

**Powering Southeastern Wisconsin's Knowledge-Based Economy:  
UWM's Academic Plan**



**Rita Cheng, Provost and Vice Chancellor**  
**Presentation to the Education Committee of the UW System Board of Regents**  
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Good afternoon.

I call your attention to the individuals pictured on the slide. They are UWM's graduating class of 2008, and they represent the impact of UWM's degree programs—educators, engineers, computer scientists, city planners at the undergraduate and graduate levels—who are eager to begin their careers. They, and the 5,000 other doctoral, master's, and baccalaureate graduates, are the yield from the State's investment in higher education.

# Mission



- A vibrant research-intensive university at the heart of a metropolitan region is essential for a vibrant, knowledge-based economy
  
- UWM strategic goals
  - Research Growth
  - Access to Success

I don't have to explain to this group that a vibrant research-intensive university at the heart of a metropolitan region is essential for a vibrant, knowledge-based economy

Research universities must lead the 21st-century economic rebirth of America's cities. The University of Wisconsin–Milwaukee embraces its role as such a leader in Southeastern Wisconsin. The need for reinventing Midwestern cities such as Milwaukee has never been greater. Over the past three decades manufacturing jobs that required strong backs and vocational education have been exported overseas, unlikely to ever return. Further, the ongoing development of new technologies demands an adaptable work force. Our future depends on universities – such as UW–Milwaukee – to prepare a new kind of work force, composed of well-educated, creative individuals with an entrepreneurial spirit.

UWM's Academic Plan is framed around our strategic goals of Research Growth and Access to Success.

## Mission



- Academic Plan outcomes aligned with the UW System's Advantage Wisconsin Growth Agenda:
  - “Accelerating the transformation of knowledge capacity into high-paying jobs and economic vitality for Wisconsin.”
  - Creating a diverse and abundant skilled workforce
  - Attracting new high-paying jobs to the region, fueling economic growth

UWM's Academic Plan outcomes are also aligned with the UW System's Advantage Wisconsin Growth Agenda:

UWM's component of the Growth Agenda centers on research development, increasing support for graduate students, access to research experiences for undergraduates, and expanding faculty strength in key areas of investment that connect to growth for Southeastern Wisconsin.

# Investments



- UWM is enhancing faculty/staff strength in key areas
- 07-09 biennium will hire 43 new faculty to support program expansion in
  - natural sciences
  - engineering
  - health

UWM is enhancing faculty/staff strength in key areas as part of its research growth initiative. We have taken a significant step with the 2007-2009 biennial budget, which provided state support for research seed funding, cluster hires, and advanced workforce development at the graduate and undergraduate levels. During the 07-09 biennium UWM will hire 43 new faculty to support program expansion in

natural sciences,  
engineering, and  
health

For the 09-11 DIN, UWM proposes to continue with plans to hire faculty clusters through a competitive process in fields such as advanced manufacturing, biomedical engineering, health and freshwater -- fields that track with our planned degree offerings, particularly at the graduate level.

# Enrollment



- Unprecedented student interest and enrollment in UWM
- Currently at 29,000, expected to peak at 30,000
- 5,000 UWM graduates per year
- Due to the regional and state-wide need for college-educated citizens, UWM will seek to sustain its enrollment growth

Each year, UWM sends 5,000 well-prepared graduates into the workforce. These graduates are the most ethnically diverse in the UW-System, accounting for 42% of African American bachelor's degrees, 45% of African American master's and 37% of African American PhDs. These UWM graduates benefit from attending a research university, where learning and discovery constitute the foundation of the academic experience.

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Due to the regional and state-wide need for college-educated citizens, UWM will seek to sustain its enrollment growth.

