



L|A|U|N|C|H
Undergraduate Research

2016-2017 Undergraduate Research Annual Report

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Acronyms and Definitions

Humanities Courses

- | | |
|--------|--------|
| • AFST | • HUMA |
| • ANTH | • INTS |
| • ARAB | • ITAL |
| • ASIA | • JAPN |
| • CHIN | • JOUR |
| • CLAS | • MODL |
| • COMM | • MUSC |
| • ENGL | • PERF |
| • EURO | • PHIL |
| • FILM | • PHUM |
| • FREN | • RELS |
| • GERM | • RUSS |
| • HBRW | • SPAN |
| • HISP | • THAR |
| • HIST | • UGST |
| | • WGST |

College Acronyms

- | | |
|----|----------------------|
| AG | Ag and Life Science |
| AP | Academic Programs |
| AR | Architecture |
| BA | Mays Business School |
| ED | Education |
| EN | Engineering |
| GE | Geosciences |
| LA | Liberal Arts |
| MS | Military Sciences |
| SC | Science |
| VM | Veterinary Medicine |

Research Courses

285: Directed Studies
291: Research
485: Directed Studies
491: Research
497: Independent Honors Studies

Letter from the Associate Director for Undergraduate Research, LAUNCH

It has been an exciting year in LAUNCH: Undergraduate Research, beginning on 1 September 2016, when my predecessor Dr. Duncan MacKenzie turned over the reins to me after his highly successful five-year appointment as Associate Director. I am grateful to have inherited a fantastic program, Program Coordinator, Annabelle, Aymond, student worker, Dillon Jones, Program Aide, Matthew Bizzell, and to have added Program Assistant, Caroline Sonnier.

Given my background in the humanities, I started the year with a focus on expanding our Undergraduate Research Scholars (URS) thesis program to be more inclusive for those working in non-STEM fields. In addition to updating our existing template to be more user-friendly, we also quickly implemented a new humanities-friendly template to reflect the disciplinary norms for research in the arts and humanities. These templates and our revised thesis manual were ready for our scholars to begin using in mid-October. We are anticipating increases in scholarship in the humanities in the coming years as a result.

In this same vein, I had the great fortune to work with a talented group of faculty and staff in the Creative Works Focus Group we convened in the fall. The group met four times throughout the year, reviewed current literature on creative works projects in undergraduate research, and worked diligently to incorporate current best practices in their fields as well as in undergraduate research in order to design a new template for those students working in the creative arts. We also invited this group to suggest changes to the submission process for *Explorations: The Texas A&M Undergraduate Journal* to bring it more in line with vetting practices and outcomes expected in research-driven creative works publishing. LAUNCH: UGR will pilot this new creative works URS template during the 2017-18 year, and have implemented the new submission process for *Explorations* as we strive to make undergraduate research available and accessible to more students at Texas A&M. Research takes many forms in each discipline, and we will continue to work to recognize those scholars producing high-quality, inquiry-driven original scholarship in all fields.

This year we were assisted by a cohort of some of the best and brightest undergraduates in the LAUNCH: UGR Undergraduate Research Ambassadors program. These 29 undergraduate researchers are the faces that represent LAUNCH: UGR at our workshops and presentations, they volunteer at events, and many even organize their own informational sessions to get others excited and curious about doing research. Because of their input, we reorganized our Getting Started in Research workshop to allow interested students to interact more with the Ambassadors. Feedback from attendees let us know that the changes suggested by Ambassadors were highly successful. In April, two of our Ambassadors, Bailey Woods and Omar Wyman, were selected to present their research posters in Austin for the Undergraduate Research Day at the Capitol. They met with state officials and presented their research to the public. Finally, our Ambassadors have been integral in helping us begin work on our video series that will soon be available on our website.

