UW System Engineering Program Array



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Notices of Intent for New Engineering Programs

Institution	Program	Date
UW-Eau Claire	B.S. in Materials Science and Engineering	September 13, 2013
UW-River Falls	B.S. in Environmental Engineering & B.S. in Agricultural Engineering	October 15, 2013
UW-Stevens Point	B.S. in Chemical Engineering & B. S. in Environmental Engineering	December 12, 2013
UW-Stout	B.S. in Chemical Engineering, B.S. in Electrical Engineering, & B.S. in Mechanical Engineering	December 20, 2013
UW-Milwaukee	B.S. in Biomedical Engineering	Pre-authorization March 27, 2013



Previous UW System Engineering Studies

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1974 Report of the System
Task Force on
Engineering/Technology

1988 Better Living Through Technology Report

2001 Market Analysis for Engineering Professionals in Wisconsin, Minnesota, and Illinois

2007 Engineering
Education Task Force
Report



Key Issues in Array Management



State Demand for Engineers

- In which Engineering Disciplines?
- Is there Geographic Demand for Engineering Talent?

Is there a Pipeline of Qualified Students?



Key Issues Continued

(5)

If Expansion is the Solution,

What is Most Cost-Efficient?

Does it Increase the Engineering Talent Base in Wisconsin?



NCHEMS Study: Data Provided

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Data on Supply and Demand (Current and Future Market Need) for Engineers:

- In Various Specialty Areas
- In the State
- In Different Regions within the State



NCHEMS Recommendations

- The Report identifies <u>Five Engineering</u>
 <u>Fields</u> in which there is a Need in the State of Wisconsin:
 - Chemical
 - Civil
 - Electrical
 - Industrial
 - Mechanical



NCHEMS Findings Include

Wisconsin is a Net Exporter of Engineers

 Retirements are not Expected to Create Acute Shortages of Engineers

 Engineering Wages in Wisconsin are Lower than in Bordering States and Nationally



 No New Engineering Programs should be Created in:

Region 1 (Western WI/Minneapolis)

Region 2 (Northern WI)

Region 3 (Wausau)

Region 4 (Western WI from North of Platteville to North of La Crosse)



(10)

2. Expand Existing Capacity at:

- UW-Madison (Region 6)
- UW-Milwaukee (Region 7)



3. Conduct a Targeted Study to Determine:

 If a Chemical Engineering Program should be added to UW-Milwaukee, or

 Whether Priority should be given to Expanding Capacity for Civil, Electrical, Industrial, and Mechanical Programs



(12)

Create a Collaborative Engineering Program in Region 5

(At UW-Green Bay and/or UW-Oshkosh, with the Involvement of UW-Madison and/or UW-Milwaukee)



UW Institution Responses



Of the Nine UW Institutions that Responded:

Five Institutions were Overall Accepting of the Report's Recommendations and Made Additional Observations

Four Institutions were Critical of the Report's Recommendations and Presented Alternative Data and Recommendations



Institutional Support for the NCHEMS Study



Additional Employer/State Demand Could Be Satisfied Through:

Articulation Agreements and Satellite Programs

Cooperative and Collaborative Programs

Levering Existing Capacity

Expanding Enrollments at Existing Locations at a Lower Cost to the UW System



Institutional Criticism of the NCHEMS Study



Shortcomings in Data Analysis:

Flawed Method to Assess Engineering Degree Supply and Demand in Specific Regions

Faculty Expertise/Resources May Already Exist at Campuses Proposing Engineering Degrees

Limited Analysis of Future Demand in Favor of a Present Snapshot Analysis

No Study of the Problem "On the Ground"



Consortial Proposal



Northwest Wisconsin Engineering Consortium

UW-Stout
UW-River Falls
UW-Eau Claire

Proposed Programs

UW-River Falls Agricultural Engineering

Environmental Engineering

UW-Stout Chemical Engineering

Mechanical Engineering Electrical Engineering

UW-Eau Claire Materials Science and Engineering



Decision Options



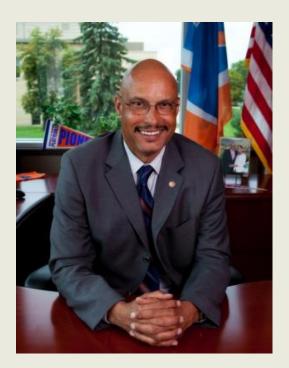
- 1. No New Programs will be Authorized.
- Build on the Existing Program Array at Institutions Currently Operating Successful Engineering Programs; or
- 3. Grant Additional Engineering Program Authorizations for:
 - Stand-Alone Programs
 - Consortial Programs
 - Partnerships with Existing Programs
 - Stepwise Growth



Points of View









Chancellor Meyer UW-Stout

Chancellor Shields UW-Platteville

Chancellor Patterson UW-Stevens Point



Regent Discussion



RECOMMENDATIONS