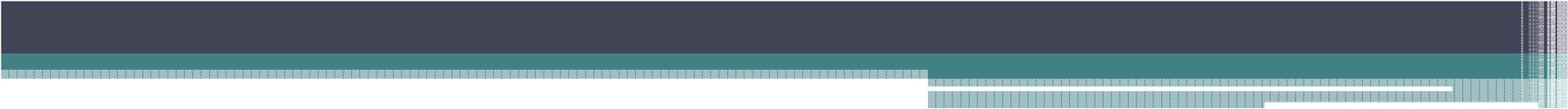


Pathways through Graduate School and into Careers

**Annual Graduate Faculty Meeting
October 11, 2012**

**Patricia R. Komuniecki, Ph.D.
Vice Provost for Graduate Affairs and
Dean, College of Graduate Studies**



Overview

- **COGS Annual Report**
- **Directions 2011 – Progress Report Goal 2**
- **Council of Graduate Schools (CGS) – ETS
Spring 2012 Commission Report**
- **Career Pathways at UT**

COGS Snapshot AY 2011-12

	Fall 2012	Fall 2011
Graduate Students	4,624	4,766
Graduate Faculty	828	768

- 10 colleges with graduate programs
- 166 graduate degree programs:
 - 40 Doctoral (including 2 new)
 - 126 Master's
 - 28 Graduate Certificates (including 3 new)

Quick COGS Facts

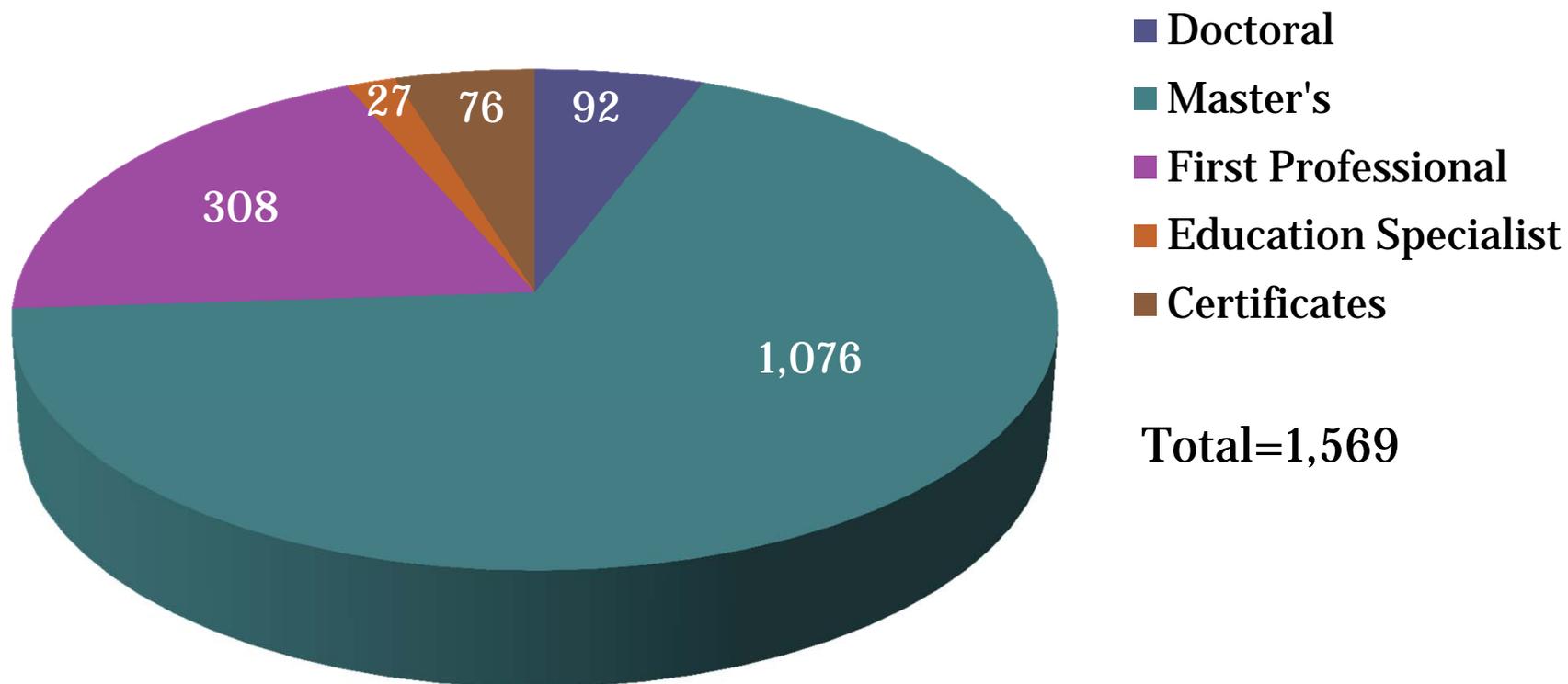
Graduate Students:

- Degrees Awarded AY 2011-12: 1,569
- Fall 2012 Applications: 3,725 (1,294 Admits)
- Fall 2012 GAPA's/ePAF's: ~885
- AY 2012-13 Professional Development Programs: 31 (16 in AY 2011-12)
- Travel Funding from COGS: \$17,000
- FY13-New GSA Budget: \$154,000
- Spring 2012: 3rd Annual Midwest Graduate Research Symposium-highly successful with ~200 presenters/10 universities
- National Surveys Submitted: NSF , CGS, ACT

Graduate Faculty:

- Applications AY 2011-12: 211
- Graduate Curriculum Actions AY 2011-12: 134

Graduate Degrees Awarded 2011-12



Graduate Admissions Funnel

Fall 2012

	Fall 2012	Capture
Applications*	3,725	
Admits	1,294	34.8% (overall selectivity)
New Students#	1,048	80.9% (of admitted)

