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Introduction

With this Academic Master Plan, Montgomery College embraces the opportunity to examine our academic enterprise and to agree upon the focus and direction of our programs and practices for the next five to ten years. We have, as of 2016, seventy years of history that we must honor and evaluate as we move forward to fulfill our mission to empower our students, enrich our community, and hold ourselves accountable for our results.

OUR MISSION

We empower our students to change their lives, and we enrich the life of our community. We are accountable for our results.

OUR VISION

With a sense of urgency for the future, Montgomery College will be a national model of educational excellence, opportunity, and student success. Our organization will be characterized by agility and relevance as it meets the dynamic challenges facing our students and community.

OUR VALUES

EXCELLENCE * INTEGRITY * INNOVATION * DIVERSITY * STEWARDSHIP * SUSTAINABILITY

A clear, intentional, and innovative Academic Master Plan is more important than ever in today's higher education climate, as government, industry, accreditors, and students expect measureable results from colleges and

universities.¹ Internally, these institutions struggle to adapt and adopt disruptive technologies as we acknowledge that the very meaning of "education" has evolved in this information age and that our methods of instruction must also evolve to meet the needs of students whose cognitive processes are very different from those of yesterday's students.² Externally, even as funding streams are reduced, redirected, or cut off entirely, colleges are called upon to improve completion rates and align programs with workforce needs—all while adapting our strategies to serve an ever-changing student body.³ Failure to heed this call has already created doubts in many arenas about the value of a college education.⁴

To be relevant, an Academic Master Plan for the twenty-first century must acknowledge significant changes in technology, pedagogy, and the very definition of "education." The advent of free and low-cost online educational options, offered by both public and private sectors, has led some to prophesy the end of higher education as we know it. In 2013, for example, Clayton Christensen, Harvard Business Professor and expert on disruptive technologies, was not alone in predicting that "15 years from now, half of US universities may be in bankruptcy." Christensen and others cited not only the presence of MOOCs,

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¹ Bok, Higher Education in America, 2; Natow, "From Capitol Hill," 36X; Kuh, et. al., Using Evidence, XX.

² Christodoulou and Kalokairinou, "Net Generation's," 119; Chong, Loh, and Babu, "The Millennial Learner," accessed 14 March 2016, http://tlc.unisim.edu.sg/research/AdvSoTL-3/chong_loh_babu.html.

³ Kuh, *High Impact*, excerpt accessed 14 March 2016, https://www.aacu.org/leap/hips; American Association of Colleges and Universities, *Greater Expectations: A New Vision*, accessed 14 March 2016, http://www.greaterexpectations.org/pdf/gex.final.pdf.

⁴ Hacker and Dreifus, Higher Education?, 9; Arum and Roksa, Academically Adrift, 2; Strohush and Wanner,

[&]quot;College Degree," 262; Owen and Sawhill, "Should Everyone," accessed 14 March 2016,

http://www.brookings.edu/research/papers/2013/05/08-should-everyone-go-to-college-owen-sawhill.

⁵ De la Harpe and Mason, "A New Approach," xx.

⁶ Suster, Interview accessed on 14 March 2016, http://www.bothsidesofthetable.com/2013/03/03/in-15-years-from-now-half-of-us-universities-may-be-in-bankruptcy-my-surprise-discussion-with-claychristensen/.

badges, and other online learning opportunities, but also a general dissatisfaction among students and employers with the quality and content of the education offered by traditional institutions.⁷ Christensen later softened his message to include the possibility that colleges and universities could embrace disruption as an opportunity rather than fear it as a threat.⁸

As community colleges such as Montgomery College continue to incorporate new technologies and pedagogies, we must do so in a way that acknowledges the learning habits of our millennial-age students and future generations. In a 2012 Pew Research Center report, Anderson and Rainie noted a fairly even divide between experts who believe that the "rewiring" of the brains of subjects under the age of 35 will have a positive effect on their learning and functioning (55%) versus those who predict a negative impact (42%). What the analysts all seemed to agree upon, however, was that the younger generation's hyper-connectivity and instant access to information has indeed affected their cognitive habits and functions. Knowing this to be the case, educators must adapt our methods to recognize the need for collaborative, meaningful, and technologically enhanced learning. ¹⁰

Likewise, colleges and universities must continually update curricula in pursuit of education that prepares students for the future, not the present.

Memorization of content is increasingly less important in many disciplines, as

⁷ Frey, "By 2013," accessed 14 March 2016, http://www.futuristspeaker.com/2013/07/by-2030-over-50-of-colleges-will-collapse/; Harden, "The End," accessed 14 march 2016, http://www.the-american-interest.com/2012/12/11/the-end-of-the-university-as-we-know-it/.

⁸ Roscorla, "3 Things," accessed 14 March 2016, http://www.centerdigitaled.com/news/3-Things-Higher-Education-Should-Know-about-Disruptive-Innovation.html.

⁹ Anderson and Rainie, "Millennials Will," 2-3.

¹⁰ Devece, et. al., "Linking the Development," 64.

course outcomes expand to include not only the learning of facts but also the mastery of skills such as critical and creative thinking, collaboration, problem solving, oral and written communication, and others. As traditional careers are transformed by technology and new careers emerge, colleges must prepare students to be lifelong learners--not only for purposes of personal enrichment, but also to ensure future adaptability, employability, and success.¹¹

In addition to technological, pedagogical, and curricular forces shaping the future of higher education, external influences are stronger than ever. Although federal and state financial support of public education has declined fairly steadily since 1980, 12 pressure from governmental bodies is stronger than ever for colleges and universities to produce tangible results. In 2009, President Obama set the ambitious goal that "by 2020, America will once again have the highest proportion of college graduates in the world." 13 In 2013, the State of Maryland passed the College and Career Readiness and College Completion Act (CCRCCA), legislation that sets credit limits on associate's degrees, requires clearer degree pathways, and mandates specific levels of individual student advising. Such legislation sends a clear message to secondary and post-secondary institutions in Maryland that completion is a priority in our state.

Moreover, Labor Department data consistently reveals that millions of jobs per year go unfilled as a result of skills gaps, i.e., employers unable to find workers

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¹¹ Knapper and Cropley, *Lifelong Learning*, 8.

¹² Chronicle of Higher Education, "Twenty-Five Years," accessed 14 March 2016, http://chronicle.com/interactives/statesupport.

¹³ https://www.whitehouse.gov/issues/education/higher-education

with the skills needed for the positions available. ¹⁴ In Montgomery County, 78% of all new jobs anticipated between 2015 and 2025 will require some form of post-secondary education; in 2015, of the top fifteen occupations which employers had the most difficulty filling, 90% required some form of college education. ¹⁵ These pressures are particularly acute for community colleges such as Montgomery College as we try to align our programs with workforce and transfer pathways; increase enrollment, graduation, and transfer; and reduce time and cost to completion. To meet these goals with decreasing state support, we must identify new funding sources through grants, foundations, business and industry partnerships, and entrepreneurial endeavors. In particular, we must identify financial aid sources for students completing workforce and career credentials. Perhaps most importantly, we must use our resources more efficiently than ever before.

