

**New Vision, New Designs,  
New Measures of Success:**  
Preparing Today's Students for  
the New Global Century

Greater Expectations Institute  
Nashville, TN  
June 15, 2010

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Association of American Colleges and Universities



*Association  
of American  
Colleges and  
Universities*

## Preparing Students to Succeed...

### The US Economy Is Defined by Greater Workplace Challenges and Dynamics

- Every year, more than 1/3 of the entire US labor force changes jobs.
- Today's students will have 10-14 jobs by the time they are 38.
- 50% of workers have been with their company less than 5 years.
- Every year, more than 30 million Americans are working in jobs that did not exist in the previous quarter.

*Source:* US Department of Labor Bureau of Statistics

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### Simultaneously, Employers Are Raising the Bar

- 91% of employers say that they are “asking employees to take on more responsibilities and to use a broader set of skills than in the past.”
- 90% of employers say that their “employees are expected to work harder to coordinate with other departments than in the past.”
- 88% of employers say that “the challenges their employees face are more complex than they were in the past.”
- 88% of employers agree that “to succeed in their companies, employees need higher levels of learning and knowledge than they did in the past.”

*Source:* “Raising the Bar: Employers’ Views on College Learning in the Wake of the Economic Downturn” (*Hart Research Associates for AAC&U, 2010*;  
[http://www.aacu.org/leap/public\\_opinion\\_research.cfm](http://www.aacu.org/leap/public_opinion_research.cfm))

# Preparing Students to Succeed...

## What Employers Are Looking For

“My company lives and dies on our ability to innovate and to create the new products and processes that give us an edge in this very competitive global economy. ESCO needs people who have both a command of certain specific skills and robust problem-solving and communication skills.”

*Steven Pratt  
CEO, ESCO Corporation and  
Chair of the Oregon Business Council*

“Employers do not want, and have not advocated for, students prepared for narrow workforce specialties. . . . Virtually all occupational endeavors require a working appreciation of the historical, cultural, ethical, and global environments that surround the application of skilled work.”

*Roberts T. Jones  
President, Education Workforce Policy, LLC*

“Intel Corp. Chairman Craig Barrett has said that 90 percent of the products his company delivers on the final day of each year did not exist on the first day of the same year. To succeed in that kind of marketplace, U.S. firms need employees who are flexible, knowledgeable, and scientifically and mathematically literate.”

*Norman R. Augustine  
Retired Chairman and CEO, Lockheed Martin Corporation*

“[Business leaders are] frustrated with their inability to find ‘360 degree people’ . . .”

*Findings from 2006 focus groups among business executives  
Peter D. Hart Research Associates*

“Integrated capabilities are the key to this industry’s future.”

*Keith Peden  
Senior Vice President of Human Resources, Raytheon Company*

“Irrespective of college major or institutional selectivity, what matters to career success is students’ development of a **broad set of cross-cutting capacities...**”

*Anthony Carnevale  
Georgetown University  
Center on Education and the Workforce*

What Are Those “Cross-Cutting Capacities”? Read On...

# The Essential Learning Outcomes



Beginning in school, and continuing at successively higher levels across their college studies, students should prepare for twenty-first-century challenges by gaining:

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## ★ Knowledge of Human Cultures and the Physical and Natural World

- Through study in the sciences and mathematics, social sciences, humanities, histories, languages, and the arts

*Focused by engagement with big questions, both contemporary and enduring*

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## ★ Intellectual and Practical Skills, including

- Inquiry and analysis
- Critical and creative thinking
- Written and oral communication
- Quantitative literacy
- Information literacy
- Teamwork and problem solving

*Practiced extensively, across the curriculum, in the context of progressively more challenging problems, projects, and standards for performance*

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## ★ Personal and Social Responsibility, including

- Civic knowledge and engagement—local and global
- Intercultural knowledge and competence
- Ethical reasoning and action
- Foundations and skills for lifelong learning

*Anchored through active involvement with diverse communities and real-world challenges*

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## ★ Integrative and Applied Learning, including

- Synthesis and advanced accomplishment across general and specialized studies

*Demonstrated through the application of knowledge, skills, and responsibilities to new settings and complex problems*

**Note:** This listing was developed through a multiyear dialogue with hundreds of colleges and universities about needed goals for student learning; analysis of a long series of recommendations and reports from the business community; and analysis of the accreditation requirements for engineering, business, nursing, and teacher education. The findings are documented in previous publications of the Association of American Colleges and Universities: *Greater Expectations: A New Vision for Learning as a Nation Goes to College* (2002), *Taking Responsibility for the Quality of the Baccalaureate Degree* (2004), and *Liberal Education Outcomes: A Preliminary Report on Achievement in College* (2005). *Liberal Education Outcomes* is available online at [www.aacu.org/leap](http://www.aacu.org/leap).



