

# Landmark College: Serving Students with Learning Disabilities and Attention Deficit Disorders

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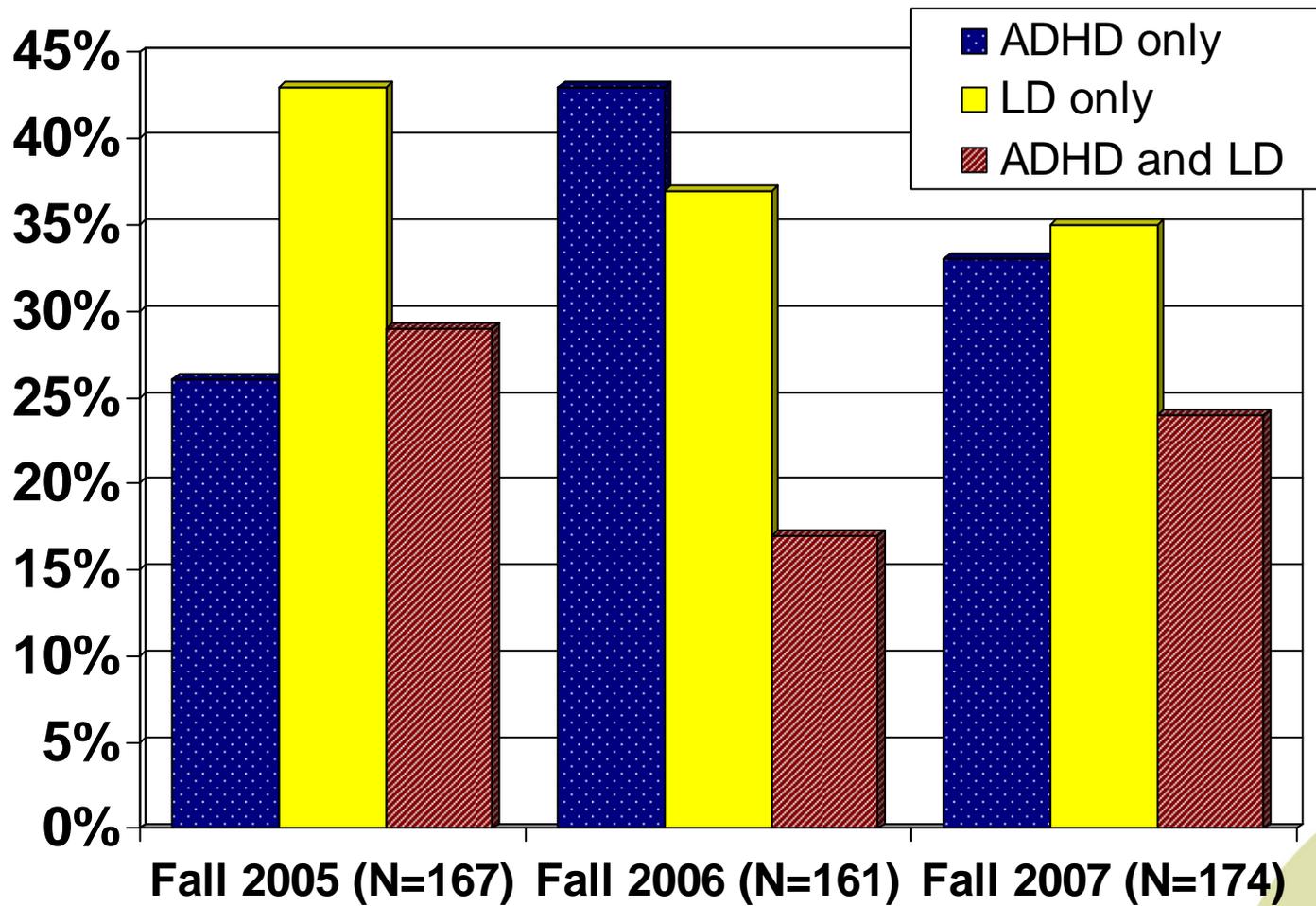
# Landmark College

- Putney, Vermont
- Liberal arts institution
- Serve only students with learning disabilities/attention deficit disorders (“LD”)
- Associate of Arts degrees
  - General Studies
  - Liberal Arts
  - Business Studies
  - Business Administration