*140 more applications than for fall 2011 (4% increase)

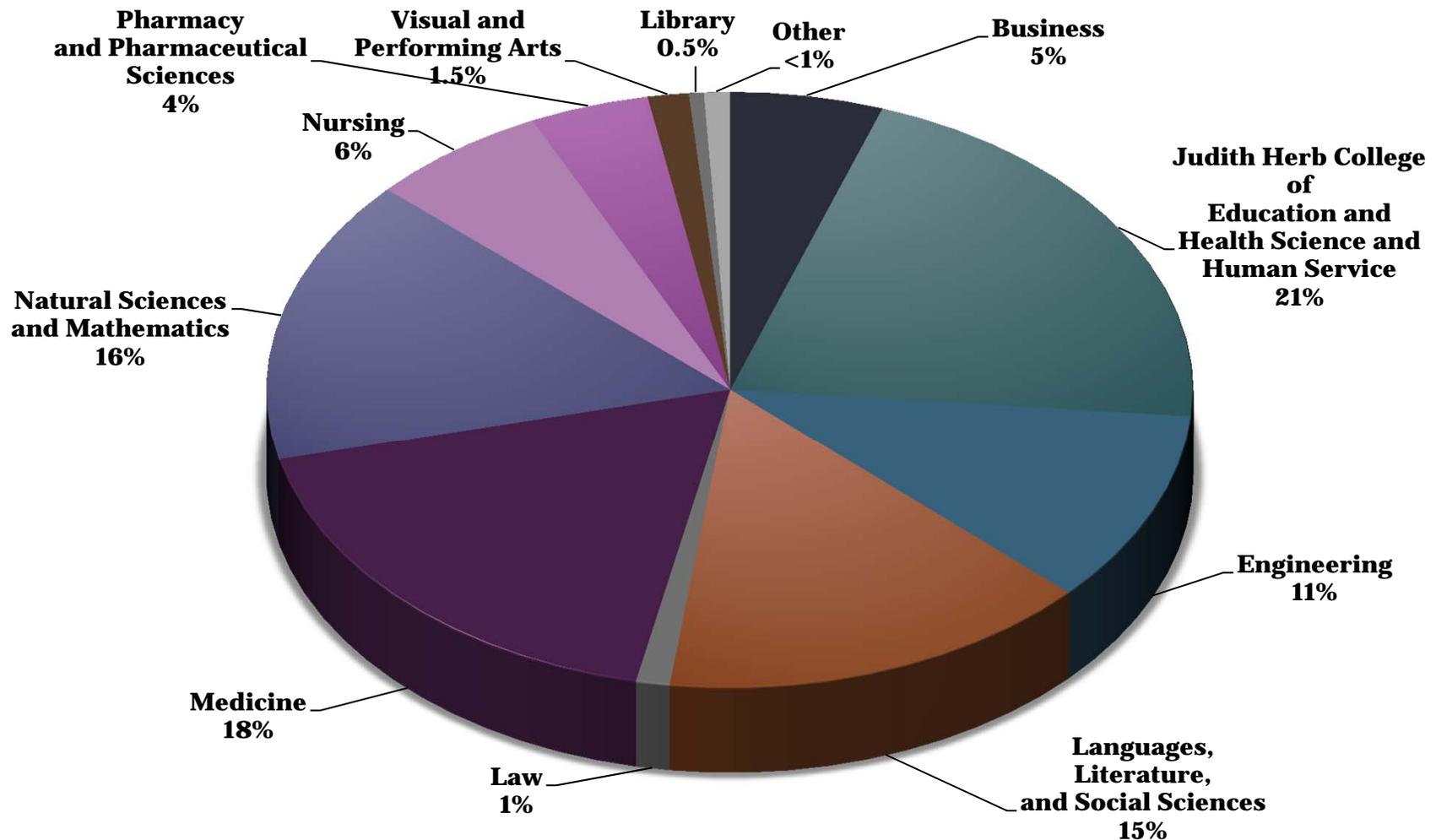
#includes 193 international students- 68% increase over fall 2011 (115)