In spite of the many challenges present in today's higher education environment, much is right about the programs, people, and direction of Montgomery College. We have a world-class faculty dedicated to the success of our students; a new organizational structure that reflects our One College model and underscores our commitment to academic excellence; an evolving Part-Time Faculty Institute that supports students by supporting those who teach them; a system of libraries and learning support centers that excel in both depth and breadth; a newly established relationship with Achieving the Dream; and more outstanding programs than one could possibly list. In addition, the Academic

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¹⁴ Cohn, "The State Skills," accessed 14 March 2016, http://www.cnbc.com/2015/06/24/the-state-skills-gap-whos-got-talent.html; Gillespie, "America's Persistent problem," accessed 14 March 2016, http://money.cnn.com/2015/08/07/news/economy/us-economy-job-skills-gap/.

¹⁵ EMSI 2015.4, Q4

Affairs division has the benefit of support from and collaboration with our colleagues in Student Affairs, Advancement and Community Engagement, and Administrative and Fiscal Services. As the work in this Academic Master Plan unfolds, our relationship with Student Affairs, particularly with our faculty counterparts in counseling and advising, will be vital to the completion of our initiatives and the success of our students.

Montgomery College attracts a wide spectrum of students with diverse backgrounds, with vastly different levels of preparation, and with a wide array of goals and expectations. To meet student needs, we sometimes create successful, targeted programs to bring out the best in one particular cohort; however, going forward, we must look for more opportunities to scale up these best practices in ways that lead to success for all students. Our experience confirms that we can remain an open-enrollment institution, provide academic support for at-risk students, and also attract and serve advanced students. By applying the strategies of targeted programs such as honors programs, Achieving the Promise, and the Macklin Business Institute, we will promote excellence across the institution, and Montgomery College will be the first choice for any student seeking a degree or credential. As Montgomery College President, Dr. DeRionne Pollard explained in her most recent *Washington Post* opinion piece, "Opportunity is at the essence of community colleges"16

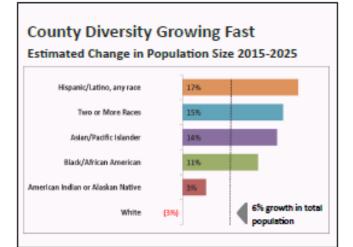
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¹⁶ "Why Starting," *The Washington Post*, 8 April 2016.

Data Philosophy, Environmental Scan, and Success Indicators

In this Academic Master Plan and throughout the Academic Affairs division, Montgomery College is committed to the responsible and holistic use of data in the broadest sense of the term. In using data responsibly, we seek to see the whole picture and to make decisions that are "data initiated" rather than merely "data driven." By data, we refer to statistics, benchmarks, and other numerical indicators, but also to qualitative surveys, narrative reports, and other facts. Further, we are committed to providing real-time data to as many users as possible in the most efficient ways possible in hopes of influencing outcomes rather than merely dissecting results. Our recent designation as an Achieving the Dream institution underscores our intention to build a culture of evidence that informs our decisions for the benefit of our students.

Montgomery County 2025



By 2025, 7 out of 10

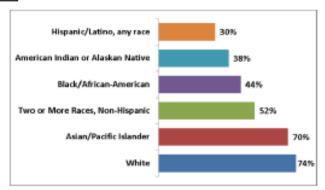
MC residents between the age of <u>15 and 24</u> will be Hispanic, Black, or Asian.



60%

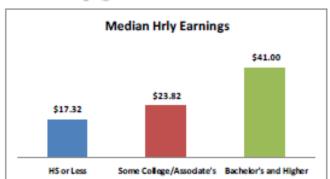
Percentage of County residents age 25+ with a college degree by 2025

Hispanics and African-Americans will still lag behind Whites and Asians in educational attainment, making access to college and student success for these groups an imperative.



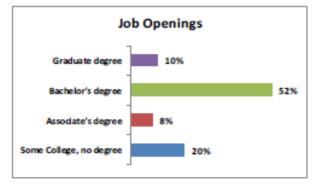
78%

The percentage of all new job between 2015 and 2025 that will require some form of postsecondary education



90%

The percentage of the top 50 occupations that employers had the most difficulty filling in 2015 that required some form of postsecondary education.



MC Innovation Works Think Tank

Montgomery County 2025

Montgomery College FY2015 Quick Facts



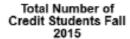
Credit Unduplicated Students 35,524

Students in WD&CE and Credit 1,543



Unduplicated Total Students 56,228

Fall 2015 Students at a Glance





25,320



New 1st Time 5,395



Number w/ Preparatory Needs 7,812

Spring 2015 MCPS Graduates



10,294

Enrolled at MC Fall 2015 2,592

25.2%

Fall 2015 Student Demographics



52.7% Female



47.3% Male



13,4%

26.1%

Full-Time 35.1%



30.8%

Part-Time 64.9%

Black (31%)

White (26%)

Asian (13%)

Other (4%)

Hispanic (26%)



Average Student Load





Avg Class Size 18.2



Student-Faculty Ratio 17.8:1



Courses 887 Sections 4,536





Web-Based Students

Program Type Enrollment

Transfer

15,066

(59.5%)

Career



5,327

(21.0%)

Undecided 11/2 # 4,448



(19.5%)







Foreign Countries 159

Fall 2014 to Fall 2015 Retention Rate Four-Year Cohort

15.7%

Graduation Rate Four-Year Cohort Transfer Rate

25.0%

73%

Graduation and Transfer Rate

40.7%

Academic Master Plan Goals and Priorities

In light of current realities in the world of higher education, a thoughtful, focused, and forward-thinking Academic Master Plan is crucial to meeting the needs of students and our community. This Master Plan will pursue the following broad goals:

- Set academic priorities that impact other College units, particularly facilities and information technology projects through the early 2020s;
- Benchmark data to gauge progress on the Academic Affairs student success matrix including enrollment, graduation rates, and transfer rates for students as well as the College's Student Success Score Card and our collective efforts in Achieving the Promise;
- Establish criteria for effective academic program review, curriculum development, and assessment of the Academic Affairs division's initiatives;
- Identify major academic initiatives that will drive academic unit planning and budgeting; and
- Coordinate the Academic Master Plan with Montgomery College 2020 (the College's strategic plan) and the Middle States Self-Study process.

In addition, the Academic Master plan will align with the six Academic Affairs Division Priorities:

- Increase the graduation rate of first-time, full-time students;
- Increase the transfer rate of first-time, full-time students;
- Reduce time to completion;
- Reduce cost of completion;
- Align programs with workforce needs; and
- Align programs with transfer requirement.

Focusing on these goals and priorities, the Academic Master Plan will articulate student learning outcomes, Academic Affairs division goals, first five-year strategies, and second five-year strategies to move learning forward at Montgomery College.

