102)
- Common on-line assessment questions
- Community College Survey of Student Engagement (CCSSE)
- Portfolio – Graphic Design Technology Program
- Interdisciplinary Assessment Activity (Capstone) - Mock mass casualty practical assessment for Administration of Justice, Nursing and Paramedic Emergency Services

❖ **Critical Analysis and Reasoning - The ability to evaluate diverse ideas, cultural values and artistic expression**

- Collegiate Assessment of Academic Proficiency (CAAP)
- Capstone activity using scenarios and rubrics: Introduction to Sociology (SOC 101)
- Research paper rubric: English Composition (ENG 101)
- High impact course assessment: Introduction to Information Technology (IST 102)
- Human Anatomy and Physiology Society National Competency Exam for Human Anatomy and Physiology I (BIO 103) and II (BIO 104)
- Community College Survey of Student Engagement (CCSSE)
- Portfolio – Graphic Design Technology Program
- Interdisciplinary Assessment Activity (Capstone) - Mock mass casualty practical assessment for Administration of Justice, Nursing and Paramedic Emergency Services students
- External validation and departmental juries – Music

Collegiate Assessment of Academic Proficiency (CAAP)
 [Assesses all general education outcomes]

One instrument that HCC uses to measure all general education outcomes measure is the Collegiate Assessment of Academic Proficiency (CAAP) test available through the American College Testing Program, Inc. (ACT). The CAAP test is a nationally normed assessment instrument which allows colleges and universities to evaluate the outcomes of general education programs. There are six independent test modules that can be administered to students to measure achievement levels either independently or as a group.

In 2004, 2005 and 2006, the College administered the CAAP tests to student groups who had completed the majority of their general education courses. General education areas assessed were

essay composition, mathematics, reading, critical thinking, and science. Data tables that summarize past results follow. Results for Spring 2007 will be available in Summer 2007.

STUDENT SCORES FOR CRITICAL THINKING, ESSAY COMPOSITION, MATHEMATICS, READING AND SCIENCE

Critical Thinking

HCC student scaled score vs. national scaled score on critical thinking exam. Scale for exam ranges from 40 (low) to 80 (high). Students did not take this component until 2006.

	2006 Average Scaled Score ± Standard Deviation (SD)
HCC	60.1 ± 5.5 (n=51)
National Norm	60.7 ± 5.3 (n=21,826)

Essay (Composition)

HCC student scaled score vs. national scaled score for 2004, 2005, and 2006 on essay composition. Scale for essay ranges from 1.0 (low) to 6.0 (high).

	2004 Scaled Score ± SD n= Number of Students who Completed Exam	2005 Scaled Score ± SD n= Number of Students who Completed Exam	2006 Scaled Score ± SD n= Number of Students who Completed Exam
HCC	2.8 ± 0.6 (n=21)	3.2 ± 0.6 (n=39)	3.0 ± 0.7 (n=46)
National	3.1 ± 0.6 (n=7,684)	3.1 ± (n=7,859)	3.0 ± 0.6 (n=7,782)

Mathematics

HCC student scaled score vs. national scaled score on mathematics exam. Scale for exam ranges from 40 (low) to 80 (high).

	2004 Scaled Score ± SD n= Number of Students who Completed Exam	2005 Scaled Score ± SD n= Number of Students who Completed Exam	2006 Scaled Score ± SD n= Number of Students who Completed Exam
HCC	57.6 ± 3.1 (n=17)	56.7 ± 2.5 (n=57)	57.6 ± 3.1 (n=56)
National	56.2 ± 3.5 (n=10,618)	56.1 ± 3.6 (n=20,320)	56.1 ± 3.6 (n=28,577)

Reading

HCC student scaled score vs. national scaled score on reading exam. Scale for exam ranges from 40 (low) to 80 (high).