Background data: for 2006-07, UWM graduated 3769 baccalaureates, 1178 master's and 101 PhDs for a total of 5048 degrees awarded. Source: Common Data Set

Period from July 1, 2006, to June 30, 2007

# Access to Success



- Comprehensive retention initiatives
  - Summer bridge program, supplemental instruction, Early Warning System, undergraduate research experiences, mentoring, learning communities, freshman seminars
- Having an impact
  - a one-year retention increase of 2.3 percentage points for all first-year students
  - an increase of 3.9 percentage points for first-year students of color.

UWM offers access to higher education to residents of the state's largest city, the multicultural center of Wisconsin. Access to Success, UWM's comprehensive retention and recruitment initiative, engages UWM undergraduate students in the very best learning experiences by connecting individual students to the resources that will maximize the educational impact of their years at UWM. Access to Success initiatives improve access to education, especially for low-income, underrepresented, and first-generation students.

Comprehensive retention initiatives include summer bridge programs, supplemental instruction, Early Warning System, undergraduate research experiences, mentoring, learning communities, and freshman seminars. Access to Success initiatives are having an impact. There has been

- a one-year retention increase of 2.3 percentage points for all first-year students
- an increase of 3.9 percentage points for first-year students of color.

Back-Up Data:

- A 2.3 percentage point (PP) increase, from 68.7% for the Fall, 2005 freshman class to 71.0% for the Fall, 2006 freshman class
- Retention for targeted freshmen increased 3.9 PP (from 55.8% to 59.7%) and exceeded the 1.9 PP (from 70.9% to 72.8%) increase in non-targeted freshmen

## UWM's Program Array



- 25 doctoral programs
- 49 masters level programs
- 83 bachelor's degree programs
- Array balanced among liberal arts, basic sciences, and professional programs (engineering, health disciplines, business, education, architecture/urban planning, social work)

UWM's current program array includes

25 doctoral programs

49 masters level programs

83 bachelor's degree programs

The array is balanced among liberal arts, basic sciences, and professional programs (engineering, health disciplines, business, education, architecture/urban planning, social work).

Each of these 157 degrees is an access point to higher education, offering the residents of Southeastern Wisconsin a way "in" to full participation in the knowledge-based economy.

## Context



- Since spring 2007, the campus community has been intensively engaged in the development of a campus master plan with the **priorities of the academic plan setting the direction** for the planning for physical space
- Results to date inform this report on the status of the academic planning, with particular emphasis on the planned degree programs

Over the past academic year, the campus community has been intensively engaged in the development of a campus master plan with the **priorities of the academic plan setting the direction** for the planning for physical space.

Results to date inform this report on the status of the academic planning, with particular emphasis on the planned degree programs.

The Academic and Master Planning processes will position the University to further the campus goals of increasing research productivity, ensuring student success, enhancing the diversity of students, faculty, and staff, and spurring the economic development of Southeastern Wisconsin.

## Context



- Academic degree planning data culled from departmental responses to these questions
  - What will UWM’s program array look like in 2011 and beyond?
  - Where are we likely to see programmatic, research and enrollment growth?
  - Which interdisciplinary areas or clusters will become more prominent?

Academic degree planning data was culled from two significant planning processes related to development of schools of public health and freshwater and from academic departments’ responses to these questions:

What will UWM’s program array look like in 2011 and beyond?

Where are we likely to see programmatic, research and enrollment growth? and

Which interdisciplinary areas or clusters will become more prominent?

The questions were designed to elicit information on a 5-year academic plan, per the revised UW System Academic Planning and Program Review policy.

I would emphasize that for a campus as large and complex as UWM, academic planning is a reflection of planning at the departmental level and not a highly centralized activity. As our planning processes unfold over the next 18 months, campus conversations on the specifics of degree development will become more concrete.

## New Schools: Public Health and Freshwater Sciences



- PhD Programs
  - Environmental and Occupational Health
  - Social Sciences and Community Health
  - Public Health Administration and Policy
  - Epidemiology
  - Freshwater Sciences
- Masters' Programs
  - Public Health
  - Freshwater Sciences

Degree planning related to UWM's proposed new schools of public health and freshwater sciences is well under way.