Graduate and Professional Students- Fall Enrollments

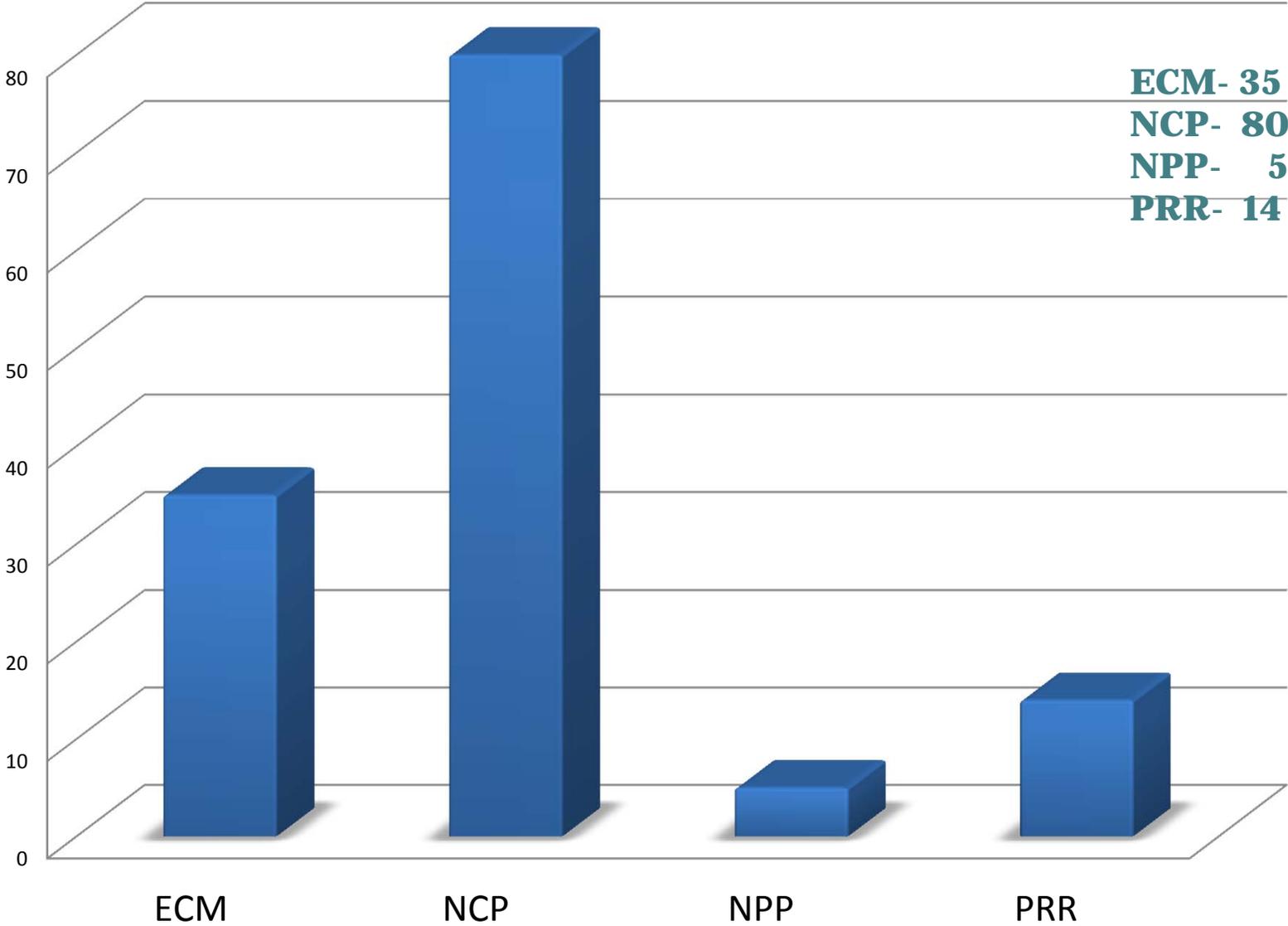
	2007	2008	2009	2010	2011	2012
Headcount	4,594	4,754	4,922	4,955	4,766	4,624
FTE	3,076	3,637	3,446	3,866	3,291	3,299

Fall 2012 vs Fall 2011: Although the headcount is down 142 students the FTE is essentially flat

Graduate Faculty Membership AY 2011-12 (n=828)



Graduate Council Curricular Activities AY 2011-12

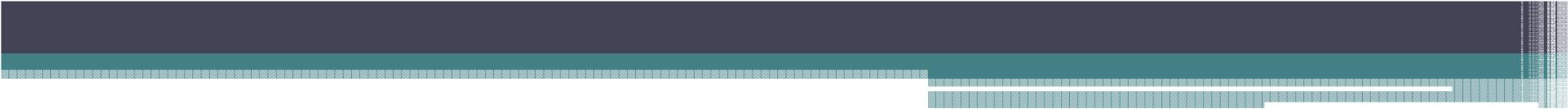


Goal 2 Progress Report



Directions 2011 Goal 2: Graduate and Professional Academic Programs

- Our graduate and professional academic programs will be regionally relevant, nationally distinguished and highly ranked.
- These programs at UT will be known for high **quality** while maintaining **accessibility**, **affordability** and **engagement**. STEMM (Science, Technology, Engineering, Mathematics, Medicine) and professional programs will have high visibility.



Goal 2: Sub-goals

- 2.1 We will enhance the **quality** and stature of all of our programs.
- 2.2 We will work to assure **affordability** of our graduate and professional programs.
- 2.3 We will work to ensure **accessibility** to a diverse student population.
- 2.4 We will establish a recognized role in **economic leadership** and stimulation of the regional economy.

Sub-goal 2.1 Quality

2.1a Enhance the quality and recognition of graduate and professional academic programs

Status:

- **New Professional Science Master's (PSM's)**
- **First Cohort of Woodrow Wilson Fellows**
- **New Fulbright Scholars**
- **Recent Awards**

Professional Science Master's (PSM's)

- National recognition for the UT **Photovoltaics (PV)** and **Biomarkers & Diagnostics** programs
- 1st PSM's at a public university in Ohio
- 1st PV cohort graduated after completing outstanding internships (August 2012); 2nd & 3rd cohorts recruited
- 1st Biomarker cohort recruited (August 2012)
- 4 new PSM's in development (green chemistry, biotechnology, environmental sustainability, industrial math)



1st PV-PSM Cohort Internships



Dr. Carmen Cioc-
SunShot Fellowship
at the US Department
of Energy's Office of
Energy Efficiency and
Renewable Energy
(EERE)
Washington, D.C.