# Program Characteristics

- Faculty members understand LD
- Comprehensive approach to education
  - Universal design and strategic learning
  - Technology-enabled
  - Classroom instruction, one-on-one advising
  - Systems extend beyond classroom
  - Promote self-understanding, self-advocacy, and lifelong learning skills

# Diagnostic Profiles

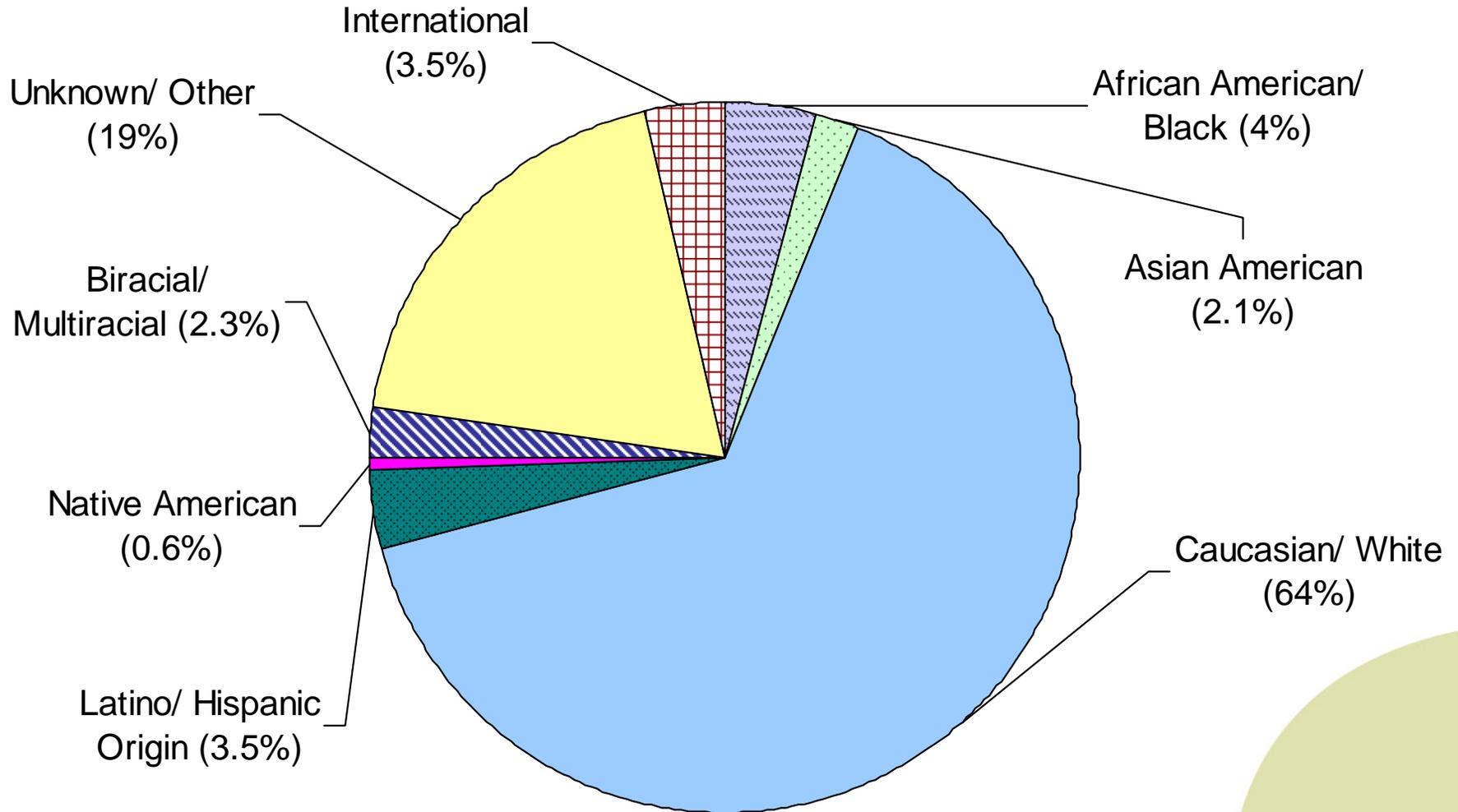


# Student Population

- About equal distributions of ADHD-only, LD-only, and combined ADHD/LD
- Mostly male (typically 70%-75%)
  - 30% female in 2007
- About half (58%) arrive from high-school, while the remainder transfer from colleges