Together, the schools will offer 5 Phds and 2 master's programs

You will learn more about these exciting new schools in upcoming presentations, but let me say at this point, in relation to academic planning, that there is huge momentum building in these areas—the two schools will increase UWM's extramural funding, expand our graduate degree array, and play a role in regional economic development.

## New PhDs



Focus: Research growth in science, engineering and health disciplines spurring PhD planning in

atmospheric sciences

biochemistry

biomedical sciences

clinical lab sciences

kinesiology

neuroscience

medical imaging

microbiology

statistics

The National Science and Technology Council report *Ensuring a Strong U.S. Scientific, Technical, and Engineering Workforce in the 21st Century* notes, “The world is changing, in large part because of rapid advances in science and technology. The economy is shifting from an industrial base to knowledge-based enterprises. Highly educated and skilled workers are increasingly important in this new economy. Other nations are improving their education and training systems, particularly for scientists and engineers. Our nation must take steps to ensure that it is developing the human resources it will need, paying particular attention to seeking out talent in groups currently under-represented in the scientific, technical and engineering workforce.”

I am delighted to see that UWM’s academic departments are envisioning doctoral degrees that will address this need. Our academic process has brought forward a number of potential PhDs, in various stages of development.

It is important to note that UWM’s research growth in science, engineering and health disciplines is spurring PhD planning, and continues UWM’s historic pattern of matching doctoral degree planning to past areas of focused campus investment.

## New PhDs



### Focus: Communities, Culture and Education

- |                            |                          |
|----------------------------|--------------------------|
| adult education            | • sociology              |
| urban teacher education    | • linguistics            |
| human resource development | • Submitted for Approval |
| music studies              | – Africology             |
| theater                    |                          |
| visual art                 |                          |

As we clearly emphasize our planning to expand our academic program array and funded research in science, engineering, and health, we are also committed to strengthening our long-standing institutional focus on the arts, education, and societal needs in Milwaukee.

UWM's commitment to urban education is evident in proposed PhDs in adult education, urban teacher education, and human resource development. UWM's catalytic role in the arts in Milwaukee is reflected by PhDs in music studies, theater, and visual art.

PhDs in sociology, linguistics, and Africology will extend our knowledge of community and human behavior.

## New Professional Doctorates



EDS: Educational Administration and  
Supervision

DNP: Doctor of Nursing Practice

And we are developing two professional doctorates that also are extensions of UWM's community commitment. The EDS in Educational Administration and Supervision and the Doctor of Nursing Practice degrees will increase Milwaukee's supply of educators and nurses who have the highest levels of professional training.

# New Masters' Programs



astronomy	medical physics
astroparticle physics	quantitative risk management
atmospheric sciences	software engineering
biomedical sciences	sustainable environments
energy sciences	

Here are the focal points for master's degrees that have emerged from our academic planning process, with a focus on the sciences.

Again, specific degree options will result from campus planning over the next 18 months.

## New Masters' Programs



athletic training  
digital design practice  
film MFA  
Latin American,  
Caribbean and US  
Latino studies

mathematics for middle  
school teachers  
piano pedagogy  
teaching the arts  
world dance and culture

Submitted for Approval  
Spanish  
Women's Studies

And the degrees that center on communities, cultures and education:

## New Bachelor's Programs



applied math, business  
and economics

athletic training

chemical physics

environmental  
chemistry

Latin American,  
Caribbean and US  
Latino studies

nutrition

software engineering

And, the bachelor's programs in the pipeline, many in final stages of development, include:

As with all of UWM's degrees, these lists do not capture the evolution within existing programs. For example, the Lubar School of Business will expand courses/programs in the Entrepreneurship curricula, offering additional courses and extracurricular opportunities for students to learn about the challenges and opportunities of entrepreneurship.