We are also excited to announce other new initiatives that will continue to improve our programs. The LAUNCH: UGR staff has rewritten all content for our programs for the new website in order to both streamline and improve accessibility of information. We have also worked with partners in Student Financial Aid, Student Business Services, the Office of Admissions, the Office of the Provost, and many others to continue to improve, develop, and integrate policies that facilitate summer research at Texas A&M through NSF-REU and other summer undergraduate research experiences (SURE). These new policies will not only allow students to access resources and facilities on campus, but they will also help us attract those students that may be affected by financial constraints. If you are planning a summer undergraduate research experience, please attend our annual February coordination meeting and visit our website for updated university policies. Finally, in addition to new affiliated programs*, we are pleased to be working with our new liaison, Dr. Elizabeth Borda, the Undergraduate Research Associate Director on the Galveston campus. This year we were able to formalize funding procedures, set up a locally-taught section of the UGST 405 course (by Amy Caton), and incorporate the Galveston summer researchers into our College Station poster session in August. We are excited about the new Research Ambassadors program that will launch in 2017-18 in Galveston.

In June, Dr. Sumana Datta, the Executive Director of LAUNCH and Assistant Provost of Undergraduate Studies, and I presented at the Undergraduate Research Program Directors' Conference, organized by the Council on Undergraduate Research. Our presentation, "Expanding Successful STEM Teams and Creating Similar Team-based Partnership-supported Humanities Scholars Programs" was well received, and we had the chance to engage in fruitful discussions about how to improve undergraduate research with colleagues from across the nation.

Finally, we would like to thank our generous donors, Mr. and Mrs. Ralph Cox, for their gift to *Explorations: The Texas A&M Undergraduate Journal*. Their support will allow us to continue to improve the publication and showcase the outstanding research that students are accomplishing at Texas A&M, as well as provide leadership opportunities for students to serve on the Board for this student-led journal. Our next volume will be available in November 2017.

In October of 2017 we expanded our annual Undergraduate Research Expo. Instead of a two-hour resource fair, we hosted an entire day of events dedicated to highlighting opportunities to get involved in undergraduate research by faculty and students, discussed ways we can continue to be creative as we engage more with this high-impact practice, and displayed research being done by undergraduates...there's so much to come!



Dr. Sarah M. Misemer

A handwritten signature in black ink, which appears to read "Sarah M. Misemer". The signature is fluid and cursive.

*Philosophy for Children, TAMU School of Law, Aggie Research Program, McFerrin Center for Entrepreneurship, Summer Creative Initiative (Writing Center and Department of English)

LAUNCH

Undergraduate Research

LAUNCH: Undergraduate Research promotes, coordinates, creates, and assesses undergraduate programs involving creative scholarship, inquiry, and research in all academic disciplines at Texas A&M. As a recognized 'high impact practice,' undergraduate research experiences increase undergraduate student learning and success, not only while students are at Texas A&M University, but long after graduation.



Texas A&M, a Land-, Sea-, Space- Grant University



Sea-grant: Texas Sea Grant's mission is to improve the understanding, wise use, and stewardship of Texas coastal and ocean resources.



Land-grant: Land-grant institutions have traditionally pursued a threefold mission of extending access to higher education, cultivating practical fields like agriculture and engineering, and contributing to economic development.



Space-grant: Contribute to the nation's science enterprise by funding education, research and public engagement projects through a national network of university-based space-grant consortia.

Texas A&M is an institutional member of Council on Undergraduate Research



The Council on Undergraduate Research (CUR) and its affiliated colleges, universities, and individuals share a focus on providing undergraduate research opportunities for faculty and students at all institutions serving undergraduate students.

CUR believes that faculty members enhance their teaching and contribution to society by remaining active in research and by involving undergraduates in research, and students succeed in their studies and professional advancement through participation in undergraduate research.

Council on Undergraduate Research 5 Strategic Pillars

1

Integrating and Building Undergraduate Research into Curriculum and Coursework – focuses on building curriculum that is both research-based and supports undergraduate research as an outcome of curriculum.

2

Assessment of the Impact of Undergraduate Research – examines the outcomes of undergraduate research on students, faculty, curriculum and institutions.