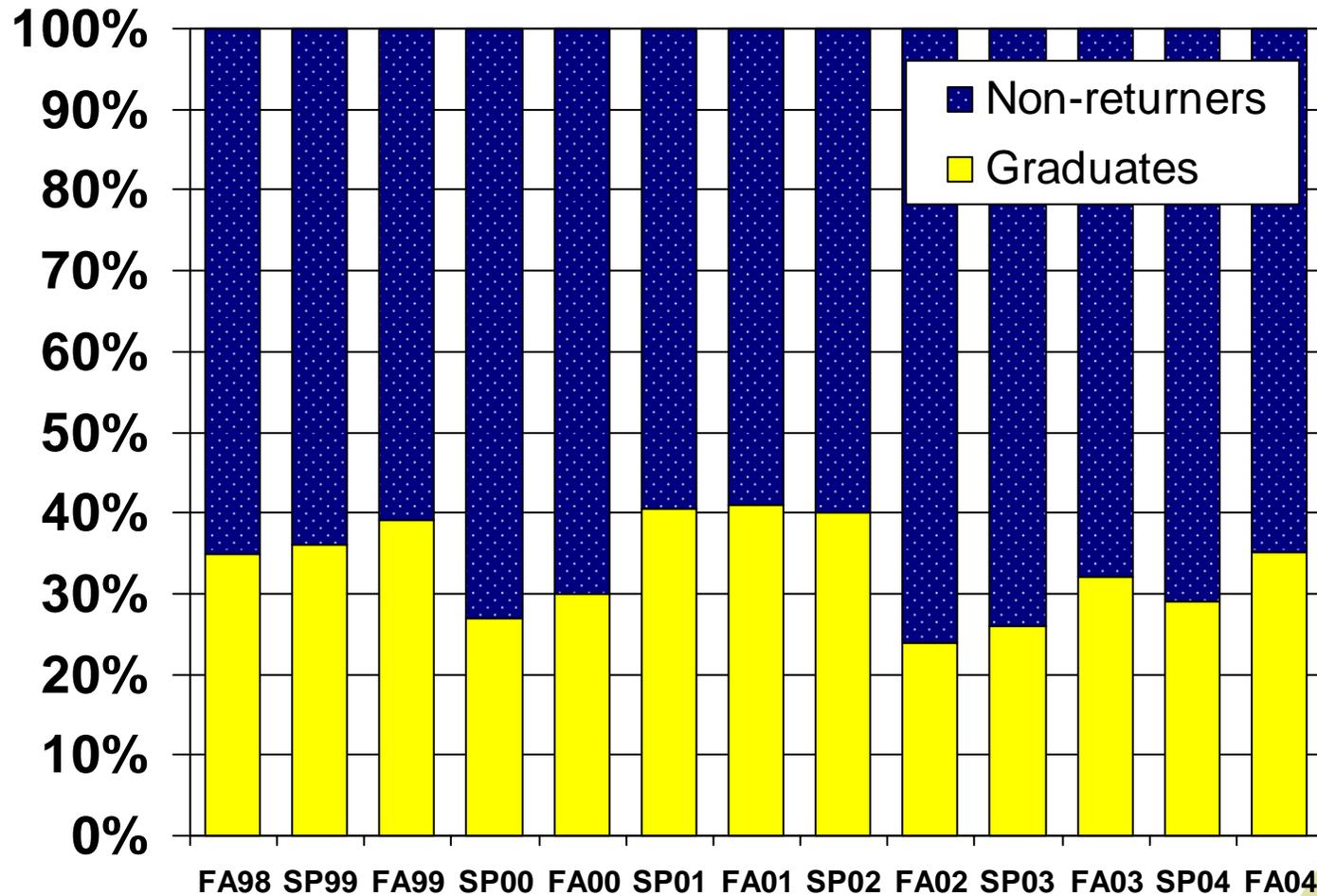
# Ethnicity of 2007 Student Body

(N=479)



# Overall Graduation Rates

(N=1,232)



