



**PURDUE**  
UNIVERSITY

# Enhancing Undergraduate Student Success at Purdue University

Office of Enrollment Management/Student Access, Transition and Success Programs  
April 2009

# Session Overview

- Purdue Enrollment & Success Data
- Research on Who Stays, Who Leaves & Why
- Application of Research to Practice at Purdue
  - Communication of High Expectations
  - Programmatic Support
- Future Directions for Purdue
- Implications for Indiana
- Questions and Answers

# **PURDUE ENROLLMENT AND SUCCESS DATA**

# Undergraduate Enrollment

**Purdue University West Lafayette New Beginners and Total Undergraduate Enrollment Fall 2006 through Fall 2008**

<b>Academic Year</b>	<b>Fall New Beginners</b>	<b>Total Undergraduates</b>
<b>Fall 2006</b>	<b>7,518</b>	<b>31,290</b>
<b>Fall 2007</b>	<b>6,888</b>	<b>31,186</b>
<b>Fall 2008</b>	<b>7,063</b>	<b>31,761</b>

# Retention and Graduation Rates By Demographic Group

	1-Year Retention by Entry Year			2002 Cohort Graduation Rate		
	2005	2006	2007	4-Yr	5-Yr	6-Yr
<b>Gender</b>						
Male	82.4%	84.5%	85.3%	35.4%	64.1%	69.9%
Female	84.9%	84.4%	85.8%	47.9%	70.4%	75.3%
<b>Ethnic Group**</b>						
African American	70.9%	75.5%	81.3%	22.4%	51.0%	60.6%
American Indian	68.4%	76.5%	80.6%	19.4%	45.0%	45.2%
Asian American	83.0%	84.9%	84.3%	37.4%	62.5%	69.1%
Hispanic American	76.2%	77.9%	79.4%	32.0%	56.2%	61.6%
Caucasian	84.8%	85.0%	86.1%	41.3%	67.9%	73.1%

# Summary

- Trend – Increases in retention & graduation rates
  - Correlate with the introduction of several student success efforts
  - But we can do better
- Race and gender matter

# **WHO STAYS, WHO LEAVES, & WHY**

## **SUMMARY OF RECENT PURDUE RESEARCH**

## Two Studies

- Differences in Voluntary and Involuntary Attrition
  - Quantitative Data Analysis January 2008
- At-Risk Students: Uncovering Key Issues in Retention and Persistence
  - Survey June 2008

# Summary

- **Men who leave** are more likely to be dismissed for academic reasons (less likely to be voluntary withdrawals) than women who leave
- **Racial minorities who leave** are more likely to be dismissed for academic reasons (less likely to be voluntary withdrawals) than whites who leave
- **First-generation students** are more likely to leave Purdue and are more likely to do so voluntarily
- **Voluntary withdrawers** and students who have been dismissed academically have substantially lower EFCs

# Summary

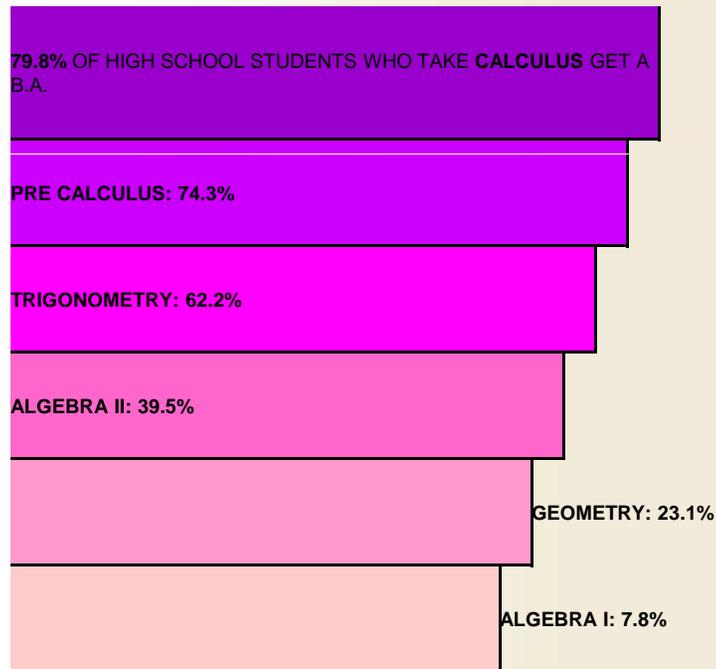
- **Attrition between the first-to-second year** is the highest among the transition points examined – approximately 14% of beginning class
- **But the sophomore-to-junior year rates** merit attention/action – and additional 10% of the beginning class
- **Academic factors** – particularly those associated with high expectations, heavy work load, and gateway courses – contribute the greatest to departure decisions
- **But social factors** (organizational involvement, etc.) also influence/correlate with retention behavior