	2004 Scaled Score ± SD n= Number of Students who Completed Exam	2005 Scaled Score ± SD n= Number of Students who Completed Exam
HCC	61.2 ± 4.8 (n=25)	62.9 ± 5.2 (n=37)
National	60.6 ± 5.4 (n=26,647)	60.4 ± 5.3 (27,446)

Science

HCC student scaled score vs. national scaled score on science exam. Scale for exam ranges from 40 (low) to 80 (high).

	2004 Scaled Score ± SD n= Number of Students who Completed Exam	2005 Scaled Score ± SD n= Number of Students who Completed Exam	2006 Scaled Score ± SD n= Number of Students who Completed Exam
HCC	62.8 ± 4.1 (n=29)	61.6 ± 3.7 (n=54)	59.8 ± 3.7 (n=66)
National	59.0 ± 4.2 (n=17,737)	59.0 ± 4.1 (n=17,675)	59.0 ± 4.1 (n=18,203)

The CAAP exam was piloted at HCC in Spring 2004 with 92 completing either the math, science, reading or essay composition exams. In all areas except essay composition, the HCC student average was slightly above the national mean. The HCC mean essay composition score was slightly lower than the national average. In Spring 2005, 187 students completed either the math, science, reading or essay composition exams. The HCC student average was above the national average in all categories tested. In Spring 2006, 219 students completed either the math, science, critical thinking or essay composition exams. HCC student averages were above the national average in all areas except critical thinking, which was slightly below the national average. Individual departments and the Vice President of Academic Affairs receive student scores and are responsible for interpretation of the data. The Division of Mathematics and Science has used CAAP data to validate student learning in College Algebra, as well as to plan the improvement of curriculum in the Chemistry Program, both of which are discussed later in this report.   Results of the CAAP assessments taken in Spring 2007 will be available in Summer 2007.

Measure of Academic Proficiency and Progress (MAPP)
[Assesses: Written and Oral Communication; Scientific and Quantitative Reasoning]

The CAAP exam, which has been administered at HCC for three years, has multiple subject exams. In an effort to streamline and validate assessment of general education outcomes at HCC, the Measure of Academic Proficiency and Progress (MAPP) exam, available through the Educational Testing Service (ETS), was administered in Spring 2007. The MAPP is a single exam that measures reading, writing, mathematics and critical thinking in the context of the humanities, social sciences and natural sciences.   When results from ETS become available, they will be compared with CAAP exam results and appropriate modifications to general education instruction will be made.

High Impact Course Assessment Projects

[Assesses all general education outcomes by course]

It is important to assess student learning outcomes in general education courses with high enrollment, in order to involve as many students, academic divisions and faculty as possible from the beginning.   HCC faculty chose one high impact course from each academic division. This type of involvement has made it easier for more faculty to continue working on SLOA in all their courses.

When the high impact course projects began in Fall 2004, a three-year SLOA plan was outlined for each course. Teams of full-time and adjunct faculty worked with division chairs and the SLOA Facilitator to write student learning outcomes, assess student learning outcomes, validate the

assessment and to improve student learning based on the results of the assessment. A summary and five examples of high impact SLOA projects follows.

HIGH IMPACT COURSE SLOA ACTIVITIES
[Assesses all general education competencies]

Academic Division	High Impact Course
Division of Behavioral and Social Sciences/ Business	Introduction to Sociology (SOC 101)
Division of English and Humanities	English Composition (ENG 101)
Division of Technology and Computer Studies	Introduction to Information Technology (IST 102)
Division of Mathematics and Science	Human Anatomy and Physiology I (BIO 103) Human Anatomy and Physiology II (BIO 104) College Algebra (MAT 101)

In the two years that faculty have worked on these high impact SLOA projects, much has been accomplished. Student learning outcomes have been established and assessed by teams of faculty. Greater uniformity among course sections has been established. Data obtained from student assessment has led to course and program student learning improvements. Most importantly, faculty are building a culture in which student learning outcomes, assessment, and adaptation fit into the entire institutional effectiveness system of Hagerstown Community College.