Ryan Zeller (R)-Shadeplex LLC
Toledo OH



Ryan Jacobs-Ferro Corp
Independence OH

Meghan Mapes-Willard & Kelsey Solar Group
Perrysburg OH

Woodrow Wilson Fellows-First Cohort



THE WOODROW WILSON
National Fellowship Foundation



Choose Ohio First

“ Identifying and developing leaders and institutions
for the nation’s most critical education challenges... ”

- UT was selected as a site for the education of Woodrow Wilson Teaching Fellows who will become math and science teachers for high-need schools in Ohio.
- 1st cohort of 12 Fellows-recruited last year and began intensive program last summer
- Fellows will be ready for the classroom in fall 2013

Fulbright Scholars



- Fulbright Scholars AY 2011-12 : Doctoral students from Indonesia (COBI) & Kenya (COE); Master's students from Indonesia (COPPS), Czech Republic & Iraq (CLLSS)
- New Fulbrighters for AY 12-13 from Russia (MS in Geography/CLLSS) and Indonesia (MS in Pharmacology & Toxicology/COPPS)

The **Physician Assistant Program** received the 2011 Excellence Through **Diversity Award** from the National Physician Assistant Education Association.



Ashraf Moheildin- awarded an F31 pre-doctoral fellowship from the NDDKD at **NIH** for \$120,000 for three years to support his doctoral research in medicinal chemistry

Shu Xu- a Chemistry doctoral student received the 2011 Santosh Nigam Memorial **Outstanding Young Scientist Award at the 12th International Bioactive Lipids in Cancer, Inflammation and Related Diseases Conference**. The award, given by the Eicosanoid Research Foundation, included an engraved plaque and \$1,000 prize.

Recent Awards



Rachael Jetson- recognized as a 2012 Doctoral **Fellow** in pharmaceutical sciences by The American Foundation for Pharmaceutical Education

Nate Manning –Environmental Sciences PhD student was awarded \$15,000 grant for his yellow perch research by The Ohio Lake Erie Commission



Sub-goal 2.1 Quality

2.1j Establish undergraduate-to-graduate pipeline for existing and new graduate/professional programs.

Status:

- **Fall 2012 -New BSN to DNP pathway -College of Nursing**
- **Fall 2012 -New B.S. in Biology/M.S. in Bioinformatics - Interdisciplinary between the Colleges of Medicine & Life Sciences and Natural Sciences & Mathematics**
- **Fall 2013- New B.S./M.S. in Medicinal Chemistry- College of Pharmacy and Pharmaceutics Sciences**

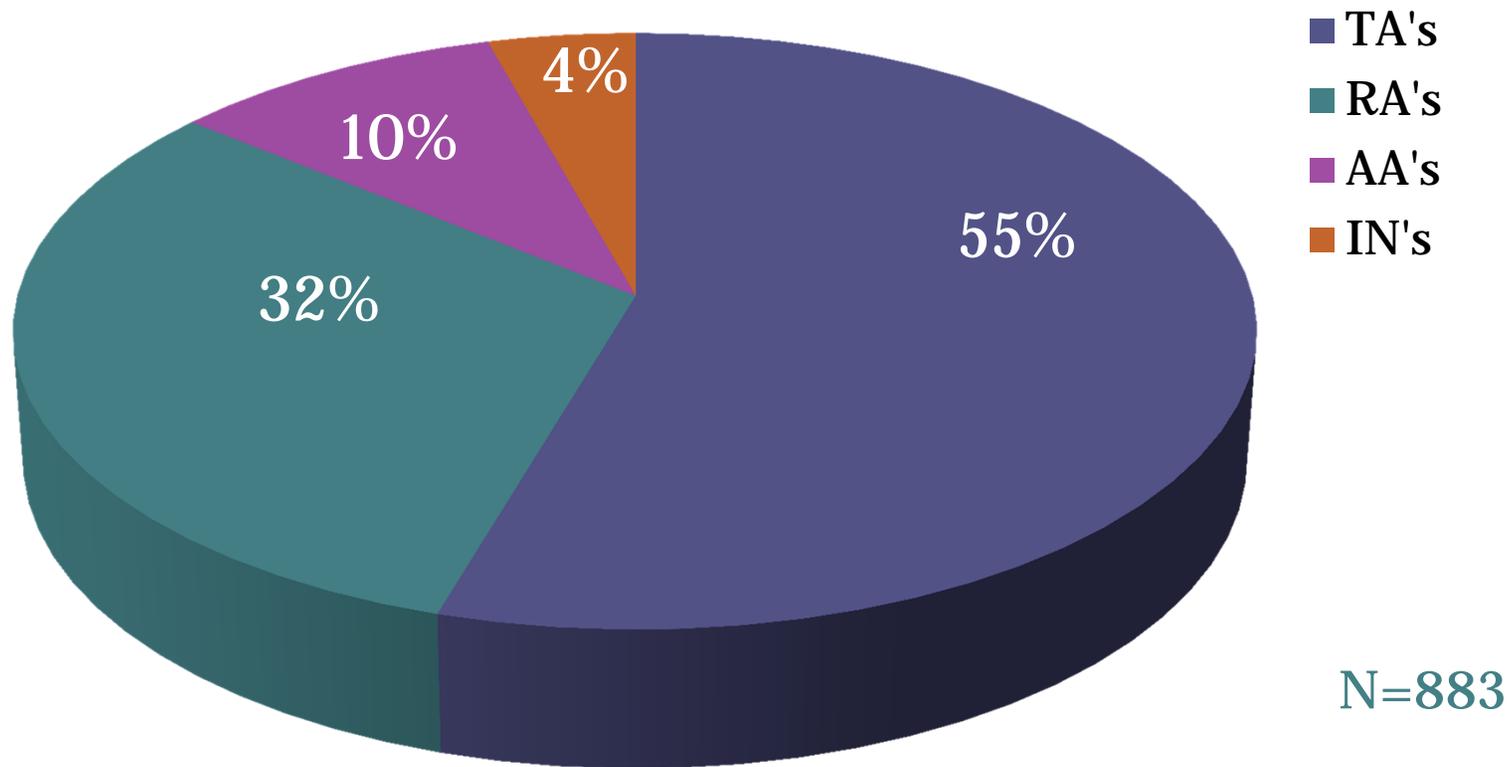
Sub-goal 2.2 Affordability

2.2c Identify employers and collaborators to provide financial support for graduate/professional students