# **APPLICATION OF RESEARCH TO PRACTICE AT PURDUE**

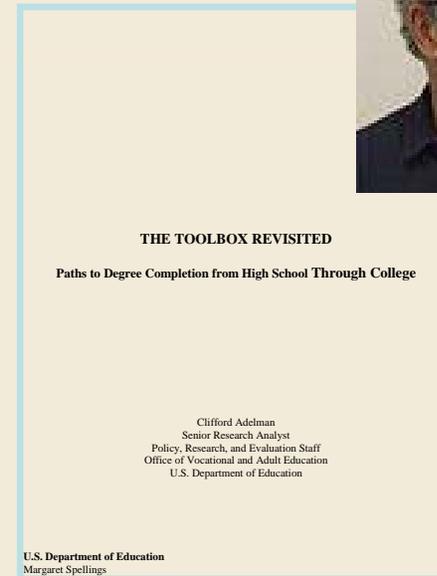
What we require matters!

# Cliff Adelman's Research

Getting a four-year college degree depends a lot on how far you go in high school math.



Percentage of high school graduates earning a B.A. by highest level math course taken in high school.



# Academic Preparation

## Indiana Pipeline of High School Seniors Percentage of Students Scoring 3 or Higher on an AP Exam During High School Years

State	High School Class of 2000	High School Class of 2006	Percentage Point Change
Nation	10.2	14.8	4.6
Indiana	6.0	9.2	3.2

# Academic Preparation

## 2007 Indiana Pipeline of High School Seniors

All SAT Tested	Number Tested	% of Total	SAT Average
American Indian	256	0.62%	963
Asian	932	2.24%	1081
Black	2,658	6.39%	854
Latino	1,366	3.29%	936
White	34,398	82.75%	1017
Other	935	2.25%	993
No Response	2,366	5.69%	998
Total	41,569		1004

# Academic Preparation

## 2007 Indiana Pipeline of High School Seniors

Self-reported HS GPA C+ to A and actual SAT of 900 to 1600	Number	% of Total in this range	SAT Average in this range
Indian	151	0.53%	1070
Asian	695	2.44%	1163
Black	916	3.22%	1024
Latino	729	2.56%	1054
White	24,418	85.76%	1093
Other	614	2.16%	1088
No Response	949	3.33%	1132
Total	28,472		1092