Introduction to Sociology (SOC 101) was the high impact course chosen from the Division of Behavioral and Social Sciences and Business. Common learning objectives were already in place for this course. Faculty worked together to develop common student learning outcomes. In Fall 2004, faculty obtained a multiple choice pre- and post-test for Introduction to Sociology from a peer institution, which were used for a pilot study in Spring 2005. Sections of SOC 101 were selected that were taught at different times of the day by full-time and adjunct faculty on the main campus and at Valley Mall site. There was a significant difference between two out of the six sections assessed. Students (n=100) had an average 20.8% increase from pre-test to post-test. Gender had no significant effect on improvement. After conducting this pilot the SOC 101 faculty concluded that this instrument was not a good measure of HCC's SOC 101 student learning outcomes.

In Summer 2005, in order to measure outcomes beyond course content, a "capstone" exercise was developed that assesses behavior and cognitive growth. This exercise involves a series of "real world" scenarios that student groups work on and complete during the final exam period. A rubric was developed and normed to grade this final assignment.

English Composition (ENG 101) was the high impact course chosen for the Division of English and Humanities.   Prior to Fall 2004, faculty developed and used student learning outcomes for ENG 101 and assessment tools, including a grading rubric, a holistic rubric and examples of "A" and "C" papers. These were distributed to full-time and adjunct English faculty.   In Spring 2005, a pilot study was conducted in which research papers and rubrics used by faculty were collected. The results of this pilot prompted a training session in the use of the assessment tools for full-time and adjunct faculty in Fall 2005. In Fall 2005, 120 student research papers were collected and graded using a common rubric. After the faculty initially reviewed the research paper rubric, they revised the tool for use in Spring 2006.   From examining the Fall 2005 data, it was found that a positive correlation existed between ENG 101 course grades and research paper grades. Papers graded using the Spring 2006 rubric were also collected. A norming session was held for full-time and adjunct faculty to conduct item analysis and determine areas in which students need to improve. The work in ENG 101 led faculty to begin a SLOA project for the A.A. Option in English. Work on this project has begun and faculty intend to implement a portfolio assessment for students majoring in this option.

The relationship between student grades in ENG 101 and whether they took developmental courses at HCC or placed into ENG 101 was also examined. There is a trend in which students who place into ENG 101 or receive an A or B in ENG 100 are more likely to pass ENG 101 with a C or better. Students who receive a C in ENG 100 appear to be more likely to not earn a C or better in ENG 101.   Faculty ideas to address this issue include: training for adjunct Developmental English instructors to help them understand the expectations of ENG 101 and to review the grading procedures for ENG 100.   The Division of Developmental Education and Literacy Services will address these issues.

Introduction to Information Technology (IST 102) is the high impact course selected for the Division of Technology and Computer Studies. Information literacy is a primary outcome for IST 102. Prior to Fall 2004, IST 102 faculty developed common learning objectives and common paper and pencil exams. In Fall 2004, student learning outcomes were developed for this course. In Spring 2005, faculty worked with a textbook publisher to develop on-line common exams for IST 102 content units. All course sections completed the same modules and the same exams in Fall 2005, which were slightly

modified in Spring 2006. Data from these exams was collected for all course sections and used to make course modifications in Fall 2006. After giving these exams, faculty are considering the addition of common projects to the course as another outcomes measure.

Although students at HCC are exposed to information literacy across the curriculum, students in IST 102, an HCC course with high enrollment, are targeted for explicit instruction. Beginning in Spring 2006, students enrolled in IST 102 participate in Texas Information Literacy Tutorial (TILT) as well as an instructional unit which has typically been taught called "Living On-Line." TILT is a web-based tutorial with three modules concerning selecting appropriate sources, searching library databases and the Internet, and evaluating and citing information. Statistics from each module are collected when students complete an on-line quiz after finishing the module. Data from HCC common on-line assessment questions pertaining to information literacy were also collected. In Fall 2006, faculty will review the results of both these assessments and make modifications to the course curriculum to improve student learning. Students are also able to submit comments in TILT. When reviewing these comments it is evident that while completing TILT, students obtained knowledge about plagiarism, how to search and how to evaluate and cite websites.

