UW System Academic Programs and Wisconsin’s Workforce Needs

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Vice President for Academic and Student Affairs
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National Income Outlook

Higher education degree:
- Higher earnings power
- Higher tax revenues for state

SOURCES: WI DWD; U.S. Census Bureau, 2012, Table PINC-03; Internal Revenue Service, 2010; Davis et al., 2013; calculations by the authors.

Median Earnings
U.S. Department of Education:
On average, a college graduate earns $1 million more over their lifetime than a high school graduate.
Higher Education Degrees Are Recession-Proof

Bachelor’s degree during the recession:
- Lost 66,000 jobs
- Gained 4.7 million jobs in recovery
- Virtually all job growth in U.S. since recession has required some postsecondary education

High school degree:
- Lost 6.3 million jobs
- Very few jobs have come back

SOURCE: WI DWD
National Job Growth Forecast

Project Growth Between 2014-2024
Requires Bachelor’s Degree or Higher

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audiologist</td>
<td>28.6%</td>
</tr>
<tr>
<td>Biomedical engineer</td>
<td>23.1%</td>
</tr>
<tr>
<td>Forensic science technician</td>
<td>26.6%</td>
</tr>
<tr>
<td>Operations research analyst</td>
<td>30.2%</td>
</tr>
<tr>
<td>Nurse practitioner</td>
<td>35.2%</td>
</tr>
<tr>
<td>Personal financial advisor</td>
<td>29.6%</td>
</tr>
<tr>
<td>Physical therapist</td>
<td>34.0%</td>
</tr>
<tr>
<td>Physician assistant</td>
<td>30.4%</td>
</tr>
</tbody>
</table>

Wisconsin’s Current Landscape

- Wisconsin has large manufacturing base
- Large sector of Wisconsin’s economy dependent upon Associate’s Degree or higher

Wisconsin Long Term Projections 2012-2022

Jobs by Typical Educational Entry

- Less than high school: 11.4%
- High school diploma or equivalent: 43.7%
- Some college, no degree: 4.8%
- Postsecondary nondegree award: 5.9%
- Associate’s degree: 20.7%
- Bachelor’s degree: 4.8%
- Master’s degree: 7.9%
- Doctoral or professional degree: 0.6%

SOURCE: WI DWD
Wisconsin’s Workforce is Shrinking Compared to Growing State Population

Source: WI DWD - includes information from DOA, DWD, LMI and OEA data
## Wisconsin’s 25 High-Growth Occupations 2014-2024 Requiring Post Secondary Degree

<table>
<thead>
<tr>
<th>#1 Operations Research Analysts</th>
<th>#17 Market Research Analysts</th>
</tr>
</thead>
<tbody>
<tr>
<td>#4 Computer Systems Analysts</td>
<td>#18 Software Developers</td>
</tr>
<tr>
<td>#5 Personal Financial Advisors</td>
<td>#20 Chemist</td>
</tr>
<tr>
<td>#9 Web Developers</td>
<td>#21 Nurse Practitioners</td>
</tr>
<tr>
<td>#11 Biochemists and Biophysicists</td>
<td>#22 Actuaries</td>
</tr>
<tr>
<td>#16 Real Estate Brokers</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** WI DWD Wisconsin’s WORKnet
UW System Meeting State’s Needs

UW System degree programs consistent with projected highest growth occupations in Wisconsin

- Largest expected growth in Operations Research
- 3 other occupations related to information technology
- 4 occupations related to business and entrepreneurship
- 2 occupations in science fields
- 1 occupation in the health care field

Highlighted in development of 2020FWD Strategic Framework

- STEM fields
- Healthcare
- Entrepreneurship
## 20 Additional Degree Programs Authorized in 2016