Institutional Learning Outcomes for Students

Montgomery College students demonstrate excellence in learning and achieve personal, career, and academic goals because they are able to:

- a. Think: Solve problems by inquiring, interpreting, evaluating, and applying knowledge and skills
 - identify, evaluate, and use data and resources to make decisions
 - seek new knowledge, understanding, and skills
 - organize, structure, and synthesize knowledge
- b. Communicate: Pursue common understanding through effective exchange and expression of ideas
 - listen, write, and speak effectively
 - appreciate multiple perspectives, experiences, and cultures.
- c. Create: Apply curiosity, creativity, and flexible thinking to develop new ideas
 - take intellectual and artistic risks
 - consider alternate explanations, differing beliefs, and multiple perspectives
- d. Engage: Collaborate effectively to discover and achieve common objectives
 - develop an understanding of beliefs that challenge one's own
 - manage conflict productively
 - recognize responsible behaviors in local, global, and digital communities
- e. Connect: Integrate learning across courses, over time, and between campus and community to recognize interdependence and interconnectedness
 - formulate an understanding of global interdependence
 - identify patterns, connections, and linkages across disciplines
 - transfer and adapt skills, knowledge, or methodologies

- f. Grow: Develop knowledge and skills to be resilient, self-confident, and independent life-long learners
 - develop personal, academic, and career goals and plans
 - prioritize resources and strategies for continuous learning
 - practice self-reflection and self-assessment
- g. Achieve: Apply the experience, knowledge, and skills attained at Montgomery College to complete personal, educational, and professional goals
 - demonstrate knowledge of career and discipline-specific content and methods
 - pursue career, academic, and personal success

Academic Affairs Division Goals

Just as we have identified seven Institutional Learning Outcomes to articulate our expectations for student learning at Montgomery College, we in Academic Affairs hold ourselves to a comparable standard by establishing seven parallel Academic Affairs Division Goals. These seven goals are both descriptive and prescription, serving as guiding principles for our work with students and identifying specific strategies and projects that must be undertaken in order to accomplish our goals.

A. Think: Use qualitative and quantitative information to make informed decisions that promote student success and ensure academic excellence.

Strategy 1: Identify and implement agile software system(s)
that provide real-time, easily accessible data for use by
students, faculty, staff, and administrators.

 Strategy 2: Identify and implement comprehensive student success applications that facilitate and advance scheduling, planning, and recognition for progress and excellence.

When we think about student success, we must have adequate information and adequate time to reflect on that information in order to make good decisions.

- B. Communicate: Initiate, deepen, or expand conversations with internal and external partners to help students succeed.
 - Strategy 1: Institutionalize a support structure to provide
 assistance, training, and modeling for advisory groups to make
 them fully effective and to establish a system of accountability.
 - Strategy 2: Establish a Developmental Studies Roundtable which includes faculty representatives from English, reading, and math, the leadership of which rotates on an annual basis among disciplines.

Our commitment to communication will be evident in the increased time that we spend discussing student success with each other and with the broader community. For example, CCRCCA has spurred us to organize meetings between MC and MCPS faculty in English and math; now those conversations should be expanded to include other disciplines. Montgomery College has also committed to establishing Advisory Councils for all programs, with the goal that transfer disciplines will now engage in community collaborations similar to those established by the Career and Technical Education programs; for these new Councils to be successful, conveners and council members must be provided with training, support, and a clear understanding of purpose. Internally, a proposal to

create a Development Studies Roundtable recommends regular meetings of English, reading, and math faculty so that we are working together to help our students succeed.

C. Create: Foster and celebrate innovation at all levels of the institution.

- Strategy 1: Collaborate with MC Innovation Works to teach principles and strategies for innovation, to facilitate implementation, and to identify and address systemic barriers to innovation.
- Strategy 2: Enhance pathways, processes, opportunities, and incentives to innovate and to scale innovations.
- Strategy 3: Identify and work synergistically with partner institutions on academic innovation.

College employees are frequently exhorted to "innovate" and to "think creatively," but evidence suggests that we sometimes lack a common understanding of those terms and that we often lack the time, tools, and space to be innovative and creative. Montgomery College has made a commitment to innovation in the establishment of MC Innovation Works, Innovation Grants, and other initiatives. For the Academic Affairs division to take full advantage of these opportunities, we must partner with internal and external drivers of creativity and innovation and provide faculty and staff with training, guidance, and opportunities to actualize innovation.

D. Engage: Interact with students beyond the classroom, individually and in small groups, to support academic success.

- Strategy 1: Collaborate with Student Affairs to support and expand existing mentoring programs, create new ones, and provide a mechanism for the distribution of resources, coordination of efforts, and a clearinghouse to share and discuss effective methods and strategies.
- Strategy 2: Create an electronic discussion forum to collect, discuss, test, and disseminate "micro-intervention" techniques. Provide incentives for faculty and staff participation.

Study after study demonstrates that one-on-one or small-group advising, mentoring, coaching, or other personalized interventions have significant impact on students' persistence and success. Montgomery College already has many fine programs that meet this description, including but not limited to, Boys to Men, Trio, Raptor Navigator, International Buddy Program, Women's Mentoring Project, and the newly launched Achieving the Promise Academy; as an institution, we must find ways to fund and expand these efforts Collegewide and to offer new options for students who don't currently fit a targeted profile but who could benefit from individualized attention. We can also use these strategies to help students who are average performers to reach the next level of excellence, and we can supplement these more structured programs with microinterventions: brief, focused, and potentially high-impact exchanges between students and College personnel. As a large institution with thousands of students, we must develop a culture in which ALL employees routinely engage in intentional ways with students to foster their success.

- E. Connect: Embrace integrative learning through interdisciplinarity and collaboration among disciplines, programs, and faculty.
 - Strategy 1: Validate and support current "across the disciplines" programs such as Writing in the Disciplines, Quantitative Reasoning in the Disciplines, and others, and add additional interdisciplinary projects as appropriate—including credit and non-credit curricula. (Additional projects might include a statistics network, global/international education, or innovations in health care education.)
 - Strategy 2: Create a clearinghouse for modular high-impact, low-stress collaborations among faculty from different disciplines to share assignments, lectures, pedagogical practices, and expertise.
 - Strategy 3: Implement a portfolio system that recognizes, tracks, and validates student participation in academic programs and co-curricular activities.

Stark delineation among disciplines has never been a feature of business, industry, government, or the community, and academia is quickly realizing the need to cross boundaries and make connections in order to provide students with the most relevant education possible. While we have offered a successful Writing in the Disciplines program for many years and made significant progress in offering learning communities of various types and complexity, we must now find ways to extend these benefits to more students by helping them make connections that achieve their goals. Knowing that faculty participation is the key

to expanded integrative learning, we must make ease of implementation a priority for any new programs. For example, we may decide to infuse statistics into a wide variety of STEM and non-STEM disciplines by designing assignments that are modular and adaptable to any subject matter. Likewise, a centralized and easily accessible clearinghouse would allow faculty to connect for just one or two class periods to share expertise, assignments, or lectures. Rather than bemoan the fact that our students can't transfer skills or see big-picture connections, we must model that behavior and teach by example.

- F. Grow: Offer meaningful professional development for all employees by embracing broadened perspectives in scholarship.
 - Strategy 1: Develop a focused professional development
 pathway for faculty and instructional staff to enhance their
 pedagogical practices in light of new outcomes for courses that
 teach essential skills alongside discipline content.
 - Strategy 2: Create professional development opportunities for faculty and instructional staff to develop and enhance currency in discipline content, scholarship, pedagogy, and workforce alignment.
 - Strategy 3: Provide relevant professional development opportunities for all academic support staff in the Academic Affairs division.