Status:

- Strong grant research funding to support graduate students
- Solid tuition scholarship support
- 30 graduate students supported by almost 20 different employers in NW Ohio (\$403,000 for FY13)

Graduate Assistant Funding 2012-13



FY 13 Budget
Stipends-\$8.8M
Tuition Scholarships -\$25.6M

Grant Support for Graduate Students

- NIH Research Grants (R01, R21, R15...) in the biomedical areas (millions in COMLS and CNSM)
- Several major NSF grants currently funding graduate students in science education:
 - NURTURES (\$10M-Czerniak et al.)
 - GK-12 (\$2.5M-Stepien et al.)
 - LEADERS (\$5M-Czerniak et al.)
- NSF-IGERT award *pending* (\$3M-Stepien et al.)
- NIH-Kirschstein (K31) pre-doctoral fellowships
- Woodrow Wilson Fellowship Program

2012 Higher Learning Commission Report: Comments on Graduate Education at UT

- “Support for graduate students in the form of available tuition scholarships, teaching, research and administrative assistantships, paid internships, and travel awards provide students the opportunity to focus specifically on their academic work and research/experiences.
- Graduate student associations on UT's campuses demonstrate the value that they place on scholarly productivity and the dissemination of their work through their regular sponsorship of graduate research symposia and forums.
- Publication as a part of doctoral degree requirements, especially within many of the science, technology, engineering and mathematics disciplines, accentuates the emphasis that the institution places on the exercise of intellectual inquiry and scholarly productivity as a part of its educational programs.”

Sub-goal 2.3 Accessibility

2.3a Seek opportunities to increase the proportion of graduate students from historically underrepresented groups.

Status:

- **AGEP-Alliances for Graduate Education and the Professoriate.** NSF grant opportunity with CWRU to recruit more URM students/postdocs in STEM
- **McNair Scholars:** Five students-mostly healthcare programs
- **Graduate Opportunity Assistance Program (GOAP)-** 20 students (including 9 new)
- **COGS Diversity Committee-**established and involved in GOAP review process (and AGEP Projects)

Sub-goal 2.4 Recognized role in economic leadership

2.4a Enhance University relationships with regional, national and **global** institutions.

Status:

- Spring 2012- MBA in India at PSG/Coimbatore (6th cohort-91 graduates)
- Fall 2012-**New** MBA in Egypt-partnership with the American Chamber of Commerce in Cairo (18 students)
- Spring 2013- **1st cohort** in the MS in Mechanical Engineering at PSG/Coimbatore will graduate (25 students)
- Fall 2013-proposed expansion of the PSM in Photovoltaics to the UAE (Abu Dhabi/Masdar City)

Transition Through Graduate Education into Careers-why important?

- **By 2020, BLS estimates that the number of jobs requiring advanced degrees will increase by 2.5 million**
 - 18% increase in jobs requiring masters
 - 17% increase in jobs requiring doctorates
- **Understanding career options may be a factor in deciding to go to graduate school**
 - The knowledge-based economy of the 21st century requires advanced knOwledge and skills
 - Graduate education provides that and produces innovators

Pathways Through Graduate School and Into Careers



“Universities play a critical role in helping students find pathways through graduate school and into careers”