# Success After Landmark

- National Student Clearinghouse
  - StudentTracker
  - DegreeVerify
- Data are incomplete
  - Not all colleges participate (52% of colleges to which Landmark students transfer)
  - Colleges may not submit complete information
  - Students can block information

# Success After Landmark

(1997-2004)

- Graduate data
  - 464 students total
  - 76% transferred to 195 colleges and universities
    - 91% of our graduates transferred to 4-year institutions
    - 9% of our graduates transferred to 2-year institutions
- Non-returner data
  - 1,363 students total
  - 66% transferred to 523 colleges and universities
    - 58% transferred to 4-year institutions
    - 42% transferred to 2-year institutions

# Initiatives to Support Students with LD in STEM

- NSF RDE project: *Universal Design in College Algebra: Customizing Learning Resources for Two Year Students with LD*
  - 18-month project to evaluate, redesign, and assess effectiveness of algebra resources in two-year colleges
- NSF BPC subaward: *STARS Alliance*
  - Lead by University of North Carolina, Charlotte
  - 3-year initiative to implement, disseminate, and institutionalize effective practices for recruiting, bridging, and graduating students from underrepresented groups in computing

# Initiatives to Support Students with LD in STEM

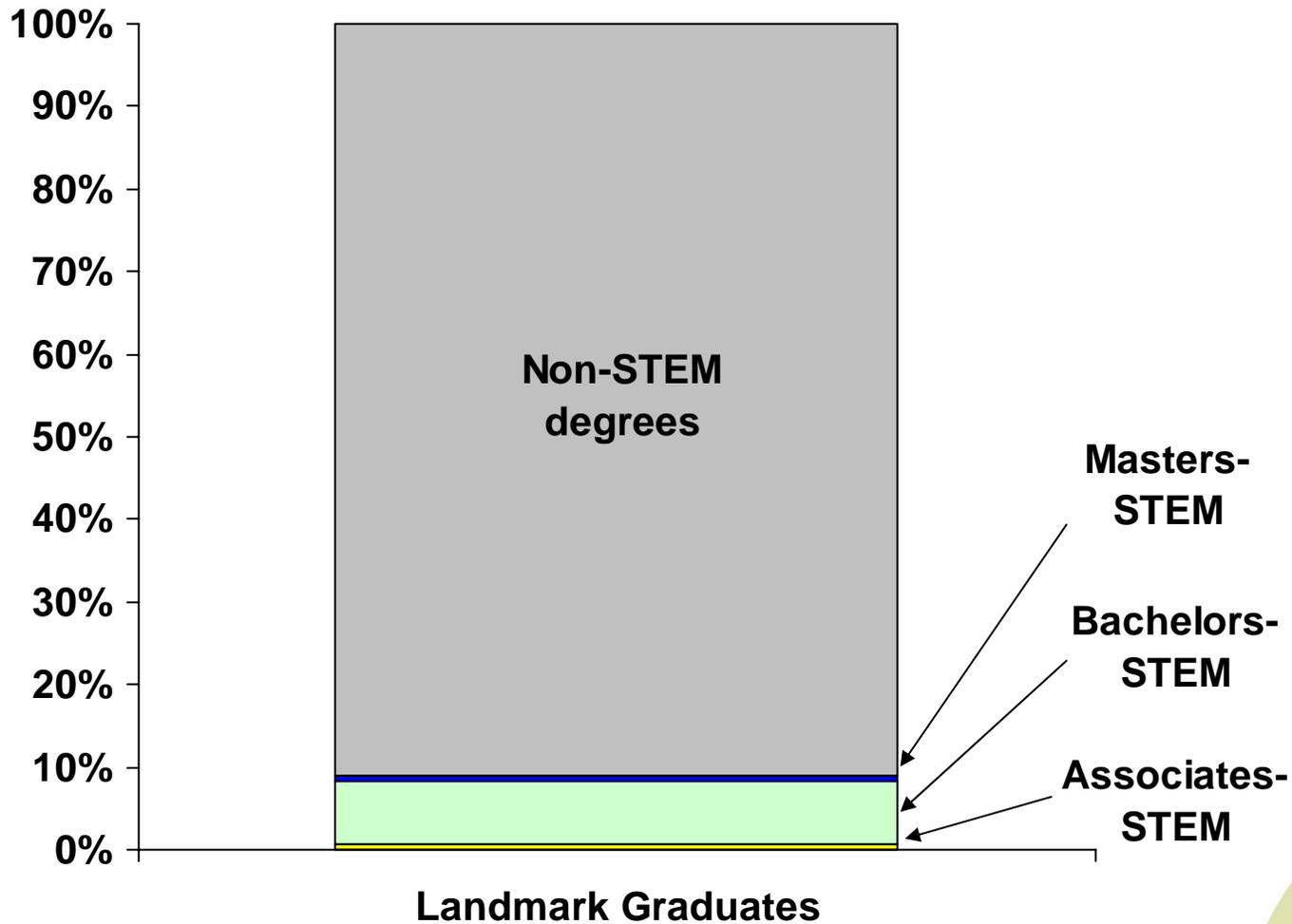
- Eastern Alliance in STEM (EAST) seed grants
  - NSF HRD-funded alliance
  - Develop lab to evaluate accessibility and usability issues faced by students with LD
- Department of Education project: *A Needs-Based Best Practices Professional Development Program for Teaching Students with LD in the Community College Setting*
  - Demonstration Project to Ensure Students With Disabilities Receive a Quality Higher Education
  - 3-year project to develop and deliver online professional development to community college personnel to support students with LD