Where content expertise was once sufficient qualification for the professoriate, to be effective in today's college environment, faculty may be asked to incorporate new technologies and pedagogies, to restructure the curriculum to focus on

broad, skills-based learning outcomes (such as oral communication or information literacy), and to incorporate interdisciplinary content and high-impact learning practices. Without clear communication, meaningful self-assessments, and readily accessible training, we risk the disenfranchisement of a whole cadre of faculty, as they become increasingly frustrated by continually changing expectations. Moreover, even faculty who are teaching primarily "content-based" courses might benefit from opportunities such as industry externships, scholarship support, and courses in topics such as "teaching professional practice" to remain current in their disciplines. Likewise, staff in the Academic Affairs division, regardless of function, will benefit from professional development that focuses on student learning and engagement. If we truly care about student success, we must invest in faculty and staff success as well.

- G. Achieve: Foster a culture of empowerment and accountability whereby all employees in the Academic Affairs unit have both agency and responsibility to make positive changes for students.
 - Strategy 1: Review curriculum processes to improve efficiency and responsiveness.
 - Strategy 2: Revise faculty evaluation process to reflect institutional goals, new organizational structure, and role of 21st century faculty.

The most enthusiastic and innovative faculty, staff, and administrators can become discouraged if internal processes impede their efforts to make improvements. Two systems at Montgomery College which have not undergone thorough scrutiny in ten years or more are the curriculum and faculty evaluation

processes. The time has come to examine both and potentially revise them to align with current and evolving expectations for faculty, programs, and curricula.

Academic Program Review

Academic Program Review is an important tool at most institutions of higher education, not only because external accreditors and stakeholders often require it, but also it because it allows colleges to self-assess, set priorities, and align resources. Academic Program Review at Montgomery College builds upon our current CAR process, transforming it from an inwardly-focused self-study to a comprehensive, comparative review that examines a program within the context of the college's current goals, priorities, and resources. Components of the enhanced process will also be used to guide the development of new programs.

Successful Academic Program Review often begins with a collaborative, institutional decision about criteria for evaluation and ranking of those criteria. Based on the Dickeson (2010) model, the following criteria are often considered for inclusion:

- History, development, and expectations of the program
- Alignment with college mission, goals, or institutional values
- Impact, justification and overall relevance of the program
- Quality of program inputs and processes
- Quality of program outcomes
- Size, scope and productivity of the program
- External and internal demand for the program
- Revenue and other resources generated by the program

- Costs and other expenses associated with the program
 Once criteria are established and described or quantified, a process will be created that builds upon the existing Academic Program Review process, including the following:
 - An Academic Program Review committee with representational membership to prepare reports, review results, and make recommendations to the Senior Vice President for Academic Affairs;
 - Management of the program review through the Office of Assessment using materials based on existing Academic Program Review forms;
 - A timeline for periodic review that is based on the current 5-year review cycle for academic programs and that includes a mechanism for early review in response to changes in the academic environment;
 - A rubric that identifies whether a program is viable, needs revision or improvement, or should be considered for elimination; and
 - Training in the process for all involved.

While objective assessment of programs can be difficult, the Academic Affairs division's goals and objectives demand that we prioritize resources and focus on results.

- Strategy 1: Establish a task group to collect feedback and propose an Academic Program Review Process by December 2016 for implementation the following academic year.
- Strategy 2: Immediately implement an "early alert" system for programs that will likely face scrutiny as a result of Academic Program Review.

Strategy 3: Implement a training program for academic leaders – chairs,

deans, and VP/Ps – to create a common understanding of the purpose

and goals of Academic Program Review

First Five Year Initiatives

The Academic Affairs unit has identified six initiatives for implementation over the next five years, roughly 2016 through 2021. During that time, we will focus on supporting and scaling up successful programs, implementing best practices from other institutions, and piloting some untried ideas of our own. In all cases, we are committed to increasing enrollment, graduation, and transfer; aligning with transfer institutions and workforce needs; and reducing time and cost to completion.

Initiative 1: Embed Classroom Support

One academic support strategy that has yielded consistently positive results in programs at Montgomery College and elsewhere is embedded classroom support. Grant-supported Student Learning Assistants in STEM disciplines, embedded tutors in 101A PACE (Program for Advancement to College English) for developmental writing students, and interdisciplinary Englishlanguage and trade-skills instruction in the MiBest (Maryland Integrated Education and Skills Training) program are all examples of successful embedded classroom support programs that might be scaled up to include non-STEM disciplines, other developmental and college-level English courses, and other non-credit career programs. Additional ideas for classroom support included embedded librarians and push-in tutoring. Embedded support is designed not

only to benefit students during class hours but also to empower students to seek assistance beyond the classroom (e.g., in libraries, learning centers, or counseling offices) as a result of relationships built with academic support professionals. In all cases, units must collaborate to identify alternative funding or creative scheduling to make it possible for academic support professionals to spend enough time in classrooms to build these relationships with students. Another potential strategy is to expand the definition of "academic support professional" to include staff members at all levels of the institution, peer tutors, community volunteers, and any other relationships that can be leveraged in support of student success.

Strategy 1: Pilot embedded academic support strategies in selected gateway courses. [Benchmark: Decrease by 10% the number of students receiving DFW grades in selected gateway courses by 2021.]

Strategy 2: Pilot embedded academic support in at least one course per program or discipline. [Benchmark: Decrease by 10% the number of students receiving DFW grades in selected program or discipline courses by 2021.]

Based on success of pilots and reduction in DFW rates, academic programs would institutionalize and scale up imbedded support as possible in the second five year period.

Initiative 2: Offer Alternative Scheduling and Delivery

For many years, proprietary schools have attracted considerable enrollment by offering alternative scheduling and delivery. Students, especially

non-traditional students, have been drawn to the convenience of online and hybrid courses, evening and weekend degree programs, lockstep cohort programs, and accelerated degrees. In order to meet the needs of all of our potential students, we must look to these models and make intentional decisions to vary our terms, class times, pathway options, and delivery methods. Traditional students will also benefit, particularly those who can participate in full-time cohorts, block-scheduled learning communities, apprenticeships, or study travel.

Strategy 1: Offer one entire degree program on each campus or in each VPP area by developing an evening/weekend cohort or other scheduling strategy designed to decrease average time to completion.

[Benchmarks: Twelve month reduction from average time to degree for students enrolled in evening/weekend or specially scheduled programs by 2021.]

Strategy 2: Create and market flex-term courses (*or degrees*) so students can begin at different standardized times of the semester (7 weeks or 5 weeks). [Benchmarks: Increased enrollment in parts of term 2-6 by 20% by 2021.]

Implementation of this initiative will require collaboration with Student Affairs to adapt room scheduling practices for alternative classroom use. Successful programs can be replicated in the second five year period.

Initiative 3: Implement Alternative and Customized Assessment and Placement

Whether or not a student completes a degree or other credential is sometimes dependent on a student's starting point. Time and cost to complete often determine which credential a student can attain. Frustration, due to the inability to get credit for prior knowledge and experience, can impact a student's engagement and persistence.