3

Diversity and Inclusion in Undergraduate Research – offers undergraduate research to a wider audience of undergraduates, faculty, and institutions to increase the diversity of participants, particularly from underrepresented groups and institutions.

4

Innovation and Collaboration in Undergraduate Research – expands undergraduate research opportunities beyond academic institutions to research collaborations with businesses and nonprofit organizations as well as between higher education institutions.

5

Internationalization and Undergraduate Research – expands the opportunities for research exchanges, research collaboration, and field research in international settings.

Council on Undergraduate Research



What is Undergraduate Research?

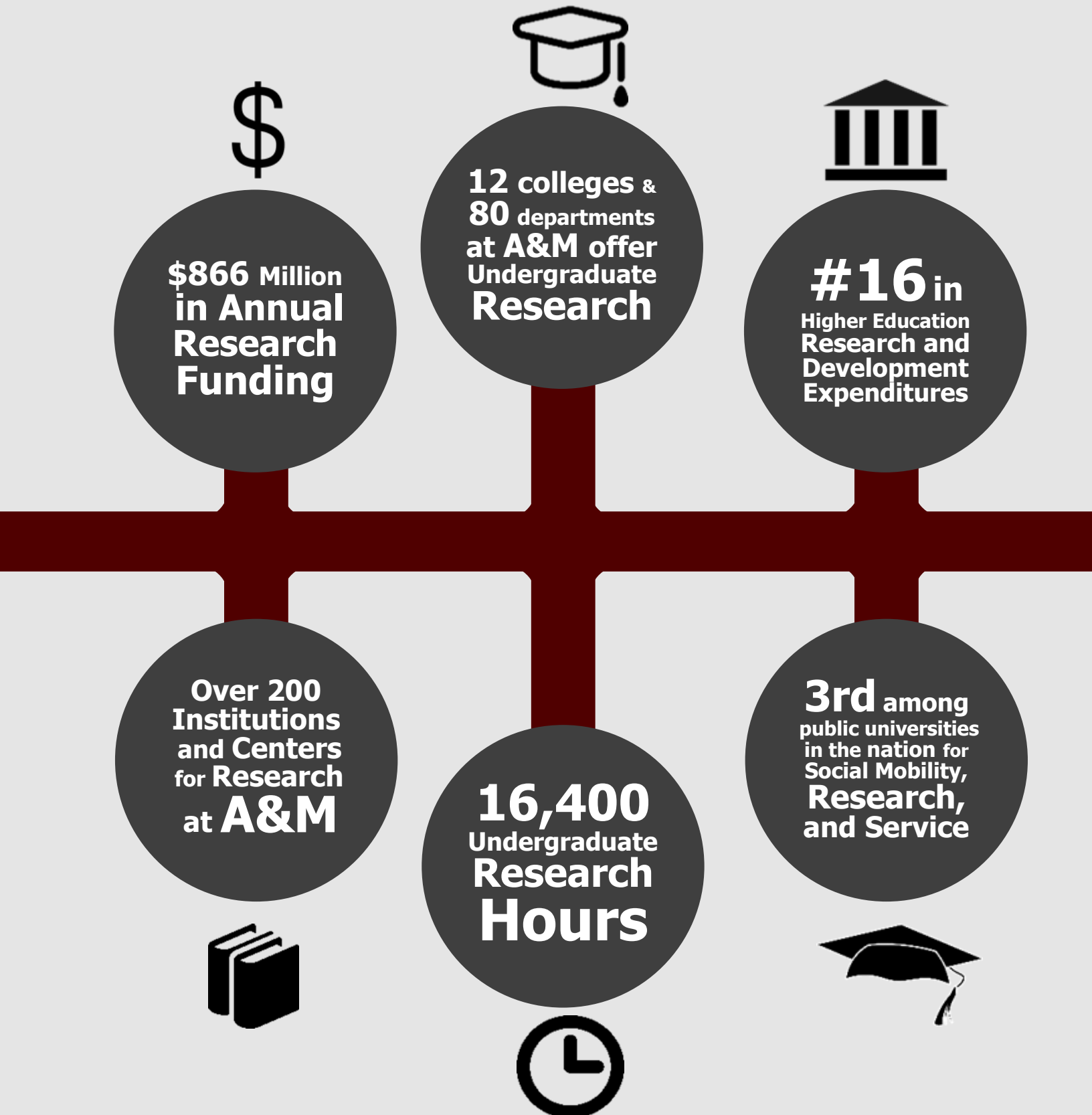
"An inquiry or investigation conducted by an undergraduate student that makes an original intellectual or creative contribution to the discipline."