April 2012

www.pathwaysreport.org

Career Pathways Influencers

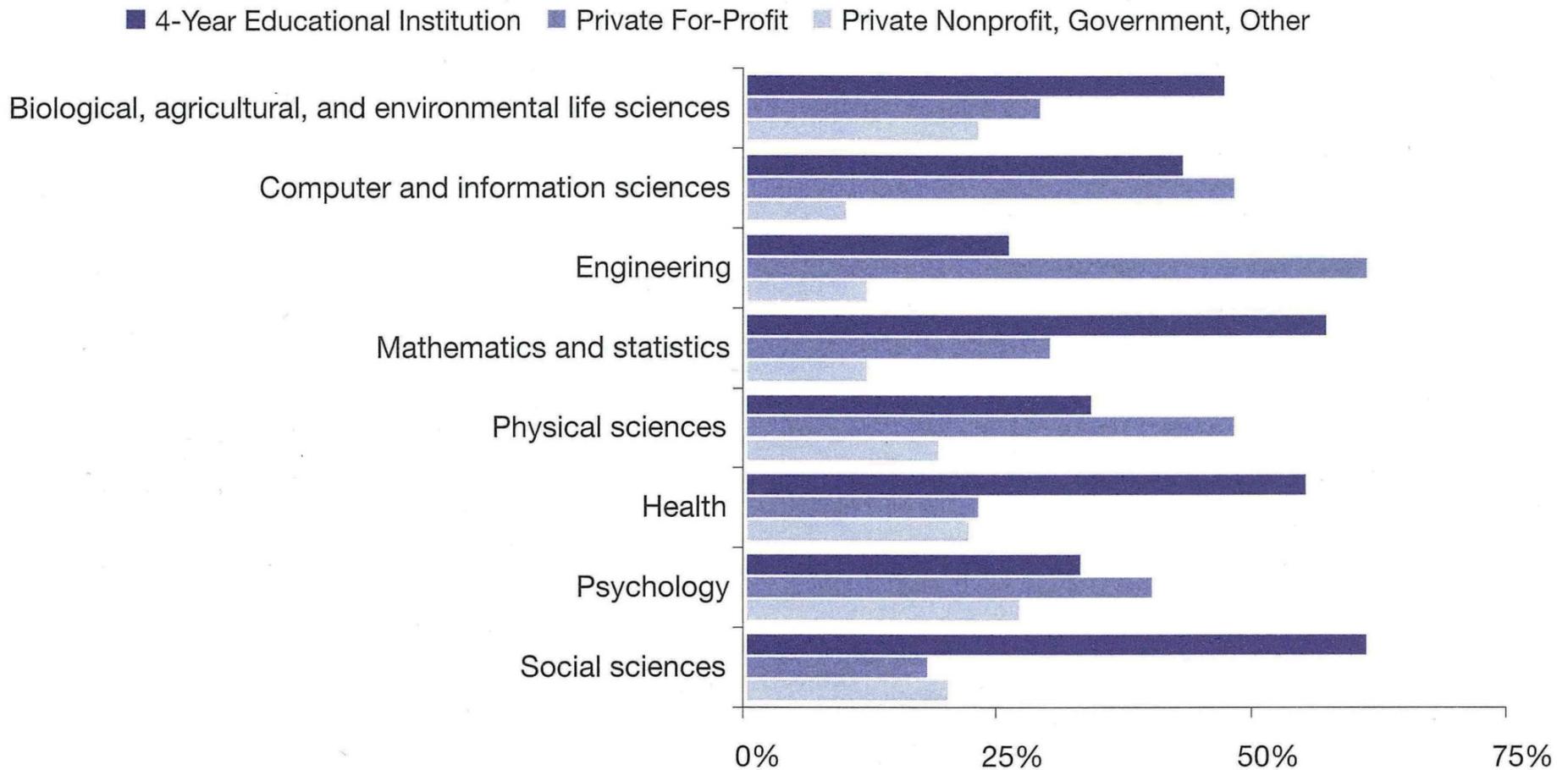


CGS/ETS Commission report- Fig 2.



Where do STEM doctoral students work?

Figure 3: Employed holders of U.S. doctorates in science, engineering, and health fields by employment sector and field of study.



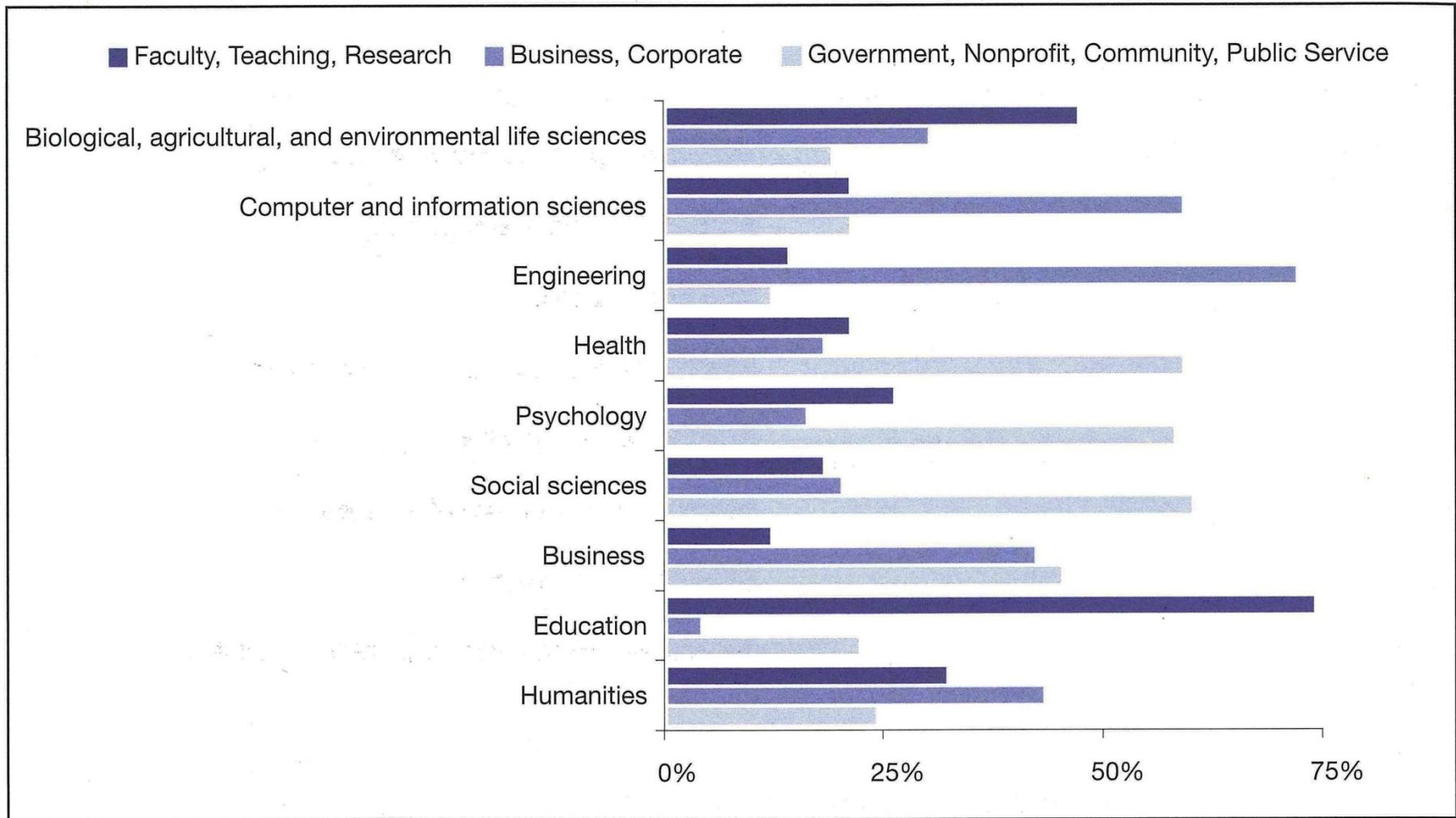
Note: 4-year educational institutions include 4-year colleges, universities, medical schools (including university-affiliated hospitals or medical centers), and university-affiliated research institutes.