Options such as Assessment of Prior Learning and alternative placement for developmental courses can remove courses or entire semesters from a student's pathway, decreasing, sometimes significantly, the time and cost to earn a degree and increasing the likelihood of completion. High-achieving high school students are often able to place directly into or even exempt college-level courses with appropriate scores on CLEP, IB, AP, SAT, or ACT¹⁷ exams, but opportunities for students with military or job related training have been more limited. In addition, a new cadre of students may come to us having completed free online courses in hopes of earning proficiency credits. Any credits that we choose to award through alternative assessment must uphold rigorous standards and align with workforce, associate, and baccalaureate curricula if the credits are to transfer. National organizations, such as National College Credit Recommendation Service (NCCRS) and The American Council on Education's (ACE) College Credit Recommendation Service (CREDIT®), are helping colleges navigate these challenges. The more options we can offer students to start at the right place and with credit for prior learning, the less likely students are to give up due to cost, frustration, or sheer boredom.

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¹⁷ College Level Examination Program (CLEP), International Baccalaureate (IB), Advanced Placement (AP), Scholastic Aptitude Test (SAT), and American College Test (ACT).

Strategy 1: Appoint a joint credit/non-credit workgroup to recommend appropriate steps for expanding student access to Assessment of Prior Learning and proficiency credit, incorporating multiple placement and assessment opportunities for students with training, education, and experience outside of traditional credit programs. [Benchmarks: Proficiency credit options exist for top 20 enrolled credit-bearing courses and all courses included in Career and Technical Education (CTE) articulation agreements by 2021; increased number of students earning credit by exam by 300% by 2021.]

Strategy 2: Standardize multiple measures for developmental course placement including assessments currently in place, measures currently in pilot stage, and new placement strategies based on degree pathways, alternative assessments, high school test scores, and/or targeted student need. [Benchmark: Reduction of number of students placed into developmental courses by 40% by 2021.]

Initiative 4: Design Alternative and Customized Credentials and Guided Pathways

Just as there are multiple starting points based on various methods of assessment and placement, there are multiple academic and career pathways leading to credentials. By offering customized pathways through the use of competency based education, stackable credentials, badges, Technical Profession Skills (TPS) degrees, and online education resources, more students will be able to complete multiple certificates, degrees, and credentials that advance their education and their career prospects in parallel or sequentially. As we customize

pathways, we must incorporate credentials from secondary education, military and work experience, credit by exam, developmental courses, and credit courses to create multiple opportunities for students to succeed, and the flow of these credentials must move smoothly between credit and non-credit courses and programs.

In addition, as state laws change in regard to college math requirements, developmental courses can be customized for students to complete material up to the level required to be successful in the college-level math course appropriate for their discipline. For those students who have difficulty completing developmental math, instructional and counseling faculty can help students find workforce pathways that do not require college-level math.

Strategy 1: Identify and articulate pathways for stackable credentials and stackable competencies that allow for incremental completion of both non-credit programs and credit-bearing certificates and degrees; these pathways should offer (and recognize) a wide variety of credentialing options and lead students to multiple points of completion and success. [Benchmark: Increase in number of students receiving multiple credentials within a rolling ten-year period by 200% by 2021; availability of stackable credentialing in 50% of programs and disciplines collegewide by 2021.]

Strategy 2: Customize developmental studies pathways by exploring accelerated programs and interdisciplinary delivery and by creating multiple exit points determined by student strengths, needs, or program goals. [Benchmarks: Reduction of number of students attempting the same

developmental studies course more than three semesters without exiting (by passing or changing pathways) by 50% by 2021; increase by 20% the number of students completing college level math or English courses after beginning in developmental studies.]

After Montgomery College has established models, processes, and benchmarks for awarding proficiency credit and implementing alternative developmental placement, we can continue to expand and add options for both.

As we continue to develop and add new pathways, it will be important to market these options and to have software that tracks student progress.

Initiative 5: Enhance Student Pathways from MCPS and to USG

To effectively advance the completion agenda and address the skills gap, the Academic Affairs division is committed to providing opportunities for our students that lead to accelerated credentials, rigorous educational experiences, and academic success. Collaborations with secondary schools and baccalaureate institutions can be leveraged to help students complete valuable certificates and programs in the most efficient and least costly way. Dozens of examples of successful and productive partnership programs exist between and among Montgomery College, Montgomery College Public Schools (MCPS), and the institutions offering degree programs at The Universities at Shady Grove (USG); we want to continue most, expand some, and explore new opportunities.

Strategy 1: Deepen and/or expand MCPS partnership programs especially Middle College, Dual Enrollment, Career and Technical Education, and college readiness efforts. [Benchmarks: Increase in the number of

students enrolled in Middle College programs by 20% by 2021; increase in the number of students enrolled in Dual Enrollment by 20% by 2021; Increase in the number of students accessing CTE articulated course credit by 200% by 2021.]

Strategy 2: Increase collaborations with faculty in undergraduate programs offered at USG in order to facilitate student success in targeted programs. [Benchmark: Increase number of discipline-specific, faculty-level collaborations to 75% of all undergraduate programs offered at USG by 2021.]

These strategies taken together will also strengthen the 2+2+2 pathways articulated among MCPS, MC, and USG institutions.

Initiative 6: Expand Global Partnerships and International Opportunities

As we prepare students to live and work in an increasingly globalized environment, the Academic Affairs division must foster new opportunities for students, staff, faculty, and Academic Affairs units to work with international governments, businesses, and institutions of higher education in order to provide a twenty-first century education for our students and much-needed services and expertise to our colleagues abroad. In light of shrinking state funding, we must be willing and able to export or knowledge and leverage entrepreneurial efforts to fund programs for our own students.

Strategy 1: Expand opportunities for students, faculty, and staff to study abroad through exchanges, short and long-term programs, and service learning. [Benchmark: Increase number of students and faculty

participating in MC-sponsored international opportunity by 200% by 2021; Increase number of courses globalized through GHI to 60 by 2021.]

Strategy 2: Establish new global partnerships for entrepreneurial, educational, and/or community outreach purposes. [Benchmark: Increase in the number of global partnerships/ contracts/ MOUs to 20 by 2021.]