-The Council on Undergraduate Research (CUR)

Benefits of Undergraduate Research

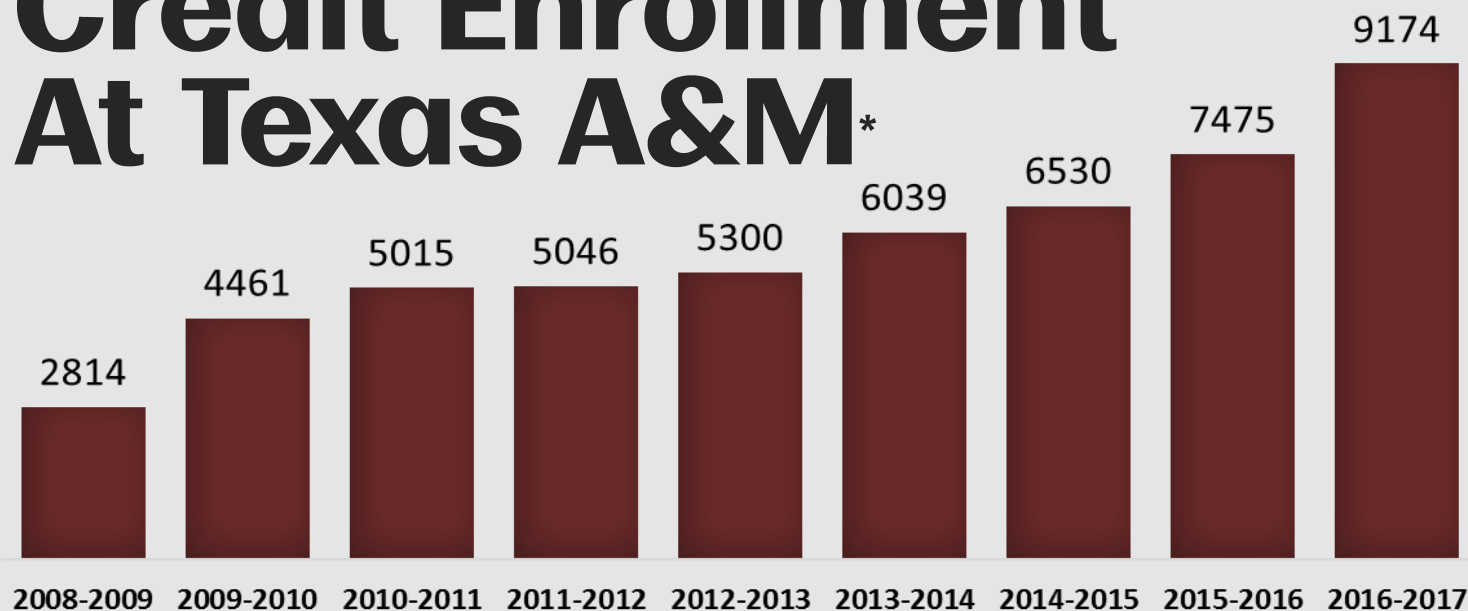
- **Enhances student learning through mentoring relationships with faculty**
- **Increases retention**
- **Increases enrollment in graduate education and provides effective career preparation**
- **Develops critical thinking, creativity, problem solving and intellectual independence**
- **Develops an understanding of research methodology**
- **Promotes an innovation-oriented culture**