One important result of the IST 102 SLOA project has been the development of an on-line computer skills placement exam. In Spring 2006 faculty developed an on-line placement exam for IST 102, which is used in IST 100 (Basic Computer Skills) and IST 102 classes in Fall 2006 to develop cut-off scores for placement into IST 100.   In Spring 2007, the Academic Testing Center began administering the computer skills placement exam. This exam will help ensure that students are prepared for IST 102 and will enable faculty to teach more advanced curriculum in IST 102.

Human Anatomy and Physiology I (BIO 103) and II (BIO 104) are high impact courses chosen from the Division of Mathematics and Science. Human Anatomy and Physiology (A and P) student learning outcomes were written by faculty members in Fall 2004, using the learning objectives developed by the Human Anatomy and Physiology Society (HAPS). In Spring 2005, faculty developed a cumulative exam based on the HAPS Learning Objectives. All BIO 103 sections have taken this exam since Spring 2005 (n = 253). The HAPS National Competency Exam, which covers both BIO 103 and BIO 104, has been given to all students completing BIO 104 since Fall 2005. These results are also used by Health Sciences faculty to ensure that A and P outcomes meet the needs of the Health Sciences curriculum.

On the HAPS exam, HCC students have scored higher than the national mean for community colleges. There is a positive correlation between the HCC first semester exam and the HAPS cumulative exam, as well as between exam scores on both exams and course grades.

College Algebra (MAT 101) uses a common five-question supplement to all final exams. A rubric was developed in Spring 2006 to give partial credit to students and to enable faculty to see where the students had difficulties in solving the problems. A positive correlation exists between scores on final exam supplement and course grades.

For the past four Spring semesters, a sample of HCC College Algebra students have taken the Mathematics portion of the Collegiate Assessment of Academic Proficiency (CAAP) exam. MAT 101 students scored slightly above the national mean on the CAAP Mathematics exam in 2004 and 2005. The 2006 data indicates that HCC students score above the national mean on all sections except College Algebra, where they are just under 2% of the national average. However, not all students have completed College Algebra when the CAAP exam is administered. The results for Spring 2007 are not yet available.

A report produced by ACT links COMPASS placement testing scores of individual students to CAAP Mathematics score of the same student. Comparative data is shown in the following chart, with HCC students exceeding the national averages.

LINKAGE OF HCC STUDENT SCORES AND NATIONAL SCORES: CAAP RESULTS TO COMPASS MATH SCORES 2006

Progress of Students	HCC Students (n = 57)	National Average
More Than Expected Progress	57.9%	18.0%
Expected Progress	42.1 %	77.0%
Less Than Expected Progress	0%	6.0%

As have faculty involved in other high impact course projects, Math faculty have extended this project to the Mathematics A.A. Option. They have developed program-level outcomes. Currently, they are working on an assessment protocol for students majoring in Mathematics.

Community College Survey of Student Engagement (CCSSE)

[Assesses all general education competencies]

In addition to the CAAP exam, the College, along with the other 16 Maryland community colleges, participated in The Community College Survey of Student Engagement (CCSSE) in April 2004 and April 2006. The CCSSE uses a set of five benchmarks of effective educational practice in community colleges to allow institutions to gauge and monitor their performance. CCSSE results focus on good educational practices and identify areas in which community colleges can improve their programs and services for students, which helps strengthens student learning and persistence. When asked to rate their knowledge and skills in areas related to general education core requirements, HCC student responses are comparable to those of students at Maryland and national community colleges. The chart on the following page compares the results of the 2004 and 2006 surveys. HCC will participate in the CCSSE project in 2008.

COMPARISON OF CCSSE RESULTS FOR

HAGERSTOWN COMMUNTY COLLEGE

2004 and 2006

Knowledge and Skills (Rated on a scale of 1 to 4)	HCC		Maryland Community Colleges		All Community Colleges	
	April 2004	April 2006	April 2004	April 2006	April 2004	April 2006
Writing clearly and effectively	2.63	2.64	2.70	2.73	2.64	2.66
Speaking clearly and effectively	2.57	2.48	2.57	2.61	2.54	2.56
Thinking critically and analytically	2.80	2.75	2.83	2.86	2.81	2.83
Solving numerical problems	2.55	2.60	2.54	2.54	2.55	2.55
Using computing and information technology	2.62	2.70	2.70	2.72	2.65	2.67

Academic Affairs will continue to monitor those areas that were below both state and national averages and to develop strategies for improvement accordingly.