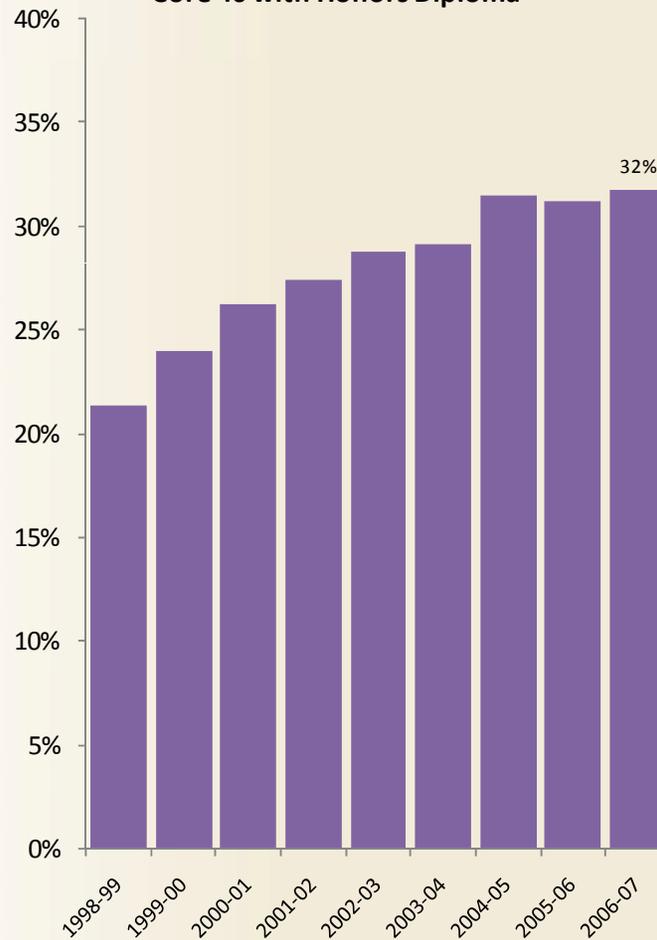
# Academic Preparation

## 2007 Indiana Pipeline of High School Seniors

Self-reported HS GPA B+ to A and actual SAT of 1200 to 1600	Number	% of Total in this range	SAT Average in this range
Indian	18	0.31%	1319
Asian	245	4.28%	1356
Black	62	1.08%	1286
Latino	87	1.52%	1297
White	4,933	86.14%	1297
Other	115	2.01%	1302
No Response	267	4.66%	1333
Total	5,727		1301

# Academic Preparation

Share of High School Graduates Earning  
Core 40 with Honors Diploma



Source: Indiana Department of Education.

What we say matters!

- Purdue research “Work harder than expected” finding
- Tell prospective students about our high expectations early and often!
- Congruence between recruitment messages and first- year & subsequent undergraduate experiences

high expectations  
[great support]

Four research-proven programs to help you succeed at Purdue University



Student Access, Transition  
and Success Programs

What we do matters!

# Learning Communities

At Purdue Learning Communities are academic programs that:

- Co-enroll a group of 20-30 first-year students in two or more courses based on an academic major or theme; or
- Place a group of first-year students in the same residence hall based on an academic major or theme; or
- Do both

# Learning Communities

- Fall 2008 Participation = 1,410
- National Recognition
  - 2007 Lee Noel and Randi Levitz Retention Excellence Award
  - Purdue Included in US News List of Top 20 Public Institution Learning Communities Programs

# Learning Communities

## First-to-Second Year Retention Rate for 2007 Learning Communities (LC) Participants vs. Non-Participants

Group	Learning Communities Students	Students Not in a Learning Community	Percentage Point Difference for LC Students
Women	92.42%	85.38%	+ 7.04
Minorities	91.67%	80.04%	+ 11.63
All Students (Regardless of Classification)	91.48%	84.46%	+ 7.02

- Definition
  - 100 and 200 Level
  - 50 or more students per course
- Research
- Stoplights (ITAP) Initiative
- Course Curriculum Efforts

# Gateway Courses

- Tracking D,F,W Rates in Gateway Courses
  - Introductory Calculus Course – 34.4%
  - Introductory Biology Course – 37.9%
- Correlation with Voluntary Withdrawal
  - Introductory Calculus Course
    - Retained
    - Voluntary Withdrawal
    - Academic Dismissal

## The Stoplights Program



- Mines data from existing academic systems
  - Releases stoplight rating on student's homepage
  - Sends email with advice from the instructor
  - Based on a predictive algorithm
- Pilot program outcomes:
  - Higher levels of B/C grades
  - Lower levels of D/F grades
  - Earlier drops
  - Increased help-seeking behavior in students



# The New York Times

STUDENTS

Colleges Mine Data to Help Students Who Are at Risk of Failing

**THE CHRONICLE**  
of Higher Education

and they know how to ask for help. Those who ... expected

the data through weekly email and even a short banner about the data.

Students who were "at-risk" received an A, B, or C in the class, and students who were "at-risk" received a D or F.

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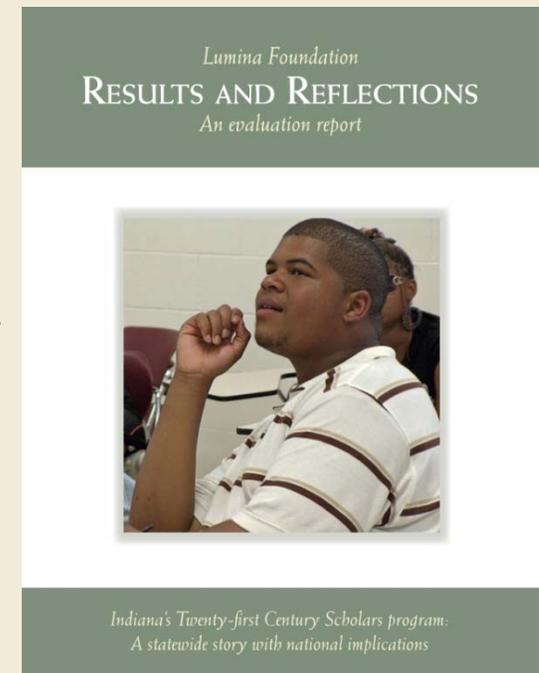
# Gateway Courses

## College of Science Initiatives

- Examine key courses at Purdue, which most majors require in the college (calculus, chemistry, biology, physics)
- More than 25% of these courses had significant DFW rates
- For example, in an introductory chemistry course, faculty members worked to redesign this course: integrating topics, creating thematic units, increasing engagement
- DFW rate dropped from 43% in fall 2005 to 28% in fall 2006.