Research at Texas A&M*



*Retrieved from Division of Research and 2016-2017 howdy course enrollment

Research Credit Enrollment At Texas A&M*



226% Growth over
8 years
28% Average
growth



291, 285, 491, 485, 497

**Research
Courses**

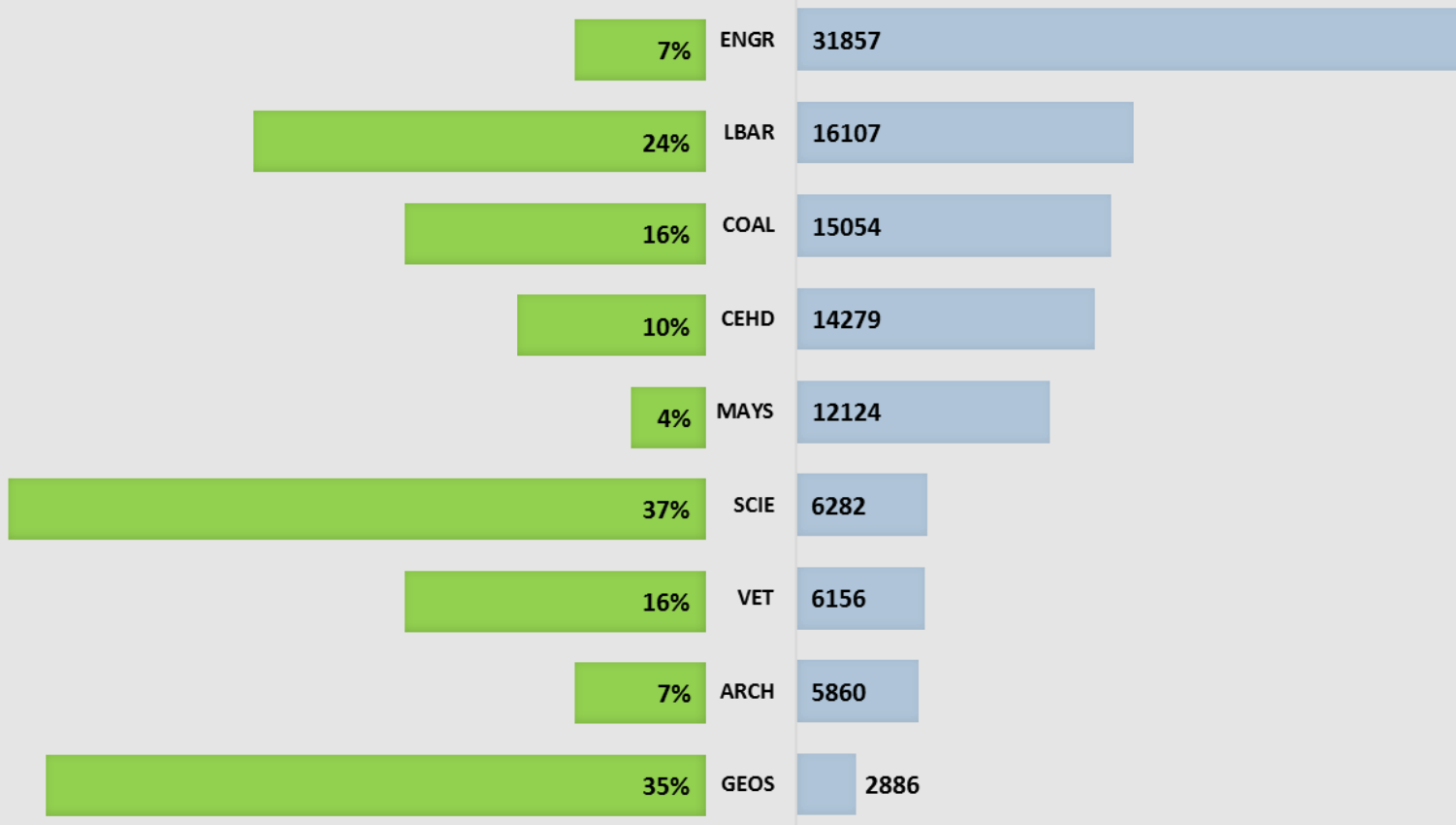
*Retrieved from 2016-2017 Howdy Research Course Enrollment