PROGRAM OUTCOMES

Academic Program Assessment

A series of standardized program outcomes guide templates were developed in 2005 to enable faculty to document program outcomes assessment progress (Appendix B). Five specific examples of SLOA program activities, one from each academic division, are described below.

Academic Division	Program
Division of Nursing and Health Sciences	Practical Nursing Certificate
Division of Technology and Computer Studies	Graphic Design Technology
Division of Behavioral and Social Sciences and Business	Administration of Justice
Division of English and Humanities	Music and Music Education
Division of Mathematics and Science	Chemistry

The **Practical Nursing (PN) Certificate Program** has student learning outcomes in place. Faculty are assessing these outcomes using Assessment Technologies Institute (ATI) practical nursing exams as well as standard in-class assessments and clinical performance. The ATI exam, which serves as a comprehensive predictor for passing the National Council Licensure Examination – Practical Nursing (NCLEX-PN), measures subject level performance and identifies student strengths and weaknesses. In 2005-06, the HCC PN class ranked in the 97th percentile nationally on the ATI comprehensive predictor test. Students who completed entrance and exit testing had higher critical thinking scores after completing the program. As a result of ATI subject exam scores, faculty are able to identify areas of needed improvement and work with students to develop a better understanding of the course material and make curriculum revisions accordingly.

As a result of the program's formative assessment process, curriculum is being revised to include more nursing lab experience with clinical instructors in order to have students gain confidence and build skills prior to entering the actual clinical site. Sensory system content will be added to NUR 112 and Oncology will be moved to NUR 115. This change will better prepare students for Pediatrics (NUR 113). As a result of assessment, faculty have found that national trends in healthcare need more emphasis in the courses that they teach. More pharmacology, nutrition and medication administration

content will be incorporated into each course in the next academic year. Eventually, faculty would like to add a one credit nutrition course and a one credit pharmacology course to the program. Results for the 2006 – 2007 are not yet available.

Graphic Design Technology (GDT) is an A.A.S. degree career program offered in the Division of Technology and Computer Studies. Students who are enrolled in the program create a portfolio of their projects. Each spring semester, the GDT Advisory Committee, which is made up of graphic design professionals from the community, review the student portfolios with the students. Reviewers noted that students' portfolios contained more Photoshop than necessary, with too little demonstration of page layout and Illustrator skills. Faculty have revised course curriculum to incorporate these recommendations. Based upon these assessments, requests for additional resources to implement these revisions were made during the FY 08 unit planning process.

An example of a SLOA program initiative from the Division of Behavioral and Social Science and Business is the **Administration of Justice (ADJ)** Associate of Applied Science degree. In 2003, the lead ADJ faculty member in this career program worked with faculty from the nursing department and the paramedic department to develop an Interdisciplinary Assessment Activity. This capstone activity is a mock mass casualty practical assessment for ADJ, nursing and paramedic students who are completing their programs. A mass casualty scenario, developed by instructors, involves HCC staff who play the roles of the victims and suspects while students put theory into practice. For the past four years, the entire campus has been the stage for this mass casualty assessment on a Saturday during the Spring semester. ADJ, nursing and paramedic students are evaluated on their performance by professionals from the community, using a rubric specific to their majors. Evaluators also make written comments on student performance.

One modification to the curriculum after the first Interdisciplinary Assessment Activity was the addition of cross program training for nursing, paramedic and ADJ students to better understand each group's duties as it relates to the crime scene. Further, based upon activity results, course objectives are reviewed and emphasized with adjunct instructors. These outcomes based changes resulted in curriculum modification, which, in turn, have consistently and positively impacted ADJ student scores in the "Initial Response" category.