# Percentage of Employers Who Want Colleges to “Place More Emphasis” on Essential Learning Outcomes



## ★ Knowledge of Human Cultures and the Physical and Natural World

• Science and technology	70%
• Global issues	67%*
• The role of the United States in the world	57%
• Cultural diversity in the United States and other countries	57%
• Civic knowledge, participation, and engagement	52%*

## ★ Intellectual and Practical Skills

• Written and oral communication	89%
• Critical thinking and analytic reasoning	81%
• Complex problem solving	75%
• Teamwork skills in diverse groups	71%*
• Creativity and innovation	70%
• Information literacy	68%
• Quantitative reasoning	63%

## ★ Personal and Social Responsibility

• Ethical decision making	75%
• Intercultural competence (teamwork in diverse groups)	71%*
• Intercultural knowledge (global issues)	67%*
• Civic knowledge, participation, and engagement	52%*

## ★ Integrative and Applied Learning

• Applied knowledge in real-world settings	79%
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Note: These findings are taken from *Raising the Bar: Employers’ Views on College Learning in the Wake of the Economic Downturn*, a survey of employers conducted for AAC&U by Hart Research Associates and published in 2010. For a full report on this survey and related employer findings, see [www.aacu.org/leap](http://www.aacu.org/leap).

\*Starred items are shown in two learning outcome categories because they apply to both.

# AAC&U Member Institutions’ Learning Outcomes for All Students



## ★ Knowledge of Human Cultures and the Physical and Natural World

• Humanities	92%
• Sciences	91%
• Social Sciences	90%
• Global/World Cultures	87%
• Mathematics	87%
• Diversity in the United States	73%
• United States History	49%
• Languages Other Than English	42%
• Sustainability	24%

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## ★ Intellectual and Practical Skills

• Writing skills	99%
• Critical Thinking	95%
• Quantitative Reasoning	91%
• Oral Communication	88%
• Intercultural Skills	79%*
• Information Literacy	76%
• Research skills	65%

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## ★ Personal and Social Responsibility

• Intercultural Skills	79%*
• Ethical Reasoning	75%
• Civic Engagement	68%

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## ★ Integrative Learning

• Application of Learning	66%
• Integration of Learning	63%

Note: Nearly 80% of AAC&U member institutions surveyed reported that they had a common set of learning outcomes for all students. Percentages cited above are the percentage of those with campus-wide goals reporting that this outcome is one of the learning goals they have for all students. This data was generated as part of AAC&U’s initiative, Liberal Education and America’s Promise (LEAP). The four categories of learning outcomes correspond to a set of “Essential Learning Outcomes” developed as part of LEAP. See [www.aacu.org/leap](http://www.aacu.org/leap) and *Learning and Assessment: Trends in Undergraduate Education—A Survey Among Members of the Association of American Colleges and Universities* (AAC&U and Hart Research Associates, 2009).

\* The starred items are shown in two learning outcome categories because they apply to both.