# STEM Participation at Landmark

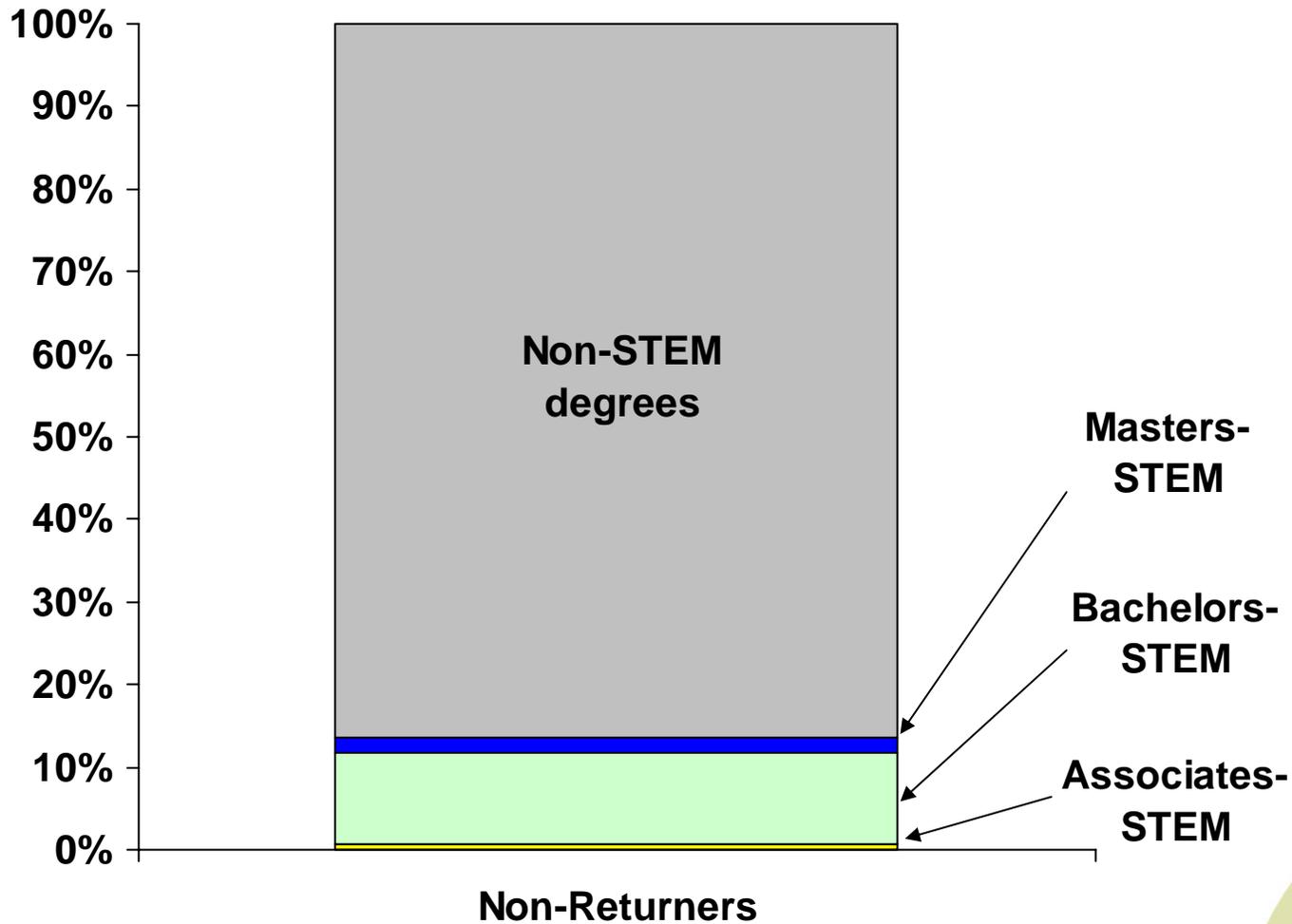
- Students must complete first-year mathematics and science courses
- Math course enrollment (average per semester)
  - 13% developmental
  - 22% first-year
  - 2% second-year
- Science course enrollment (average per semester)
  - 1% developmental
  - 13% first-year
  - 3% second-year