Source: National Science Foundation/Division of Science Resources Statistics, Survey of Doctorate Recipients (2008).



Where do Master's students work?

Figure 4: Employed holders of master's degrees by employment sector and field of study.





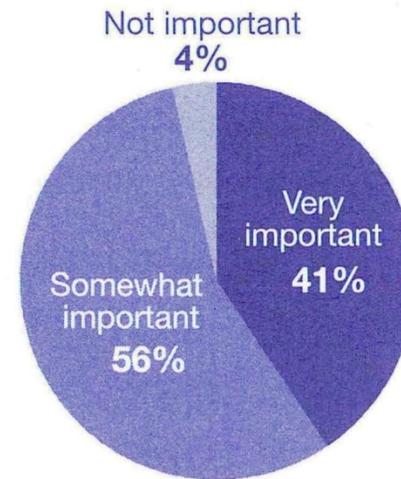
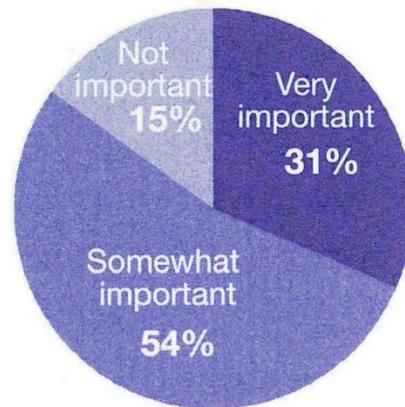
What can graduate advisors do to assist students in professional programs?

Figure 7: Level of importance for faculty advisor to:

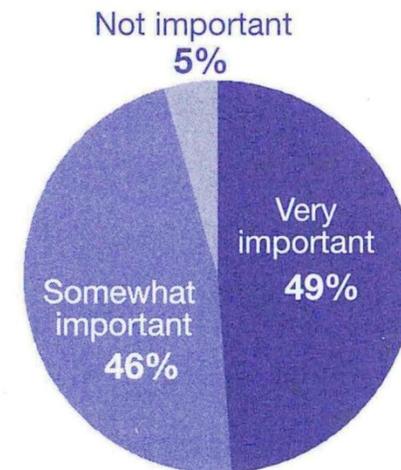
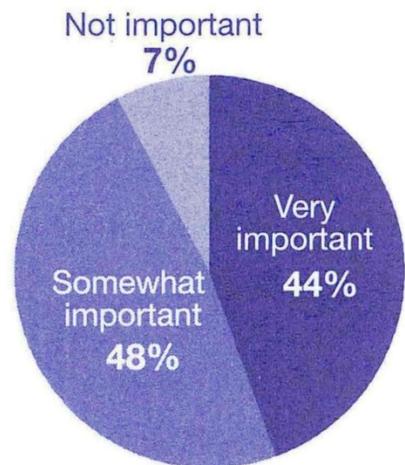
Encourage students to publish or present research

Help students find employment

Professional Master's



Professional Doctorate





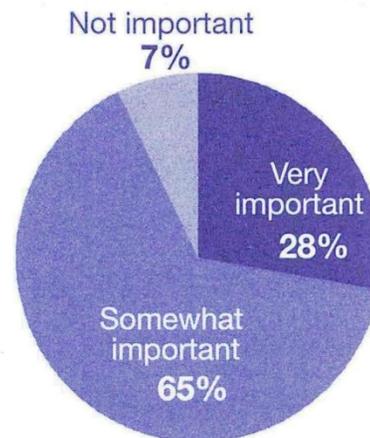
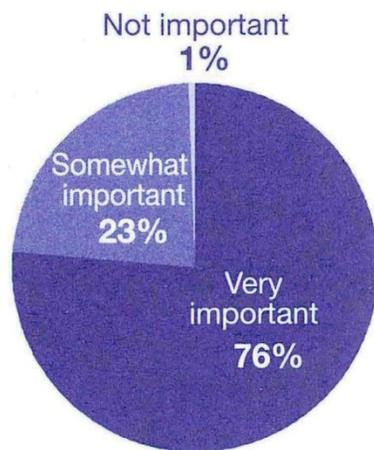
What can graduate advisors do to assist students in research programs?

Figure 8: Level of importance for faculty advisor to:

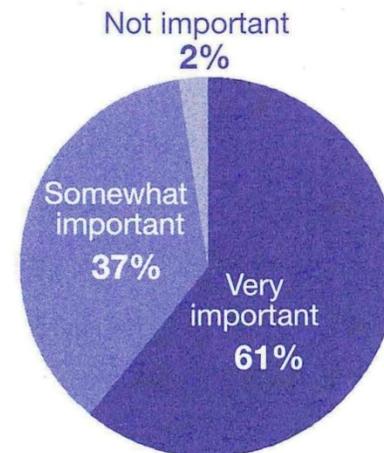
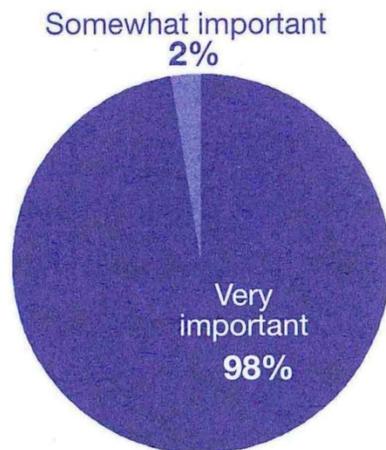
Encourage students to publish or present research

Help students find employment

Research Master's



Research Doctorate



CGS-ETS 2012 Commission- Recommendations for Universities

- **Emphasize** innovative Master's degrees
- **Track** career outcomes/job placements of graduates
- **Connect** graduate students with alums
- **Establish** programs aimed at understanding the connection between graduate education and career paths
- **Include 'professional skills'** desired by employers:
 - written/oral communication
 - critical thinking and problem solving
 - professionalism, work ethic, teamwork

What is COGS Doing?

