Presentation to the Board of Governors
February 6, 2015
Overview – Student Success

Five Pillars of Student Success:

▲ Experiential Learning
  Internships, co-ops, etc.

▲ Hands-on Experience
  EcoCAR3, FSAE, etc.

▲ Global Perspective
  Study/research/internship abroad

▲ Undergraduate Research
  20 College-funded UROP per year

▲ Scholarships
  Over 200 scholarships per year
Overview - Enrollment

Student Headcount

50% total growth since Fall 2010
69% Undergraduate enrollment growth since Fall 2010
27% Graduate enrollment growth since Fall 2010

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</table>
23% increase in degrees granted since 2009-2010
88% of students employed upon graduation had co-op/related experience
90% are employed in MI
Overview - Faculty

15% increase in T/TT faculty since Fall 2009
44% increase in student-to-faculty ratio since Fall 2009

Fall 2009 student-to-TT faculty ratio: 18 to 1
Fall 2014 student-to-TT faculty ratio: 26 to 1
Overview - Research

Multi-Disciplinary Research Thrust Areas:

- Biomedical Research
- Automotive Safety
- Energy Solutions
- Advanced Manufacturing and Materials
- Big Data and Business Analytics
- Transportation Research Group
- Center for Automotive Research

Historical Research Expenditure Data Reported to NSF (2008 – 2013)

- Research Expenditure ($): 10,000,000 - 24,000,000
Recent Developments

New Degree Programs:

▲ Nanoengineering Certificate
▲ Big Data & Business Analytics
▲ Embedded Systems (under development)
▲ Cybersecurity (under development)

CoE Living and Learning Community

Industry Sponsored Capstone Design Projects

Annual Design Day (late April)
Recent Developments

James and Patricia Anderson Engineering Ventures Institute

- Translating Research and Development to Innovation and Entrepreneurship (R&D to I&E)

Community Engagement

- Summer enrichment programs
- Detroit Area Pre-College Engineering Program (DAPCEP)
- University Prep High School - First Robotics Team
- Successful partnerships with C² pipeline and MCWT

C² Pipeline is a College/Career Ready program that incorporates S.T.E.M. in a project based hands on learning environment with a focus on Health Careers
MCWT is Michigan Council of Women in Technology
Development and Alumni Relations:

Gifts and Pledges:
- Raise approximately $2M each year from alumni, friends, corporations and foundations
- Secured $35M toward to $50M-$75M Pivotal Moments campaign goal

Campaign Priorities:
- James and Patricia Anderson Engineering Ventures Institute, $25 million gift announced Oct. 2014
- *Engineering Student Innovation Center, planning grant secured from Ford Motor Company Fund*
- *STEM Summer Academy for Future Engineers, anticipating announcement from major company*
- Pipeline Scholarships to improve student graduation rates to <6 years, multiple $100,000 commitments
Key Issues

▲ 50% rapid growth in enrollment presents challenges
▲ Need to invest in faculty and staff in order to maintain quality
▲ Space Challenges
  ▲ New faculty (office and research space)
  ▲ Student organizations
  ▲ Staff
▲ Need to ensure proper Graduate Assistant (GTA) support for Ph.D. students
▲ Need to update facilities to properly support teaching (technicians, maintenance, etc.)
Questions & Answers
Supplemental Data

**Student Headcount - Total**

- 50% overall growth since Fall 2010
- 45% growth since Fall 2010 w/o Brazilian students
- 35% growth since Fall 2010 w/o CS
- 29% since Fall 2010 growth w/o CS and w/o Brazilian students

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- Other
- Mechanical Engineering
- Industrial & Systems Engg
- Engineering Technology
- Electrical & Computer Engineer
- Computer Science
- Civil & Environmental Engg
- Chemical Engg & Mat Sci
- Biomedical Engineering
Supplemental Data

Student Headcount - Undergraduate

- Mechanical Engineering
- Industrial & Systems Engineering
- Engineering Technology
- Electrical & Computer Engineering
- Computer Science
- Civil & Environmental Engineering
- Chemical Engineering & Materials Science
- Biomedical Engineering

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Supplemental Data

% Increase by Department: Fall 2010 – Fall 2014

- Biomedical Engineering
- Chemical Engineering & Materials Science
- Civil & Environmental Engineering
- Computer Science
- Electrical & Computer Engineering
- Engineering Technology
- Industrial & Systems Engineering
- Mechanical Engineering
- Other

Graduate
Undergrad
Total