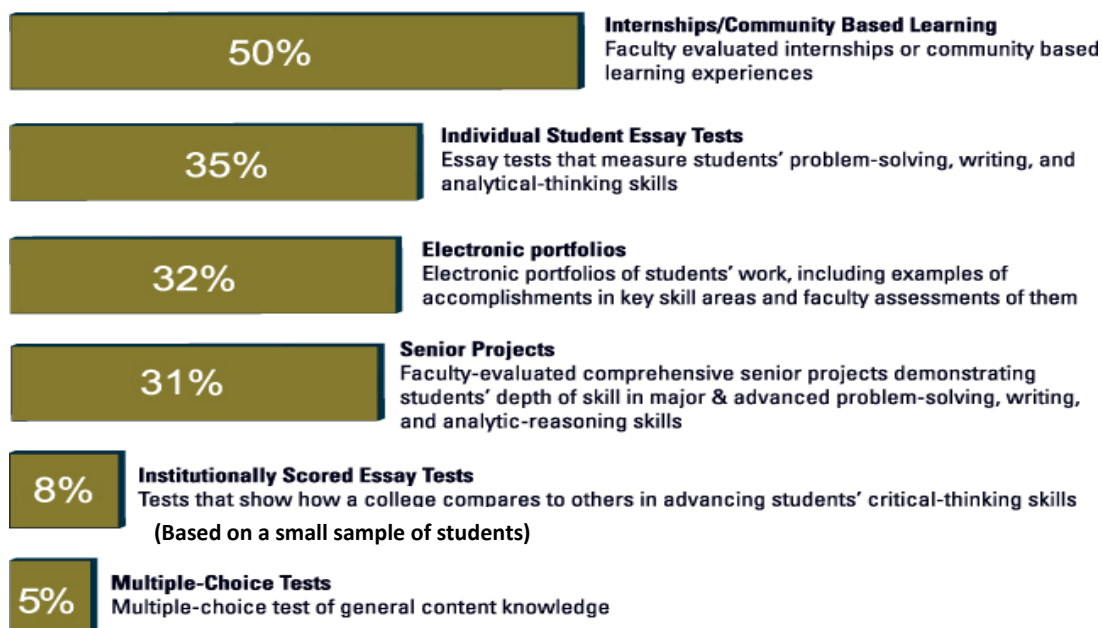
# 2008 Employer Survey Findings<sup>1</sup>

## Employers Grade Student Learning in College

	Very well prepared (8-10 ratings)*	Not well prepared (1-5 ratings)*	Mean Rating*
Global knowledge	18%	46%	5.7
Self-direction	23%	42%	5.9
Writing	26%	37%	6.1
Critical thinking	22%	31%	6.3
Adaptability	24%	30%	6.3
Self-knowledge	28%	26%	6.5
Oral communication	30%	23%	6.6
Quantitative reasoning	32%	23%	6.7
Social responsibility	35%	21%	6.7
Intercultural Skills	38%	19%	6.9
Ethical Judgement	38%	19%	6.9
Teamwork	39%	17%	7.0

\* ratings on 10-point scale: 10 = recent college graduates are extremely well prepared on each quality to succeed in entry level positions or be promoted/advance within the company

## Employers Advise on Where to Focus Assessment Resources



<sup>1</sup> Note: these findings are taken from a survey of employers commissioned by the Association of American Colleges and Universities and conducted by Peter A. Hart Associates in November and December 2007. For a full report on the survey and its complete findings, see [www.aacu.org/leap](http://www.aacu.org/leap).

# High-Impact Educational Practices



These widely tested teaching and learning innovations show substantial educational benefits, especially for college students from historically underserved backgrounds. But these practices remain optional rather than expected on most campuses

## First-Year Seminars and Experiences

Many schools now build into the curriculum first-year seminars or other programs that bring small groups of students together with faculty or staff on a regular basis. The highest-quality first-year experiences place a strong emphasis on critical inquiry, frequent writing, information literacy, collaborative learning, and other skills that develop students' intellectual and practical competencies. First-year seminars can also involve students with cutting-edge questions in scholarship and with faculty members' own research.

## Common Intellectual Experiences

The older idea of a "core" curriculum has evolved into a variety of modern forms, such as a set of required common courses or a vertically organized general education program that includes advanced integrative studies and/or required participation in a learning community (see below). These programs often combine broad themes—e.g., technology and society, global interdependence—with a variety of curricular and cocurricular options for students.

## Learning Communities

The key goals for learning communities are to encourage integration of learning across courses and to involve students with "big questions" that matter beyond the classroom. Students take two or more linked courses as a group and work closely with one another and with their professors. Many learning communities explore a common topic and/or common readings through the lenses of different disciplines. Some deliberately link "liberal arts" and "professional courses"; others feature service learning.

## Writing-Intensive Courses

These courses emphasize writing at all levels of instruction and across the curriculum, including final-year projects. Students are encouraged to produce and revise various forms of writing for different audiences in different disciplines. The effectiveness of this repeated practice "across the curriculum" has led to parallel efforts in such areas as quantitative reasoning, oral communication, information literacy, and, on some campuses, ethical inquiry.