Academic Master Plan Integration with MC 2020

AMP Initiatives	AMP Strategies	Outcomes/	Academic Affairs	MC 2020	Related MC 2020
		Benchmarks	Priorities	Theme	Canvas Measure
1. Embed Classroom Support	1. Pilot embedded academic support strategies in selected gateway courses. 2. Pilot embedded academic support in at least one course per program or discipline.	*Decrease by 10% the number of students receiving DFW grades in selected gateway courses by 2021. * Decrease by 10% the number of students receiving DFW grades in selected program or discipline courses by 2021.	 Increase the graduation rate of first-time, full-time students. Increase the student transfer rate. Reduce the average time to degree or certificate. Reduce the average cost of degree or certificate. 	Theme II: Access, Affordabil- ity, Success	 Fall-to-Fall Retention Graduation Rate Transfer Rate Fall-to-Spring Retention Student Success Time to Completion Transfer Student Success Student Satisfaction
2. Offer Alternative Scheduling and Delivery	1. Offer one entire degree program on each campus or in each VPP area by developing an evening/weekend cohort or other scheduling strategy designed to decrease average time to completion 2. Create and market flexterm courses (or degrees) so students can begin at different standardized times of the semester (7 weeks or 5 weeks).	*Twelve-month reduction from average time to degree for students enrolled in evening/weekend or specially scheduled programs by 2021. . *Increased enrollment in parts of term 2-6 by 20% by 2021.	 Increase the graduation rate of first-time, full-time students. Increase the student transfer rate. Reduce the average time to degree or certificate. Reduce the average cost of degree or certificate. 	Theme I: Academic Excellence	 Course Schedule Efficiency Time to Completion Fall-to-Fall Retention Fall-to-Spring Retention Student Satisfaction Credit Annual Headcount Enrollment

AMP Initiatives	AMP Strategies	Outcomes/	Academic Affairs	MC 2020	Related MC 2020
3. Implement Alternative and Customized Assessment and Placement	1. Appoint a joint credit/non-credit workgroup to recommend appropriate steps for expanding student access to Assessment of Prior Learning and proficiency credit, incorporating multiple placement and assessment opportunities for students with training, education, and experience outside of traditional credit	*Proficiency credit options exist for top 20 enrolled credit-bearing courses and all courses included in CTE articulation agreements by 2021. *Increased number of students earning proficiency credit by 300% by 2021.	Priorities 3. Reduce the average time to degree or certificate. 4. Reduce the average cost of degree or certificate. 6. Align programs with workforce needs and industry demands.	Theme I: Academic Excellence	• Time to Completion • Student Satisfaction • Graduation Rate • Student Success • Transfer Rate
	programs. 2. Standardize multiple measures for developmental course placement including assessments currently in place, measures currently in pilot stage, and new placement	*Reduction of number of students placed into developmental courses by 40% by 2021.	 Increase the graduation rate of first-time, full-time students. Increase the student transfer rate. Reduce the average time to degree or certificate. 	Theme II: Access, Affordabil- ity, Success	 Time to Completion Student Satisfaction Graduation Rate Student Success Transfer Rate

AMP Initiatives	AMP Strategies	Outcomes/	Academic Affairs	MC 2020	Related MC 2020
		Benchmarks	Priorities	Theme	Canvas Measure
4. Design Alternative and Customized Credentiali ng and Guided Pathways	strategies based on degree pathways, alternative assessments, high school test results, and/or targeted student need. 1. Identify and articulate pathways for stackable credentials and stackable competencies that allow for incremental completion of both non-credit programs and credit-bearing certificates and degrees; these pathways should offer (and recognize) a wide variety of credentialing options and lead students to multiple points of completion and success	*Increase in number of students receiving multiple credentials within a rolling ten-year period by 200% by 2021; availability of stackable credentialing in 50% of programs and disciplines collegewide by 2021	4. Reduce the average cost of degree or certificate. 6. Align programs with workforce needs and industry demands.	Theme III: Economic Develop- ment	Noncredit Annual Headcount Enrollment Career Program Student Success Economic Impact
	2. Customize developmental studies pathways by exploring accelerated programs and interdisciplinary delivery and by creating multiple exit	*Reduction of the number of students attempting the same developmental studies course more than three semesters without exiting (by passing or changing	 Increase the graduation rate of first-time, full-time students. Increase the student transfer rate. Reduce the average time to 	Theme I: Educational Excellence	 Fall-to-Fall Retention Graduation Rate Transfer Rate Fall-to-Spring Retention Student Success Time to Completion

AMP Initiatives	AMP Strategies	Outcomes/	Academic Affairs	MC 2020	Related MC 2020
	points determined by student strengths, needs, or program goals	pathways) by 50% by 2021. *Increase by 20% the number of students completing college level math or English courses after beginning in developmental studies.	Priorities degree or certificate. 4. Reduce the average cost of degree or certificate.	Theme	• Transfer Student Success
5. Enhance Student Pathways from MCPS and to USG	1: Deepen and/or expand MCPS partnership programs especially Middle College, Dual Enrollment, Career and Technical Education, and college readiness efforts.	*Increase in the number of students enrolled in Middle College programs by 20% by 2021. *Increase in the number of students enrolled in Dual Enrollment by 20% by 2021. *Increase in the number of students accessing CTE articulated course credit by 200% by 2021.	 Increase the graduation rate of first-time, full-time students. Increase the student transfer rate. Reduce the average time to degree or certificate Reduce the average cost of degree or certificate. 	Theme II: Access, Affordabil- ity, Success	Percentage of MCPS Graduates
	2: Increase collaborations with faculty in undergraduate programs offered at USG in order to facilitate student success in targeted programs.	*Increase number of discipline-specific, faculty-level collaborations to 75% of all undergraduate programs offered at USG by 2021.	 5. Align Programs with those at four-year institutions. 6. Align programs with workforce needs and industry demands. 	Theme I: Educational Excellence	 Graduation Rate Transfer Rate Transfer Student Success
6.Expand Global Partnerships and International Opportunities	1. Expand opportunities for students, faculty, and staff to study abroad through exchanges, short and long-term	*Benchmark: Increase number of students and faculty participating in MC- sponsored international opportunity by 200% by 2021. *Increase number of	 Increase the graduation rate of first-time, full-time students. Increase the student transfer rate. 	Theme I: Educational Excellence	 Professional Development Opportunities for faculty and staff Globalization of the Curriculum Graduation Rate Transfer Rate

AMP Initiatives	AMP Strategies	Outcomes/ Benchmarks	Academic Affairs Priorities	MC 2020 Theme	Related MC 2020 Canvas Measure
	programs, and service learning.	courses globalized through GHI to 60 by 2021.			Transfer Student Success
	2.Establish new global partnerships for entrepreneurial, educational, and/or community	*Increase in the number of global partnerships/ contracts/ MOUs to 20 by 2021.	6. Align programs with workforce needs and industry demands.	Theme III: Economic Develop- ment Theme IV:	Number of Global Partnerships
	outreach purposes.			Community Engagement	

Second Five Year Initiatives

A. Integrate High School, Associates, and Bachelor's Degrees

By working with MCPS and USG, MC has the opportunity to reduce time and cost to degree by creating 1) a high school senior year experience that results in the first year of an associates degree and 2) integrated programs with USG that merge the second year of the associate's with the beginnings of the baccalaureate degree. This initiative builds upon the First Five-Year Initiative 5: Deepen Existing Partnerships with MCPS and USG. Extensive negotiation and potential policy changes may be required to begin implementation in 2021.

B. Offer Expanded Academic Orientation

Summer orientation programs offered by the Student Affairs division have shown a positive impact on student success. In order to build upon this success, the Academic Affairs division will explore discipline-specific, extended, summer orientation programs designed for college-ready and not-yet-college-ready students. This initiative builds upon Academic Affairs Division Goals D: Engage and E: Connect and upon the First Five-Year Initiative 1: Embed Classroom Support. These programs should be offered in close collaboration with Student Affairs faculty.