Research Credit Enrollment is not equal

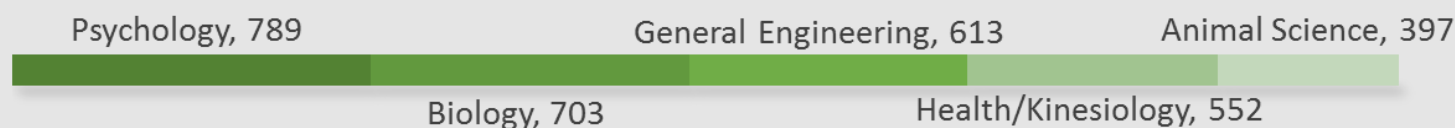
Total Student Enrollment by College Compared to Research Credit Enrollment* †

% of students enrolled in Research Courses

of students enrolled by college



Top 5 Departments by # of students enrolled*

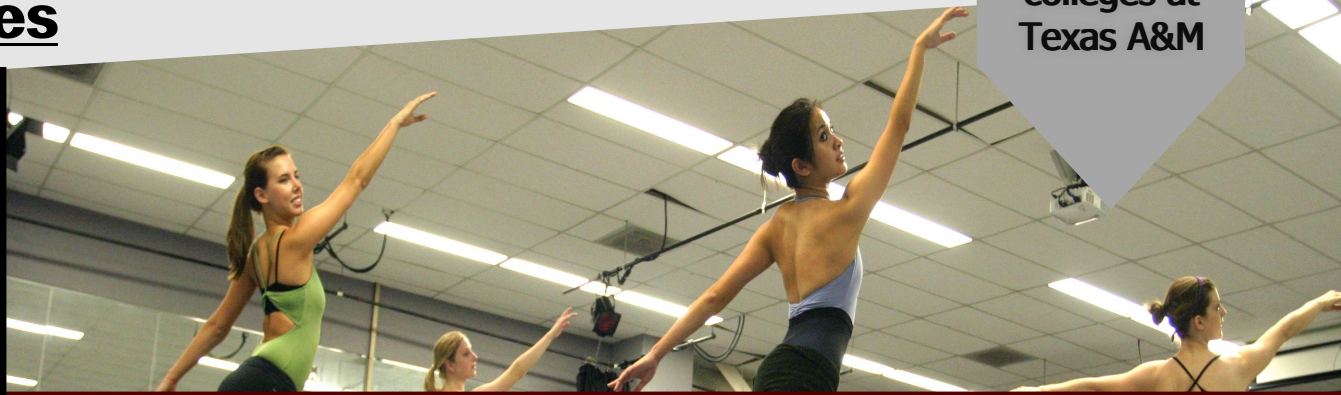


Humanities Research At Texas A&M