# STEM Degrees for Graduates

(N=145)



# STEM Degrees for Non-Returners (N=464)



# Students with Disabilities in STEM

- “Students with disabilities are less likely than their peers without disabilities to complete a full secondary school academic curriculum, especially in math and science curriculum areas.”
  - National Council of Disability’s 2003 position paper *People with Disabilities and Postsecondary Education*  
[Retrieved September 15, 2007, from:  
<http://www.ncd.gov/newsroom/publications/2003/education.htm>]
- Students with LD represent largest group of students with disabilities
  - 41% report LD (compared to 21.8% Other, 19.3% Health-related, 13.3% Visual, 11.6% Hearing)
    - American Association for the Advancement of Science’s 2002 publication, *New career paths for students with disabilities: Opportunities in science, technology, engineering, and mathematics*

# Students with LD in STEM

- Additional information about college students with LD
  - 46%-61% of postsecondary students with disabilities have LD
    - Wolanin, T.R., & Steele, P.E. (2004). *Higher education opportunities for students with disabilities: A primer for policymakers*. Washington, DC: The Institute for Higher Education Policy
  - With 40% of freshman citing LD, “learning disability was the fastest growing category of reported disability among students” (p.5)
    - Henderson, C. (2001). *College freshmen with disabilities: A biennial statistical profile*. Washington, D.C.: American Council on Education
  - Freshman with disabilities are more likely to enroll in 2-year colleges
    - Henderson, C. (1999). *Update on college freshmen with disabilities*. Washington, D.C.: American Council on Education

# Recommendations to Promote STEM Success

1. Invest in programs focused on students with LD in STEM
  - Stimulate research on STEM education for students with LD
  - Identify and validate effective practices
  - Demonstrate approaches to engage and retain students with LD
  - Validate effectiveness of universally designed resources and approaches

# Recommendations to Promote STEM Success

2. Identify and validate barriers and effects
  - Systematically identify barriers
  - Address and remove barriers
  - Validate effectiveness of common accommodations
  - Address issues of co-occurring conditions (mood disorders, anxiety disorders, chronic health conditions)

# Recommendations to Promote STEM Success

3. Encourage partnerships along education-to-career continuum
  - Track outcomes for students with LD
  - Identify events and resources that promote STEM pursuit
  - Develop comprehensive, longitudinal, multidimensional dataset
  - Bridge gaps between STEM personnel and LD specialists
  - Role of 2-year colleges

# Recommendations to Promote STEM Success

4. Address challenges for students who are undiagnosed, unaware, reluctant
  - Promote access to assessment resources
  - Improve awareness of LD in students, faculty, and STEM community
  - Remove stigma associated with LD

# Recommendations to Promote STEM Success

## 5. Disseminate STEM success stories

- Promote successful STEM professionals with LD
- Identify pathways to STEM success
- Publicize STEM resources and options for students with LD