Gateway Course Grades and Student Success
Diversity Data Deep Dive
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The “Gateway” Courses

• “college credit–bearing and/or developmental education courses that enroll large numbers of students and have high rates of Ds, Fs, withdrawals, and incompletes”

• “high-enrollment courses that have historically resulted in high rates of Ds, Fs, Withdrawals, and Incompletes especially for low-income, first-generation and historically underrepresented students”

• John Gardner Institute “Improving Teaching, Learning, Equity, and Success in Gateway Courses”
**STRATEGIC ENROLLMENT MANAGEMENT COMMITTEE**

- This committee discusses and determines high-level priorities and action strategies to enhance student persistence and success.
- Guide the work of the standing committees to enhance student success.
- Charges and appoints working committees.
- Representatives include: Office of Undergraduate Education, Academic Support Resources, Admissions, Office for Equity and Diversity, Housing and Residential Life, Office for Student Affairs, and 2-3 Associate Deans.
- Meets every 3-4 weeks.

**STANDING COMMITTEES**

- College Retention Committee: Connect work happening in colleges to overall enrollment strategy.
- Data Committee: Assist in articulating research questions to guide projects.

**AD HOC WORKING COMMITTEES**

- Ad Hoc Working Committee(s) are
Gateway Courses Working Group

Background
The Board of Regents has shifted increasing attention to student success in large enrollment, foundational courses. For this reason, the Strategic Enrollment Management Committee charged a working group to analyze data and current practice and make recommendations in this area.

Charge
This working group had several aims as part of its charge:
1. Review existing data to gain a broader understanding of gateway courses at UMTC
2. Identify barriers to student success in gateway courses
3. Identify gaps, trends, and/or ideas to enhance student success in gateway courses
4. Connect with appropriate committees to participate in this conversation (data, mid-term alert, learning support network)
5. Recommend innovative and comprehensive strategies to enhance student success
Gateway Course Committee Key Findings

1. Average DFW rates obscure important differences in student populations at risk
2. Across fields (chemistry, computer science, math and philosophy) students at risk have challenges in basic algebraic thinking
3. Course placement impacts student success
4. Student support (in and out of the classroom) could be improved
5. Changes in pedagogy are having a positive impact on student success
Gateway Courses with Highest DFNW Rates: 2014-15 to 2018-19

- CHEM 1015 Intro Chem: Lecture 30.28%
- PHIL 1001 Intro to Logic 29.84%
- CSCI 1133 Intro to Programming Concepts 28.92%
- CSCI 1103 Intro to Java 27.36%
- MATH 1271 Calculus I 26.74%
- MATH 1272 Calculus II 26.42%
- MATH 2243 Lin Alg & Diff Eqs 25.74%
- MATH 1031 College Algebra & Probability 25.42%
- ANAT 3611 Principles of Human Anatomy 23.30%
- CSCI 2021 Machine Architecture and Org 23.15%
- CSCI 1933 Intro Algs & Data Str. 22.94%
- MATH 1142 Short Calculus 22.54%
- CHEM 2301 Organic Chemistry I 22.20%
- PHYS 2201 Thermodynamics & Stat Physics 22.14%
- ANAT 3601 Principles of Human Anatomy 22.09%
- CSCI 1113 Intro to C/C++ 21.57%
- CHEM 1061 Chem Prin I 21.40%
- CHEM 2101 Intro Analytical Chemistry 21.33%
- MATH 2283 Sequences, Series, Foundations 21.29%
- ECON 3101 Intermediate Microeconomics 20.16%
Gateway Courses with Highest DFNW Rates: 2014-15 to 2018-19

- CHEM 1015 Intro Chem: Lecture - 52.28%
- MATH 1142 Short Calculus - 42.31%
- CSCI 1933 Intro Algs & Data Str. - 36.78%
- CSCI 2021 Machine Architecture and Org - 30.99%
- MATH 1031 College Algebra & Probability - 41.18%
- MATH 2243 Lin Alg & Diff Eqs - 33.01%
- MATH 1272 Calculus II - 38.83%
- MATH 1271 Calculus I - 32.21%
- CSCI 1133 Intro to Programming Concepts - 40.68%
- PHIL 1001 Intro to Logic - 43.57%