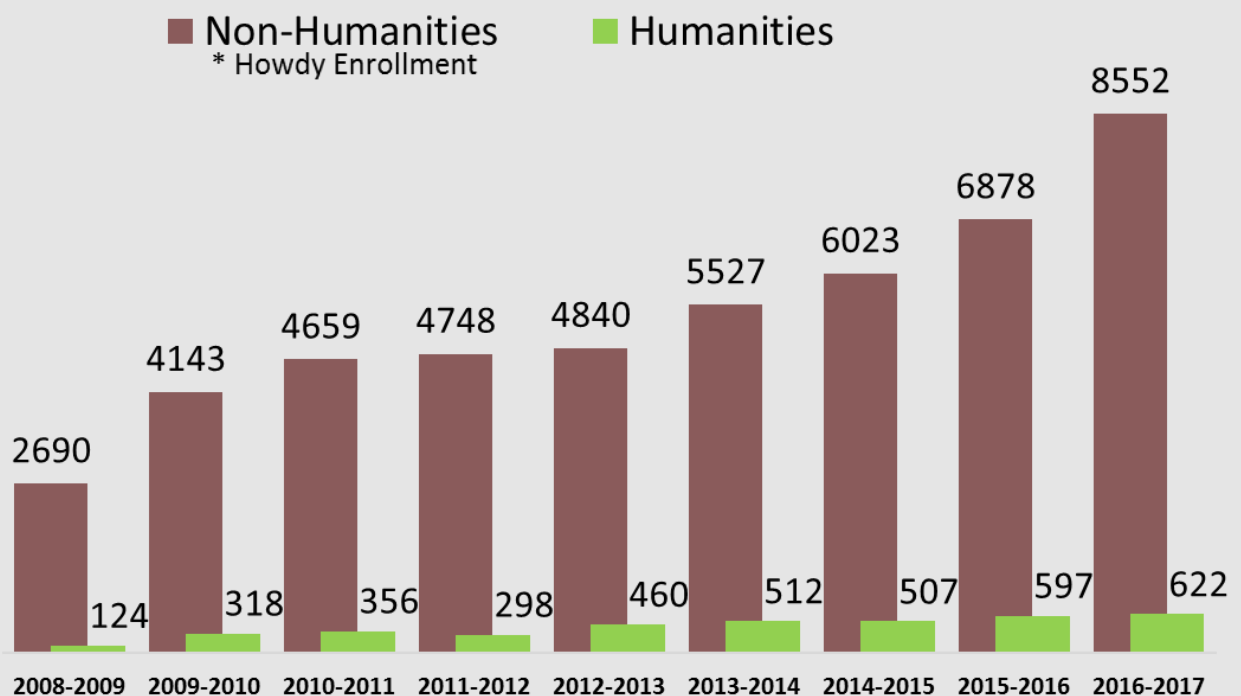
Research Credit Enrollment is growing in **ALL** colleges at Texas A&M

Humanities Courses

- AFST
- ANTH
- ARAB
- ASIA
- CHIN
- CLAS
- COMM
- ENGL
- EURO
- FILM
- FREN
- GERM
- HBRW
- HISP
- HIST
- HUMA
- INTS
- ITAL
- JAPN
- JOUR
- MODL
- MUSC
- PERF
- PHIL
- PHUM
- RELS
- RUSS
- SPAN
- THAR
- UGST
- WGST