C. Enhance Scheduling (Block, Cohort, Accelerated)

As new technology provides us the tools to be more intelligent and analytical about course scheduling, Montgomery College will explore options such as block scheduling, cohort scheduling, pathway scheduling, accelerated scheduling, and long-term scheduling. This initiative builds upon the First Five-

Year Initiative 2: Offer Alternative Scheduling and Delivery. Designating this initiative for the second five years will allow us to gain some experience with less complex alternative scheduling strategies, to explore ways in which we might truly "accelerate" a program, and to thoroughly research and implement the right software application.

D. Offer MC Curriculum and Credentials Globally

As a member of a global community, Montgomery College has an opportunity and an obligation to share curriculum and expertise with our international colleagues who are struggling to find the capacity and resources to educate millions of students. The next step, offering credentials and degrees jointly or singly to students studying in other countries, may require significant time effort to overcome regulatory obstacles (hence the need to slate this initiative for the second five years). This initiative builds upon the First Five-Year Initiative 6: Expand Global Partnerships and International Opportunities.

E. Institutionalize On-line Training for Academic and Career Success

Colleges are called upon increasingly to teach career and professional skills to students, but fitting these lessons into a curriculum already filled with program content and general education competencies is difficult. Fortunately, many vendors are now providing low-cost, online modules on topics ranging from financial literacy to time management to listening skills. In order to make sure that students access this training, we must either find a way to document it in their portfolios or recruit faculty to require it in some classes. The next five years will give us time to structure this learning and choose an appropriate vendor. This initiative builds upon Academic Affairs Division Goals D: Engage and E: Connect.

Conclusion

As Montgomery College pursues its mission to empower our students, enrich our community, and hold ourselves accountable, the Academic Affairs division is committed to the success of student learning. Building on the strong foundation of excellent programs, highly-qualified faculty and staff, and meaningful internal and external collaborations, the Academic Master Plan serves as a blueprint for the next five years of learning, growing, and improving as a division and an institution. As President Pollard said in a recent interview, "Our job—this is the next level of work for higher education and community colleges specifically—is to ensure that everyone has the ability to be successful in college by redesigning our institutions to meet these outcomes."¹⁸

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¹⁸ Milestone Moments: Building for Student Success, Montgomery College Publication, 2015, 6.

AMP Glossary

Badges: Visual, digital representations of achievements or competencies that signify educational mastery and are earned by completing learning modules, accomplishing particular tasks and goals, or demonstrating knowledge of content or skills. In an institution of higher education, badges should be part of a larger system of assessment.

CCRCCA: College and Career Readiness and College Completion Act of 2013 (a.k.a. Senate Bill 740): A Maryland State Act to ensure student college and career readiness, expand access to early college enrollment for high school students, enhance transferability, and foster timely degree completion. Specific requirements include assessing 11th-graders for college credit coursework in English, literacy, and math; delivering transition courses to 12th-graders who have not achieved college and career readiness by the end of 11th grade; enrolling in a math course for each year of high school; focusing high school students on dual enrollment opportunities; making 60 credits of community college courses transferrable to public four-year state institutions; making 30 credits of public four-year state institution courses transferrable to community colleges; developing incentives for students to obtain an associate's degree before enrolling in a public four-year state institution; identifying near-completers and encouraging them to finish their degrees; filing a degree plan upon community college entry or no later than upon completing 45 credits at a public four-year college; establishing benchmarks for each major and for general education programs; and setting credit limits for associate and bachelor degrees. Advisory Councils for all programs are also required.

Completion: Graduation from a community college with a certificate or degree and/or transfer from a community college to a public four-year institution of higher education.

Credential: Something that formally confers credit or confidence, such as a degree, certificate, or badge. The Department of Labor defines a "stackable credential" as "part of a sequence of credentials that can be accumulated over time to build up an individual's qualifications and help them to move along a career pathway or up a career ladder to different and potentially higher-paying jobs."

CTE: Career and Technology Education: Programs of study based on articulation agreements that allow students to earn Montgomery College credit by successfully completing program courses at MCPS (Montgomery County Public Schools). These programs include Automotive Technology, Business, Construction and Development, Criminal Justice, Education, Engineering, and Information Technology.

Disruptive technologies: Displace established technologies and drastically change the way individuals or institutions operate. Examples include e-mails displacing letter-writing; PC's

displacing typewriters; cell phones displacing home lines; smart phones displacing cell phones, cameras, and calculators; and cloud computing displacing institutional in-house service hosting.

Dual enrollment: Student enrollment in two academic institutions (such as a high school and community college) that have developed a coordinated program of study.

Guided pathways: Structured, coherent education programs that include courses and support services leading students directly to their goals. Contrasted with the *cafeteria-style self-service model* that expects students to choose among disconnected courses and support services. Guided pathways explained fully in *Redesigning America's Community Colleges* by Thomas R. Bailey, Shanna Smith Jaggars, and Davis Jenkins.

Micro-intervention: Personal engagement with students beyond the classroom to support academic persistence and success. Includes one-on-one advising, small group advising, mentoring, coaching, and other interventions. MC examples: Boys-to-Men, Sister-to-Sister, and Achieving the Promise Academy.

Middle college: A collaboration between a high school and community college that allows high school students to take both high school and college courses, applying college credits toward a community college degree while they earn their high school diplomas. Through Montgomery College's Middle College Program, students at selected Montgomery County Public Schools may earn their associate degrees and high school diplomas at the same time.

Millennials: The Pew Research Center defines "millennials" as the generation born between 1981 and 1997 and reports that this generation now surpasses Generation X as the largest generation in the U.S. labor force, with 53.5 workers.

MOOC: Massive Open Online Course: An open-access web-based course allowing free and unlimited participation. MOOC course materials might include lectures, readings, and user forums to promote interactions among students, professors, and assistants. Coursera, Udacity, and edX are among the top MOOC providers.

Open-enrollment institution: An educational institution that grants admission to applicants who have a high school diploma or a GED certificate. The institution may also allow high school students who have not yet obtained their diplomas to enroll.

Portfolio: A collection of academic documents and co-curricular activity records that tracks learning progress and academic achievement, enables students to reflect on their goals and accomplishments, and creates an archive of academic and career-related products. Portfolios are often digital and updated using web-based applications.

Proficiency credit: Credit for knowledge or skills acquired through participation in non-academic experiences, such as employment or community service. Ordinarily credit is granted only when the outcomes of these experiences are documented, course-related, and assessed as "college-level."

Program/program: A Program (with a capital "P") is a structured set of courses, workshops, or activities that results in a credential from Montgomery College. A program (with a small "p") is an organized sequence of learning activities along a pathway and may include credit and noncredit classes.

Push-in tutoring: Academic support activities that involve a tutor working with individuals or small groups in a classroom. Contrast with "pull-out" tutoring that takes place outside of the classroom.

Skills gap: a gap between employer needs for workers with particular skills and the availability of workers who have those skills.

Student Success Scorecard: At Montgomery College, a set of indicators that tracks student achievement. The Scorecard website says that it "provides actionable information to help the College assess and improve its programs focused on achievement and success for every student." Indicators are grouped into "arrival" (focused on new students), "progression" (focused on returning students), and "completion" (focused on graduating and transferring students). See the Scorecard at http://www.montgomerycollege.edu/scorecard.