Music and **Music Education** are two new A.A. degree options in the Division of English and Humanities. Student learning outcomes are in place for the program. One assessment ensures that transferring music students will have applied competency in an instrument or in voice. At the course level, progress is assessed by individual applied music instructors using a standard set of level criteria

which includes level-specific exercises as well as level-specific musical literature. At the program level, all music majors are assessed at the end of each academic year in a departmental jury. This serves as an external validation of the instructor's assessment of student progress. The student is assigned his or her applied level at this time. One key course in these programs is **Music Appreciation (MUS 101)**. The assessment for MUS 101 has been changed from in-class examinations to a series of quizzes and critiques of three live performances. The quizzes are intended to assess content retention while critiques assess how content is used to engage in aesthetic criticism. A grading rubric which uses student critiques is used.

A representative program from the Division of Mathematics and Science is the **Chemistry** A.S. degree. Program outcomes have been developed. One project that was important to faculty was to understand the expectations of four-year transfer institutions. Faculty examined course requirements of transfer institutions and recommended minor catalog changes, such as adding Calculus II and Biology 113 to the recommended electives.

Student achievement in Chemistry has been determined with three different externally validated instruments, including the CAAP Science exam and two American Chemical Society (ACS) exams, First Term - General Chemistry and Second Term - General Chemistry. Students from three chemistry classes [Introduction to College Chemistry (CHM 101), General Chemistry II (CHM 104) and Organic Chemistry II (CHM 204)] completed the CAAP Science exam. The national mean was 59. HCC students completing CHM 204 scored significantly higher (84) than students completing CHM 104 (66.4). This is to be expected as the CHM 204 students have completed at least four semesters of college science classes, whereas students from CHM 104 have completed just two semesters. However, CHM 104 students did not score significantly higher than CHM 101 students (65.2). Though the scores were still above the national average, this was not the result that was anticipated, as the CHM 104 students typically have more science and math background than CHM 101 students.

CAAP Science exam results have raised the question of how additional scientific reasoning can be incorporated into CHM 103 and CHM 104. Full-time faculty will work with adjuncts to develop more investigative labs for each course using the current lab manual. Curriculum adjustments to CHM 103 and CHM 104 were made in Fall 2006 after examining the results and item analysis of ACS exams, as well as ACS learning objectives. The Chemistry program will also be restructured to accommodate two options after the completion of CHM 103: one option will be a single semester of organic chemistry and the other will be the traditional CHM 104 sequence. Transfer nursing programs require a semester of organic chemistry and HCC will make adjustments to meet this need.

In the most recent fall and spring semesters, CHM 103 students (n = 66) completed the ACS General Chemistry -First Term exam. HCC students scored lower (36.2 ± 8.8) than the national mean (41.0 ± 10.7). CHM 104 students (n = 32) completed the ACS General Chemistry - Second Term exam. HCC students scored lower (30.9 ± 8.7) than the national mean (39.1 ± 11.9).

Science faculty will continue to use CAAP by testing more CHM 101and CHM 104 students to determine if scientific reasoning is improving with teaching modifications. Follow-up will also be necessary with the ACS exam findings. In the unit planning process, science faculty requested funds to purchase ACS chemistry exams to determine if curriculum modifications are improving student learning. The results of chemistry outcomes assessment activities also prompted faculty to ask for funds to increase student and instructor access to software and hardware to perform chemistry experiments.