Legend:
- NAS
- NHS
- FirstGen
- SOC
- White
Twin Cities Domestic Degree-Seeking Undergraduate Headcount Enrollment by Student of Color, Pell Recipient, and 1st Generation Status, Fall 2019

- Pell Only: 1,314 (4.2%)
- SOC Only: 3,632 (11.6%)
- 1st Gen Only: 2,846 (9.1%)
- SOC & Pell: 669 (2.1%)
- 1st Gen & Pell: 841 (2.7%)
- SOC & 1st Gen: 1,730 (5.5%)
- SOC, Pell & 1st Gen: 1,745 (5.6%)
- White or Unknown Not First Generation Not Pell Eligible: 15,971 (50.9%)
- All International: 2,619 (8.3%)
Twin Cities Campus New Freshman (NHS) Percent with DFNW Grades and Four-Year Graduation Rates by Number of DFNW Grades in First Year: Fall 2012 to Fall 2014 Cohorts

Percent One or More D/F/N/W Grade

- Students of Color: 42.0%
- Pell Recipients: 42.0%
- First Generation: 41.9%
- None of These: 28.4%

4yr Grad Rate by First Year D/F/N/W Count

- 0: 82.2%
- 1: 62.5%
- 2: 50.8%
- 3: 38.9%
- 4: 14.9%
- 5: 6.3%
- 6: 8.7%
- 7+: 0.0%

Color Legend:
- SOC
- Pell
- First Gen
- None
Twin Cities Campus New Freshman (NHS) Percent with DFNW Grades and Six-Year Graduation Rates by Number of DFNW Grades in First Year: Fall 2010 to Fall 2012 Cohorts

**Percent One or More D/F/N/W Grade**

- Students of Color: 44.3%
- Pell Recipients: 42.8%
- First Generation: 40.7%
- None of These: 27.2%

**6yr Grad Rate by First Year D/F/N/W Count**

- 0: 91.2%
- 1: 79.6%
- 2: 64.2%
- 3: 52.6%
- 4: 24.5%
- 5: 17.8%
- 6: 14.3%
- 7+: 5.7%

SOC, Pell, First Gen, None
Office of Undergraduate Education

Twin Cities Campus Domestic New Transfer (NAS) Percent with DFNW Grades and Three-Year Graduation Rates by Number of DFNW Grades in First Year: Fall 2013 to Fall 2015 Cohorts

**Percent One or More D/F/N/W Grade**

- Students of Color: 57.6%
- Pell Recipients: 54.3%
- First Generation: 50.6%
- None of These: 41.4%

**3yr Grad Rate by First Year D/F/N/W Count**

- 0: 81.6%
- 1: 61.6%
- 2: 39.4%
- 3: 29.5%
- 4: 7.4%
- 5: 12.2%
- 6+: 2.3%

% With DFNW

SOC, Pell, First Gen, None
Twin Cities Campus Domestic New Transfer (NAS) Percent with DFNW Grades and Four-Year Graduation Rates by Number of DFNW Grades in First Year: Fall 2012 to Fall 2014 Cohorts

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Percent One or More D/F/N/W Grade

- Students of Color: 57.4%
- Pell Recipients: 54.6%
- First Generation: 51.1%
- None of These: 41.0%

4yr Grad Rate by First Year D/F/N/W Count

- 0: 89.4%
- 1: 76.5%
- 2: 54.3%
- 3: 45.2%
- 4: 19.7%
- 5: 19.6%
- 6+: 16.3%

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Students of Color

- Pell Recipients
- First Generation
- None of These

SOC, Pell, First Gen, None

University of Minnesota

Driven to Discover
Gateway Course Committee Recommendations and Associated Findings

• Finding 1: Get nuanced student-success information from the dashboard into the hands of those who can act on it locally.
• Finding 2: Analyze STEM preparedness of incoming transfer students.
• Finding 3: Require all students who are enrolling in Chemistry to take the placement module.
• Findings 2 and 3: Consider requiring transfer students with credit to take the placement exam in Math as well.
• Finding 3: Provide and promote appropriate gateway course choice for all students.
• Finding 4: Develop a plan to improve in and out of class student support for gateway courses
• Finding 5: Develop multi-pronged approaches to improve/update gateway course pedagogy