## Collaborative Assignments and Projects

Collaborative learning combines two key goals: learning to work and solve problems in the company of others, and sharpening one's own understanding by listening seriously to the insights of others, especially those with different backgrounds and life experiences. Approaches range from study groups within a course, to team-based assignments and writing, to cooperative projects and research.

## Undergraduate Research

Many colleges and universities are now providing research experiences for students in all disciplines. Undergraduate research, however, has been most prominently used in science disciplines. With strong support from the National Science Foundation and the research community, scientists are reshaping their courses to connect key concepts and questions with students' early and active involvement in systematic investigation and research. The goal is to involve students with actively contested questions, empirical observation, cutting-edge technologies, and the sense of excitement that comes from working to answer important questions.

## Diversity/Global Learning

Many colleges and universities now emphasize courses and programs that help students explore cultures, life experiences, and worldviews different from their own. These studies—which may address U.S. diversity, world cultures, or both—often explore "difficult differences" such as racial, ethnic, and gender inequality, or continuing struggles around the globe for human rights, freedom, and power. Frequently, intercultural studies are augmented by experiential learning in the community and/or by study abroad.

## Service Learning, Community-Based Learning

In these programs, field-based "experiential learning" with community partners is an instructional strategy—and often a required part of the course. The idea is to give students direct experience with issues they are studying in the curriculum and with ongoing efforts to analyze and solve problems in the community. A key element in these programs is the opportunity students have to both *apply* what they are learning in real-world settings and *reflect* in a classroom setting on their service experiences. These programs model the idea that giving something back to the community is an important college outcome, and that working with community partners is good preparation for citizenship, work, and life.

## Internships

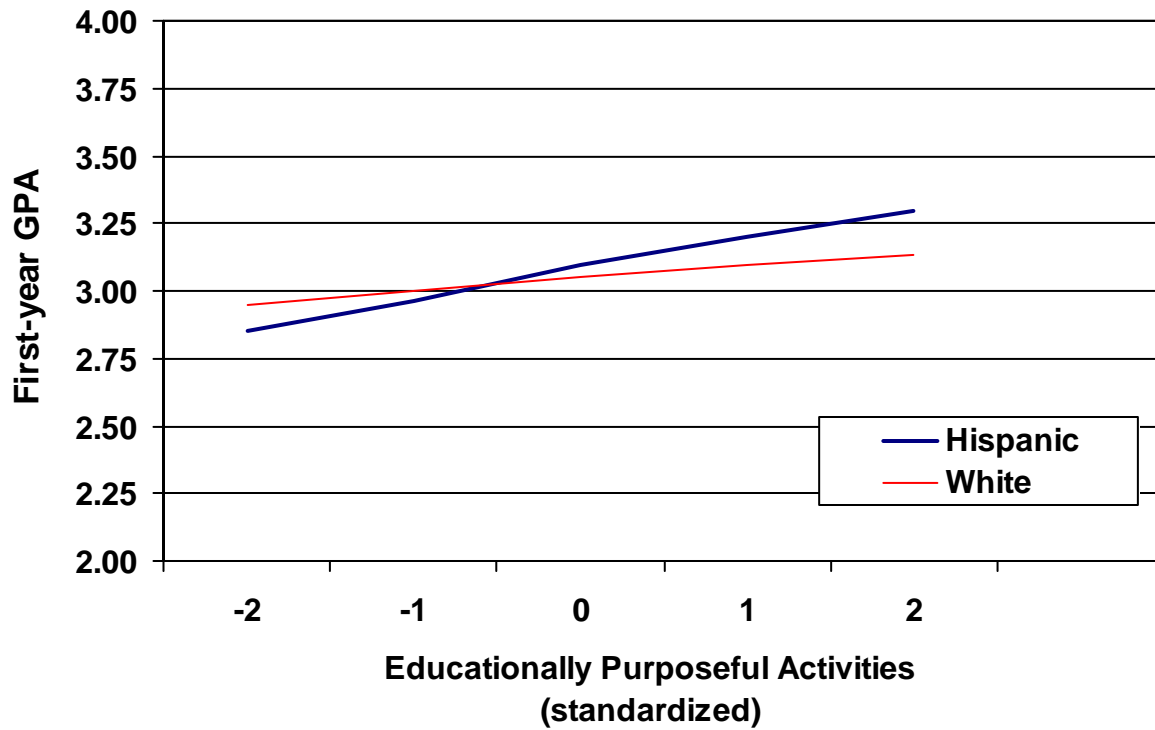
Internships are another increasingly common form of experiential learning. The idea is to provide students with direct experience in a work setting—usually related to their career interests—and to give them the benefit of supervision and coaching from professionals in the field. If the internship is taken for course credit, students complete a project or paper that is approved by a faculty member.