In expanding SLOA to the program level, student learning has benefited in several ways. For example, developing student learning outcomes for programs and courses encourages faculty to review their programs to determine what students should be able to do when they have completed an entire program, how those outcomes should be addressed in each course of the program, and how courses should be sequenced. Faculty are then able to incorporate course-level outcomes assessment while working on program-level outcomes assessment. Focusing on the program level has broadened the SLOA approach and, therefore, involved virtually every full-time faculty member as well as many adjuncts. With a process in place through SLOA facilitators and the Office of Planning and Institutional Effectiveness to help faculty interpret program data, faculty are now better able to use assessment information to improve instruction and student learning,

HCC is currently designing a process to make student learning outcome results available to students, prospective students, parents, and the community at large. Plans are underway to include SLOA information in the websites of individual academic divisions, as well as in the main College website. Links within the websites will direct visitors to, for example, the Maryland Board of Nursing, where HCC's NCLEX results can be compared with those of other Maryland community colleges. College publications, including the Catalog, printed schedule, the annual Report to the Community, and individual program brochures, will also feature SLOA results.   Making results available to the community will demonstrate the College's commitment to student achievement, and will help prospective students and their families make informed education and career decisions.

APPENDICES

APPENDIX A
HAGERSTOWN COMMUNITY COLLEGE
STRATEGIC GOALS

- Strategic Goal 1 – Adopt Strategic Change and Continuous Quality Improvement Systems

- Strategic Goal 2 – Promote Teaching Excellence and Maintain a Responsive and Dynamic Curriculum

- Strategic Goal 3 – Maintain Proactive Enrollment Management, Student Support Services, and Marketing Strategies

- Strategic Goal 4 – Align Facilities Development and Management with Annual Mission-Based Priorities

- Strategic Goal 5 – Increase Technology Applications in a Cost-Effective Manner

- Strategic Goal 6 – Improve Human Resource Development Systems

- Strategic Goal 7 – Enhance Financial Resource Development, Allocation, and Reallocation Strategies

- Strategic Goal 8 – Expand Community Services and Strategic Partnerships and Alliances

APPENDIX B

SLOA Templates for Faculty and Division Chairs/Directors

Proposal for a SLOA Project

Project Name:

Project Description:
Indicate the course or program that will be involved in the study. Describe the project briefly and explain how it will improve student learning. Include a brief description of intended methodology (experimental design and instruments that will be used to collect data) as well as a plan to ensure external validation.

Team Leader: *Faculty member who will take the lead role in the project.*

Team Members: *Faculty members who will participate in the project. Please indicate if a team member is adjunct.*

Project Activities:
List and describe the specific activities to be accomplished as part of this project. List and justify all the resources necessary to meet these goals. Categories of resources can include Outcomes Assessment Coordinator (OAC) assistance, assessment instruments, meetings with other faculty, consultants, etc. Requests for monetary support should not exceed $1000.

Project Activities	Resources Needed	Justification

Total Funds Requested

Timeline:
State the timeline (month/year) for each stage of the project. Stages include: 1) Establish Learning Outcomes, 2) Develop Assessment Instruments, 3) Pilot Assessment Instruments & Collect and Analyze Data, 4) Use Results to Refine Course, Assessment Instruments, etc., and 5) Assessment and Final Report.

Signatures:
Outcomes Assessment Facilitator: _____ Date: _____
Division Chair or Director: _____ Date: _____
Director of Instruction: _____ Date: _____
VP of Academic Affairs: _____ Date: _____

Program Outcome Guide

*Organizational unit that exists to assist learners in achieving specific learning outcomes.

Program: **Date:**

Planning Team Members: **Program Purpose:**

Prerequisites	**Courses**	**Intended Outcomes**	**Capstone Assessment Tasks**
What must the student be able to do before engaging in work?	*What learning experiences (courses) are necessary to prepare the student?*	*What will students be able to do "out there" as a result of this program?*	*What can students do in this program to show evidence of the intended outcomes?*

Model Course/Program Outcomes Guide

May 2006

Directions: Please complete this form to document your progress toward improving student learning. For each item, indicate your progress and your anticipated next steps. Thank you!

Course/Program Title:

Course/Program Team:

Expected Learning Outcomes

Assessment (How do or will students demonstrate achievement of each outcome?)

Validation (What methods have you used or will you use to validate your assessment?)

Results (What do your assessment data show? If you have not yet assessed student achievement of your learning outcomes, when is assessment planned?)

Follow-up (How have you used or how will you use the data to improve student learning?)

Budget Justification
(What resources are necessary to improve student learning?)