In Curriculum and Instruction, a major curricular area for development across the undergraduate and post baccalaureate teacher preparation programs is information/teaching strategies/curriculum for English Language Learners who populate our urban classrooms.

The Department of Art History is planning to increase undergraduate and graduate coursework in African art and African-American art and to increase collaboration with the Department of Africology.

And the Department of Political science is developing a major new Undergraduate Program called ULEAP (Undergraduate Laboratory for the Empirical Study of Politics). This program will provide an opportunity for students, beginning in their first year, to be involved in an ongoing survey research project as they progress through the major.

## Trends



- Increased online/blended degree offerings
- Greater focus on undergraduate research, honors curriculum, study abroad
- Increasingly interdisciplinary & collaborative

In reviewing the departmental planning information, some key trends emerged:

An increase in online/blended degree offerings—which will expand access, particularly for the adult students who are a key element in increasing the state’s number of baccalaureate degree holders

A greater focus on undergraduate research, the honors curriculum, and study abroad, which help to attract and graduate high-achieving students who have critical thinking, problem-solving skills & who are culturally competent.

A third trend is the development of increasingly interdisciplinary & collaborative degree options, which reflects the interdisciplinary approach to knowledge production as our world grows more complex and which offers unique opportunities for the production of graduates who ‘get’ the rewards of innovation and collaboration.

# Collaborations



- Within UW-Milwaukee across disciplines
- With external partners such as the Medical College of Wisconsin, MATC and other UW campuses
- Highlight: new PhD collaborative track in Architecture with Art History at UW-Madison
- Highlight: BS/MS collaboration in Mechanical Engineering with UW-Platteville
- Highlight: global university partnerships with Africa, Taiwan

Collaborations are occurring

Within UW-Milwaukee across disciplines

With external partners such as the Medical College of Wisconsin, MATC and other UW campuses

To highlight a few of these collaborations, UWM is delighted to report on a new PhD collaborative track in Architecture with Art History at UW-Madison

We are also in the early stages of planning a BS/MS collaboration in Mechanical Engineering with UW-Platteville (as well as launching a similar BS/MS dual degree within UWM)

New international partnerships include ties between UWM's School of Information Sciences and the East African School of Library and Information Science at Makerere University in Kampala, Uganda, and our College of Engineering and Applied Science and Chung Yuan Christian University in Taiwan.

## Summary



- UWM's academic plan will
  - Advance the mission-driven goals of Research Growth and Access to Success
  - Power economic growth in Southeastern Wisconsin
  - Keep the State competitive in 21<sup>st</sup> century global economies

In the 2007 State New Economy Index, Wisconsin ranked 31st in the extent of its participation in the knowledge-based economy. The U.S. Census Bureau also ranks Wisconsin 31st in the percentage of people 25 years and over who have completed a bachelor's degree (24 percent in the state have a baccalaureate degree—the percentage drops to 18 percent in the city of Milwaukee.). These rankings are troubling in light of the increasing competition the state faces as it makes the transition to a knowledge-based economy.

UWM's academic plan will address these issues by

- Advancing the mission-driven goals of Research Growth and Access to Success
- Powering economic growth in Southeastern Wisconsin and
- Keeping the State competitive in 21<sup>st</sup> century global economies



Here, again, are members of UWM's Class of 2008. They're ready to head into the workforce, prepared with the skills that will help Milwaukee and the State make the transition to the new economy.

UWM's academic plan is designed to ensure that our future graduates are as well prepared as these students to thrive in an urban environment, and to adapt to the constantly changing opportunities and challenges of the 21<sup>st</sup> century's knowledge-based economy.

Similarly, UWM's Academic Plan will adapt, remaining nimble as the state's needs evolve. Through our Academic Plan, UWM will build an outstanding graduate student body capable of creating cutting-edge knowledge, and prepare our undergraduates to excel in the 'innovation economies' of tomorrow.