## Capstone Courses and Projects

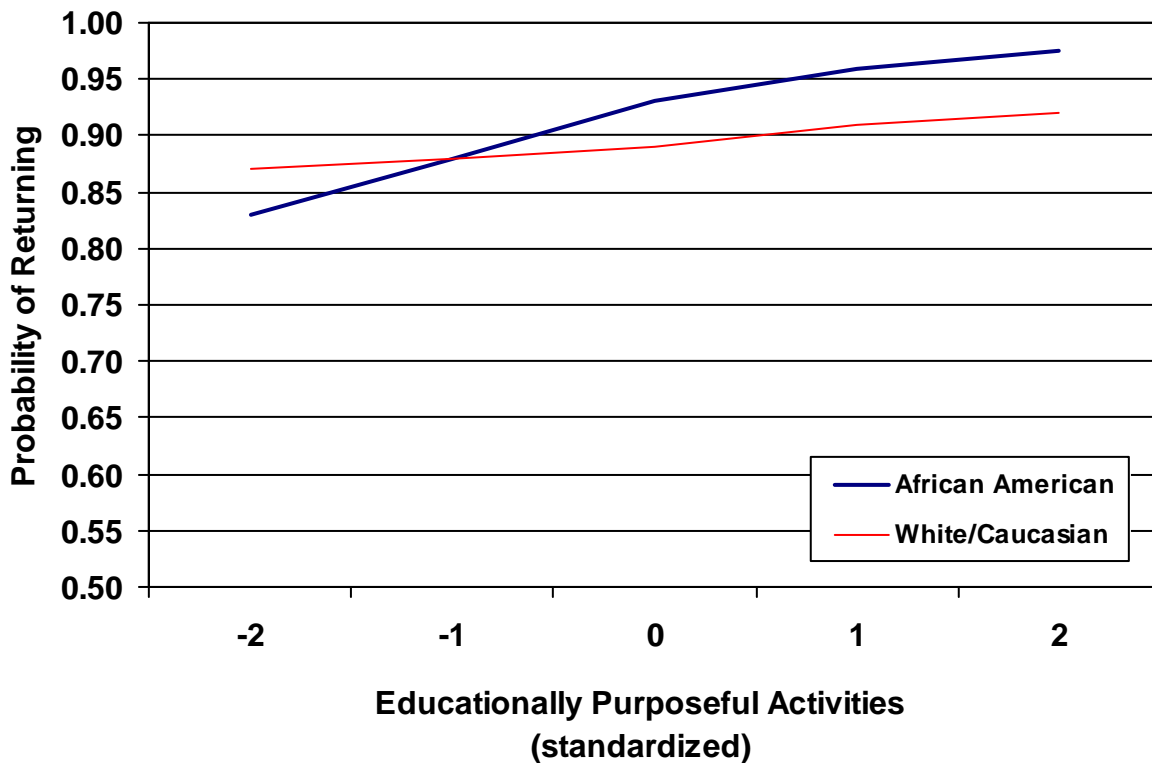
Whether they're called "senior capstones" or some other name, these culminating experiences require students nearing the end of their college years to create a project of some sort that integrates and applies what they've learned. The project might be a research paper, a performance, a portfolio of "best work," or an exhibit of artwork. Capstones are offered both in departmental programs and, increasingly, in general education as well.



**Impact of High Impact Practices on First Academic Year GPA by Race/Ethnicity**



**Impact of High Impact Practices on the Probability of Returning for the Second Year of College by Race**



## The Miami Dade College Learning Covenant

Miami Dade College is the largest and most diverse non-profit college in the nation. With eight campuses and over 170,000 students from across the world, the College offers over 300 programs of study and several degree options, including vocational, associate, and baccalaureate degrees.