USG: Universities at Shady Grove: A partnership of nine University System of Maryland institutions offering upper-level undergraduate and graduate programs at one location in Rockville, Maryland. Learn more at http://shadygrove.umd.edu/.

Works Cited

- Anderson, Janna and Lee Rainie. "Millenials Will Benefit and Suffer Due to Their Hyperconnected Lives." *Pew Research Center Report*, February 29, 2012. http://www.pewinternet.org/2012/02/29/millennials-will-benefit-and-suffer-due-to-their-hyperconnected-lives/
- Arum, Richard and Josipa Roksa. *Academically Adrift: Limited Learning on College Campuses*. Chicago: University of Chicago Press, 2011.
- Association of American Colleges and Universities. "Greater Expectations: A New Vision for Learning as a Nation Goes to College." Washington, DC:

 Association of American Colleges and Universities, 2002.

 http://www.greaterexpectations.org/pdf/gex.final.pdf.
- Bennett, William J. and David Wilezol. *Is College Worth It? A Former United States*Secretary of Education and a Liberal Arts Graduate Expose the Broken

 Promise of Higher Education. Nashville: Thomas Nelson, 2013.
- Bok, Derek. *Higher Education in America*. Princeton: Princeton University Press, 2013.
- Carnevale, Anthony P., Nicole Smith, and Jeff Strohl. *Help Wanted: Projections of Job and Education Requirements Through 2018*. Georgetown University Center on Education and the Workforce. Indianapolis: Lumina Foundation, 2010.
- Chong, Sylvia, Wai Mun Loh, and Mathangi Babu. "The Millennial Learner: a New Generation of Adult Learners in Higher Education." *Advances in Scholarship of Teaching and Learning* 2, no. 2 (2015): 1-14. http://tlc.unisim.edu.sg/research/AdvSoTL-3/pdf/chong_loh_babu.pdf.
- Christodoulou, Eleni, and Athina Kalokairinou. "Net Generation's Learning Styles in Nursing Education." *Studies in Health Technology and Informatics* 213 (2012): 119-121.

- The Chronicle of Higher Education. "25 Years of Declining State Support for Public Colleges." *The Chronicle of Higher Education*, March 3, 2014. http://chronicle.com/interactives/statesupport
- The Civic Learning and Democratic Engagement National Task Force. "A Crucible Moment: College Learning and Democracy's Future." Submitted on behalf of The Global Perspective Institute, Inc. and the Association of American Colleges and Universities to the U.S. Department of Education, October 5, 2011. http://www2.ed.gov/rschstat/research/pubs/college-learning-democracys-future/crucible-moment.pdf.
- Cohn, Scott. "The State Skills Gap: Who's Got Talent?" *CNBC*, June 24, 2015. http://www.cnbc.com/2015/06/24/the-state-skills-gap-whos-got-talent.html
- De la Harpe, Barbara and Thembi Mason. "A New Approach to Professional Learning for Academics Teaching in Next Generation Learning Spaces." *The Future of Learning and Teaching in Next Generation Learning Spaces*, Vol. 12, International Perspectives on Higher Education Research (2014): 219-39.
- Devece, Carlos, Marta Peris-Ortiz, José M. Merigó Lindahl, and Vicenta Fuster.

 "Linking the Development of Teamwork and Communication Skills in Higher Education." In Sustainable Learning in Higher Education: Developing

 Competencies for the Global Marketplace, edited by Marta Peris-Ortiz and José M. Merigó Lindahl, 63-73. New York: Springer International Publishing, 2015.

Economic Modeling Specialists, Intl., 2016.1, Q1 dataset compiled from several sources, including annual population estimates and population projections from the US Census Bureau, birth and mortality rates from the US Health Department, and projected regional job growth from the MD Department of Labor, Licensing, and Regulation.

Fischer, Dov and Hershey H. Friedman. "Critical Skills for Today's Accounting and Business Graduates." *Social Science Research Network*, March 2, 2015. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2571924

- Frey, Thomas. "By 2030 over 50% of Colleges will Collapse." *Futurist Speaker: Thomas Frey*. http://www.futuristspeaker.com/2013/07/by-2030-over-50-of-colleges-will-collapse/
- Gillespie, Patrick. "America's Persistent Problem: Unskilled Workers." *CNN Money*, August 7, 2015. http://money.cnn.com/2015/08/07/news/economy/us-economy-job-skills-gap/
- Hacker, Andrew and Claudia Dreifus. *Higher Education? How Colleges Are Wasting Our Money and Failing Our Kids—and What We Can Do About It*. New York: Henry Holt, 2010.
- Harden, Nathan. "The End of the University as We Know It." *The American Interest* 8, no. 3 (December 11, 2012). http://www.the-american-interest.com/2012/12/11/the-end-of-the-university-as-we-know-it/
- Knapper, Christopher K., and Cropley, Arthur, J. 2000. Lifelong Learning in Higher Education. 3rd ed. London: Kogan Page.
- Kuh, George D. "High Impact Educational Practices: What They Are, Who Has Access to Them, and Why They Matter." Washington, DC: Association of American Colleges and Universities, 2008.

 https://keycenter.unca.edu/sites/default/files/aacu_high_impact_2008_fin_al.pdf
- Kuh, George D., Stanley O. Ikenberry, Natasha A. Jankowski, Timothy Reese Cain, Peter T. Ewell, Pat Hutchings, and Jillian Kinzie. *Using Evidence of Student Learning to Improve Higher Education*. San Francisco: Jossey-Bass, 2015.
- Natow, Rebecca S. "From Capitol Hill to Dupont Circle and Beyond: The Influence of Policy Actors in the Federal Higher Education Rulemaking Process." *The Journal of Higher Education* 86, no. 3 (2015): 360-86.
- Obama, https://www.whitehouse.gov/issues/education/higher-education

- Owen, Stephanie and Isabel V. Sawhill. "Should Everyone Go to College?" Brookings Institution Center on Children and Families Briefs 50 (2013).
- Peter D. Hart Research Associates. "How Should Colleges Prepare Students to Succeed in Today's Global Economy?: Survey Conducted on Behalf of the American Association of Colleges and Universities." Washington, DC: Peter D. Hart Research Associates, 2006.

 www.aacu.org/leap/documents/Re8097abcombined.pdf.

Pollard, Milestone Moments: Building for Student Success, Montgomery College Publication, 2015, 6.

----. "Why Starting at a Community College can be the Best Option," The Washington Post, 8 April 2016.

- Roscorla, Tanya. "3 Things Higher Education Should Know about Disruptive Innovation." *Center for Digital Education*, September 30, 2014.

 http://www.centerdigitaled.com/news/3-Things-Higher-Education-Should-Know-about-Disruptive-Innovation.html
- Strohush, Vitaliy and Justin Wanner. "College Degree for Everyone?" *International Advances in Economic Research* 21, no. 3 (August 2015): 261-273.
- Suster, Mark. "In 15 Years From Now Half of US Universities May Be in Bankruptcy. My Surprise Discussion with @ClayChristensen." Both Sides of the Table, March 3, 2015.

 <a href="http://www.bothsidesofthetable.com/2013/03/03/in-15-years-from-now-half-of-us-universities-may-be-in-bankruptcy-my-surprise-discussion-with

claychristensen/