<table>
<thead>
<tr>
<th>STEM</th>
<th>Health Care</th>
<th>Entrepreneurial/Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Data Analytics</td>
<td>• Health and Wellness Management</td>
<td>• Flex degree in Business</td>
</tr>
<tr>
<td>• Computer Science</td>
<td>• Nursing (accelerated)</td>
<td>• Sports management</td>
</tr>
<tr>
<td>• Microbiology</td>
<td>• Clinical Nutrition</td>
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</tr>
<tr>
<td>• Natural Resources</td>
<td>• Athletic Training</td>
<td></td>
</tr>
<tr>
<td>• Information Science and Technology</td>
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20 Additional Degree Programs Authorized in 2016

<table>
<thead>
<tr>
<th>Education</th>
<th>Social Sciences</th>
<th>Agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Early Childhood</td>
<td>• Geospatial Analysis and Technology</td>
<td>• Dairy Science</td>
</tr>
<tr>
<td>• Special Education</td>
<td>• Social Work</td>
<td></td>
</tr>
<tr>
<td>• Secondary Education</td>
<td>• Urban Studies</td>
<td></td>
</tr>
<tr>
<td>• STEM Middle Childhood-Early Adolescence</td>
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</table>
Employers Want and Need Critical Thinkers

Example: JAMF
• Employs 600 people around health care and education

“We need people who can think freely and solve problems. The problems we are seeing today aren’t the problems we had a year ago.”

“A liberal arts education taught me how to learn about topics I’m not an expert in. I still find that beneficial on a daily basis.”

Founder of JAMF, UW-Eau Claire music major grad Zach Halmstad
Educational Pipeline Support / Examples

**STEM**

- **WySis**
  - Partnership with UW System to promote patent development and intellectual property
  - Encourage entrepreneurship among faculty in the UW System
  - Increases student engagement in discovery

- **Internships**
  - Great Lakes awarded UW-Eau Claire a 2015-2018 Career Ready Internship Grant totaling $326,028 to place students in STEM fields
Educational Pipeline Support / Examples

Healthcare

• WEDC grant to UW-Milwaukee Research Foundation
  o Supports development of innovative health care ventures in Wisconsin

• Accelerated Online Bachelor's to Bachelor’s of Science in Nursing at UW-Oshkosh
  o Recently approved for UW-Madison

• Community Health Internship Program
  o 66 out of 83 interns were from UW System campuses
  o 11 UW campuses represented
Entrepreneurship

- WEDC grants
  - UW-Madison Law and Entrepreneurship Clinic
  - UW-Stout Center for Innovation and Development
  - WARF for *Upstart* program for minority and women’s entrepreneurship

- *Experiments in Entrepreneurship* course at UW-Whitewater
  - Available to students with any major
2020FWD Educational Pipeline Initiatives

System-wide research initiative focused on water issues

• Engage more students with undergraduate research related to a topic related to all three focus areas
  o STEM fields
  o Healthcare
  o Entrepreneurship

• Provide engagement with Wisconsin businesses with a collaborative group of faculty from all of our campuses

• Support more internship opportunities for students
2020FWD Educational Pipeline Initiatives

Internships
• Important educational and workplace opportunities for students
• Student success increases dramatically – as well as possibility of retaining talent in state
• Working closely with DWD, technical colleges, private universities, and business stakeholders
• Win-win-win for student, employer, and Wisconsin's economy

1+3 Program / Dual Enrollment College Options
• 1+3 collaboration underway with Fox Valley corporate partners to increase IT talent
• Complete first year of college while in high school
• Transfer into higher education with more credits = graduate faster, lower cost
• Increase proportion of high school students who see college as feasible
2020FWD Educational Pipeline Initiatives

Seamless Transfer Opportunities
• Increase number and effectiveness of articulation agreements between colleges,
• Should be seamless, smooth, and easily navigable at any step of education

New Adult / Traditional Students
• Expand opportunities to complete degree including competency-based online UW Flexible Option program

360 Advising
• Improve student success / reduce time to degree
• Expand use of predictive analytics and intensive advising for timely support to students
• Increase student access to financial planning and career counseling
Key Take-Aways

• UW System graduates are a source of constant support for Wisconsin’s economy

• Changes in program array are closely tied to Wisconsin’s workforce needs

• 2020FWD reinforces our commitment to strengthen Wisconsin’s economy