[B]oth at Miami Dade and nationally...[Eduardo Padron] has pushed liberal education, including ethics and critical-thinking and communications skills, "for every American."

"The world is spinning at such a very fast pace that you need not only technical skills, but general skills in many different areas to adapt to different situations," Padron says. "Just preparing somebody to install solar panels is not going to be enough because two years from now it will be something else."

Source: Cynthia Barnett, "Eduardo Padron, Floridian of the Year" (*Florida Trend*, January 1, 2010)

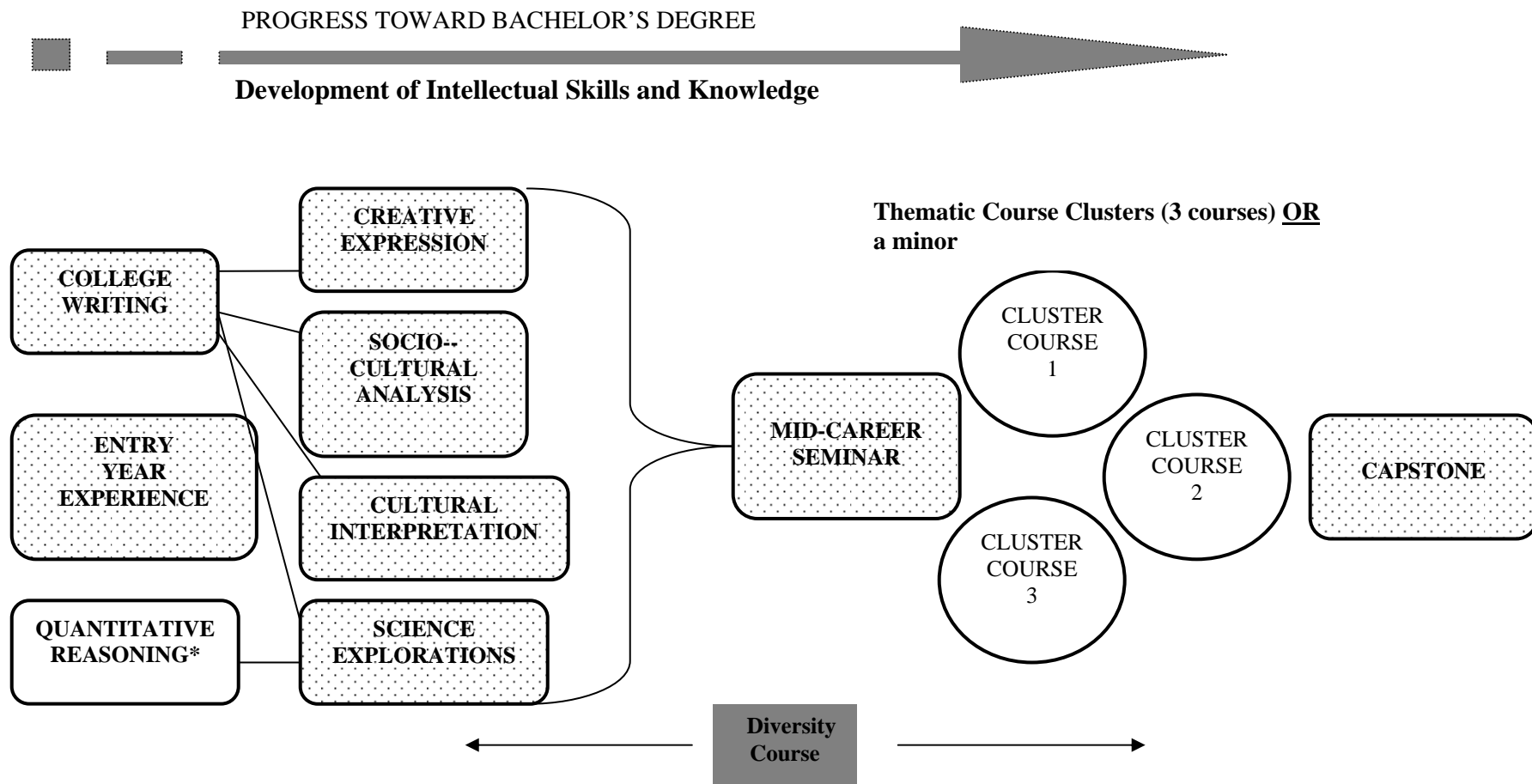
### The Miami Dade Learning Outcomes

**Purpose:** Through the academic disciplines and co-curricular activities, Miami Dade College provides multiple, varied, and intentional learning experiences to facilitate the acquisition of fundamental knowledge and skills and the development of attitudes that foster effective citizenship and life-long learning.