- **Emphasize innovative Master's degrees-PSM's in emerging areas and pipeline programs**
- **Track career outcomes- new COGS exit survey questions and new data collection**
- **Connect with alums-creating a new Alumni Advisory Board**
- **Establish career programs- new COGS professional development programs on career options**
- **Include professional skills- new COGS programs in writing/presentation skills**

COGS Exit Surveys-Spring and Summer 2012

(750 responses- 95% response rate)

Statement	Response (Strongly agree/ Agree)
Academic program prepared student for professional career goals	90%
Student was satisfied with graduate advisor	80%
Student was satisfied with COGS office: accessibility, responsiveness, efficiency , effectiveness (several questions)	83-88%

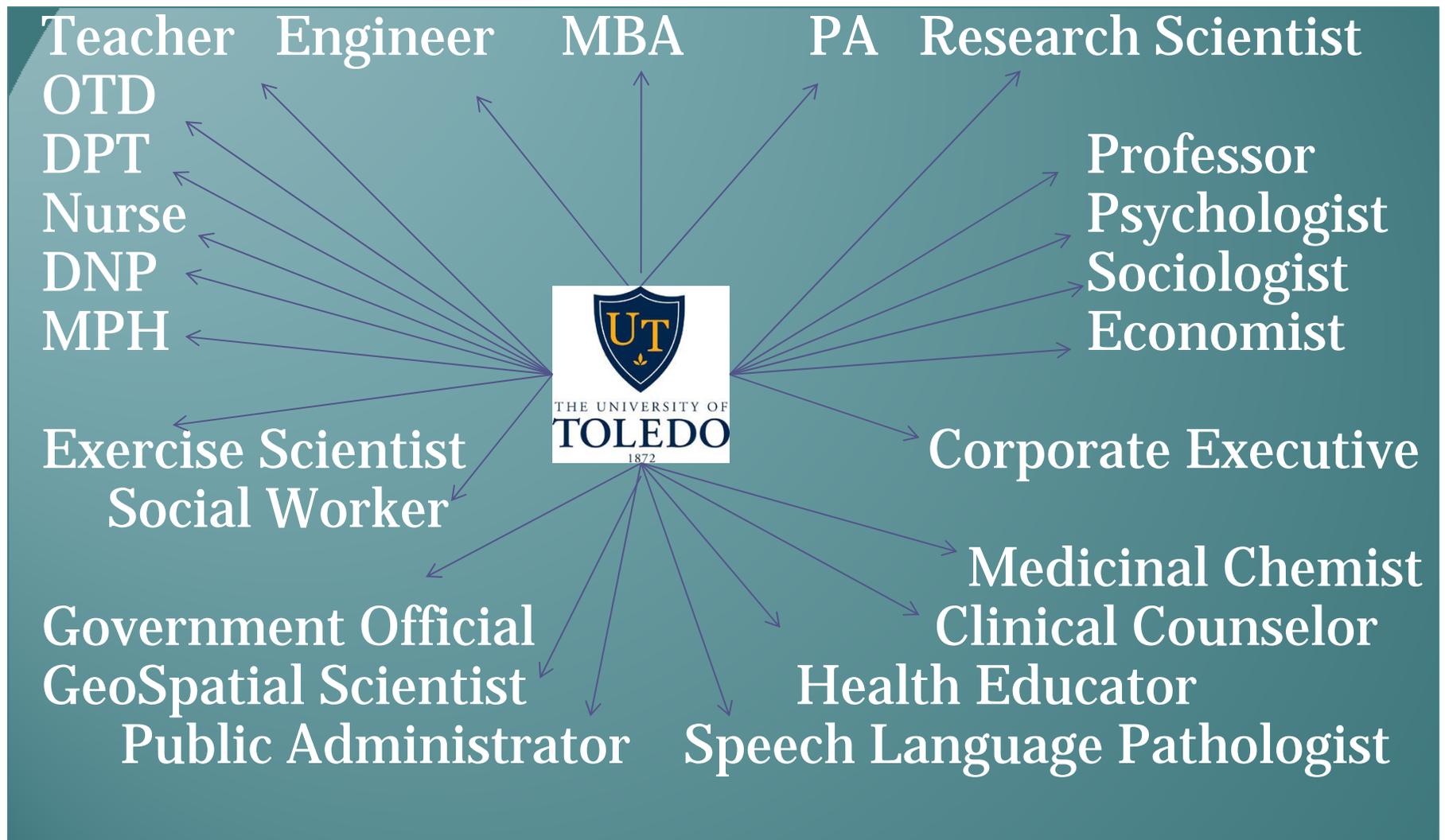
COGS Exit Survey Summer 2012*

(250 responses-97% response rate)

Post-degree employment	%
Accepted new position with new employer	26%
Will seek new employment	25%
Will continue graduate education	21%
Will continue in same position with same employer	20%
Will continue with same employer in a new position	6%
Will remain in Ohio	54%

* New questions added to the COGS exit survey post-CGS/ETS Commission Report

Career Pathways at UT



Summary

- **Graduate degrees are necessary for 21st century careers-** baccalaureate degrees do not distinguish a student anymore
- **UT should focus on recruiting students to undergraduate programs with clear pipelines to graduate programs and future career success**