# Twenty-First Century Scholars and Purdue Promise

- Despite the state aid, Twenty-first Century Scholars have a graduation rate that is consistently lower than that of the broader Purdue student body.
- “Lead Them to Water; Pay Them to Drink”
- Statewide Research – Indiana College Access and Success Network
- The Outcome: Purdue Promise
- Why Twenty-first Century Scholars?



## Twenty-First Century Scholars and Purdue Promise

- Intentional combination of financial & academic/social support
- Financial aid wraps around federal, state, institutional grants and work study
- Meets full financial need for 4 years
- Required rigorous academic and social support program
- Approximately 225 students in fall 2009
- Approximately 900 students by fall 2012

Purdue  
Promise

# **NEXT STEPS FOR PURDUE**

## **NEW AND NEWLY LAUNCHED EFFORTS FOR ENHANCING STUDENT SUCCESS**

# Coordination Efforts

- *New Synergies*
  - Campus-wide Commitment to Student Success
- Focus on Student Life Cycle
  - Early outreach/preparation
  - Recruitment
  - Orientation
  - First-year and subsequent undergraduate experiences

- Campaign announced on April 4, 2008
- Phase I and Phase II
- Two-thirds of the money goes toward scholarships and ongoing programs
- Seven general initiatives, in addition to many college and school initiatives

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**News**

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VIDEO

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April 9, 2008



\* [Purdue president France Córdova announces \\$304 million campaign to improve student access and success](#) (3 minutes, 30 seconds)

## Purdue launches \$304 million drive for scholarships, programs

WEST LAFAYETTE, Ind. - Starting this fall, new students enrolling at Purdue University will benefit from a \$304 million campaign called Access and Success that will expand student aid and programs, President France A. Córdova announced Wednesday (April 9).



The fund drive and internal reallocations will expand the university's student aid contribution to at least \$77 million annually. Much of the money raised will be placed in endowments, and endowment earnings will be used to fund the efforts.

The university has raised more than \$42 million toward the goal since July 1, 2007. Four of the new scholarship gifts also were announced, including a gift from Purdue biological sciences professor Cynthia Stauffacher, who leads the Markey Center for Structural Biology and the Purdue Cancer Center's Chemical and Structural Biology Program.

Córdova made the announcement during a news conference as a prelude to her inauguration on Friday (April 11). Student access and success is one of the major goals in the university's strategic plan, which will be introduced at the April 11 board of trustees meeting and presented for approval in June.

"We must ensure that good

AUDIO

\* [President France Córdova, Pamela Hornes and Purdue students Nicole Arockiam and Sam Killerman talk about the Access and Success fundraising campaign.](#) (16 minutes 57 seconds)

**France A. Córdova**  
[Download photo](#)

# **IMPLICATIONS FOR INDIANA**

## **CONNECTIONS WITH THE INDIANA COMMISSION FOR HIGHER EDUCATION STRATEGIC PLAN**



REACHING HIGHER

*Strategic Initiatives for Higher Education in Indiana*

- Strategic Initiatives for Higher Education in Indiana
  - Purdue's Contributions to the Key Focus Areas



REACHING HIGHER

*Strategic Initiatives for Higher Education in Indiana*

- **Preparing K–12 teachers, school leaders and students for college success**
  - Work with faculty to require 4 years of math in high school
  - Stress Academic Honors
  - Woodrow Wilson Fellowships



## REACHING HIGHER

*Strategic Initiatives for Higher Education in Indiana*

- **Making college affordable**
  - Access and Success Campaign
  - Financial Aid Estimator
  - Financial Literacy Education
  - Early Outreach/College Goal Sunday



## REACHING HIGHER

*Strategic Initiatives for Higher Education in Indiana*

- **Embracing accountability for results**
  - Efforts are assessed & evaluated
  - Outcomes are applied & shared

# Summary

- Moving from Access to Success
  - What we require matters
  - What we say matters
  - What we do matters
- Must apply lessons of the past, to the present, to shape our future

# Questions and Answers

# Contact Information

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