As graduates of Miami Dade College, students will be able to:

1. Communicate effectively using listening, speaking, reading, and writing skills.
2. Use quantitative analytical skills to evaluate and process numerical data.
3. Solve problems using critical and creative thinking and scientific reasoning.
4. Formulate strategies to locate, evaluate, and apply information.
5. Demonstrate knowledge of diverse cultures, including global and historical perspectives.
6. Create strategies that can be used to fulfill personal, civic, and social responsibilities.
7. Demonstrate knowledge of ethical thinking and its application to issues in society.
8. Use computer and emerging technologies effectively.
9. Demonstrate an appreciation for aesthetics and creative activities.
10. Describe how natural systems function and recognize the impact of humans on the environment.

# The USM Core Curriculum at the University of Southern Maine



**Total Credit Hours:** min. of 37; 39 if students complete 4-credit College Writing and Quantitative Reasoning courses.

 Writing intensive

\*Quantitative Reasoning must be completed before taking Science Explorations

College Writing must be completed before Creative Expression, Socio-cultural Analysis, Cultural Interpretation and Science Explorations.

Students must complete 3 of the 4 second-tier courses before taking the Mid-Career Seminar

## Comparing the AAC&U LEAP Outcomes with the American Society for Biochemistry and Molecular Biology (ASBMB) Learning Outcomes

LEAP	ASBMB
<b>Knowledge of Human Culture and the Physical and Natural World</b>	
<ul style="list-style-type: none"> <li>• Study in the sciences and mathematics, social sciences, humanities, histories, languages, and the arts</li> </ul>	<ul style="list-style-type: none"> <li>• Understanding of the fundamentals of chemistry and biology and the key principles of biochemistry and molecular biology</li> </ul>
<b>Intellectual and Practical Skills</b>	
<ul style="list-style-type: none"> <li>• Inquiry and analysis</li> <li>• Critical and creative thinking</li> <li>• Written and oral communication</li> <li>• Quantitative literacy</li> <li>• Information literacy</li> <li>• Teamwork and problem solving</li> </ul>	<ul style="list-style-type: none"> <li>• Ability to assess primary papers critically</li> <li>• Good quantitative skills</li> <li>• Ability to design experiments and understand the limitations of the experimental approach</li> <li>• Ability to interpret experimental data</li> <li>• Ability to design follow-up experiments</li> <li>• Ability to work safely and effectively in a laboratory</li> <li>• Awareness of the available resources and how to use them</li> <li>• Ability to use computers as information and research tools</li> <li>• Ability to collaborate with other researchers</li> <li>• Ability to use oral, written, and visual presentations to present their work to both a science-literate and a science-non-literate audience</li> </ul>
<b>Personal and Social Responsibility</b>	
<ul style="list-style-type: none"> <li>• Civic knowledge and engagement - local and global</li> <li>• Intercultural knowledge and competence</li> <li>• Ethical reasoning and action</li> <li>• Foundations and skills for lifelong learning</li> </ul>	<ul style="list-style-type: none"> <li>• Awareness of the major issues at the forefront of the discipline</li> <li>• Awareness of the ethical issues in the molecular life sciences</li> </ul>
<b>Integrative Learning</b>	
<ul style="list-style-type: none"> <li>• Synthesis and advanced accomplishment across general and specialized fields</li> </ul>	<ul style="list-style-type: none"> <li>• Ability to dissect a problem into its key features</li> <li>• Ability to think in an integrated manner and look at problems from different perspectives</li> </ul>

From Biochemistry/Molecular Biology and Liberal Education: A Report to the Teagle Foundation (American Society for Biochemistry and Molecular Biology, 2008)