Research Credit Enrollment in the Humanities (# of students)*

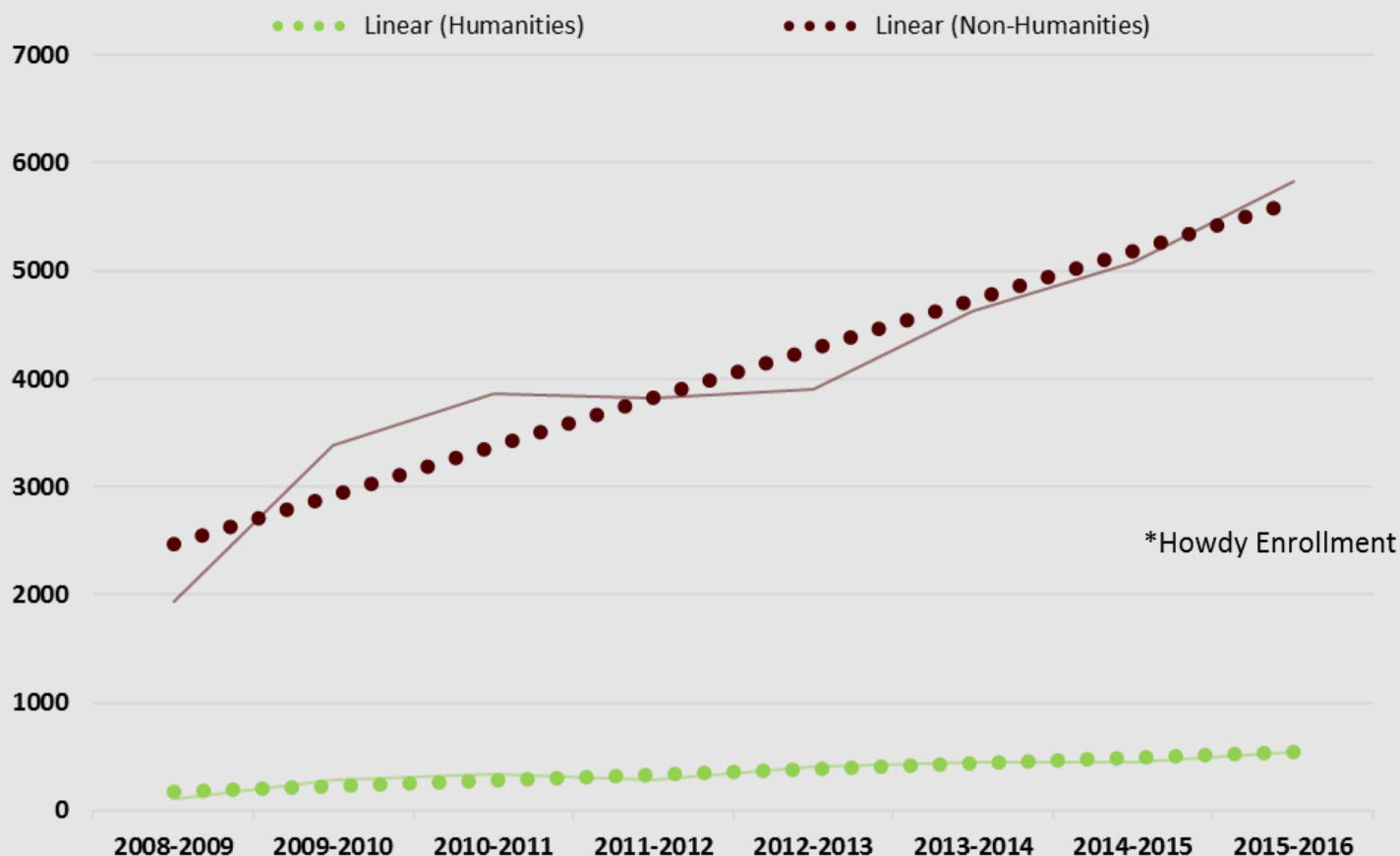


Humanities Research At Texas A&M

However,
non-humanities
research is
growing
9x
faster than
humanities
research



Humanities Research Growth (# of students)*



LAUNCH: Undergraduate Research

LAUNCH
Undergraduate Research

Over
1,000*
Students
Reached

54
Events and
Workshops

3
Flagship
Programs

1 Office



Undergraduate Research Scholars



UNDERGRADUATE
RESEARCH
SCHOLAR

285

Students Applied

230

Students Completed

200

Theses Written

1 Program*



What do Undergraduate Research Scholars find beneficial?*

"Having to actually write out what I've learned from my project allowed me to really grasp the big picture of my research."

"It was a cool way to engage in the academic world in a research setting while still in undergraduate courses. It gave a taste of graduate school. Also, it was a great way to learn how to effectively communicate in writing, both in the thesis as well as in emails and IRB proposals."

96%
improved written communication

93%
improved oral communication

91%
gaining new knowledge

90%
working closely with faculty

"I really enjoyed the challenge of writing a gigantic thesis, mostly to prove to myself that I can take on a writing project of that magnitude. I loved my topic, and really enjoyed getting to know my fellow scholars."

"Building a rapport with my research professor and building new friendships with fellow scholars was the best thing I experienced from the program. Writing a thesis was an unexpected achievement for me as an undergraduate, but it was fun to compose and be an authority over a subject matter."

*Explorations:
the Texas A&M
Undergraduate
Journal*

explorations
THE TEXAS A&M UNDERGRADUATE JOURNAL

790

Lifetime
Submissions

311

Published
Pieces

9

Volumes

1 Journal

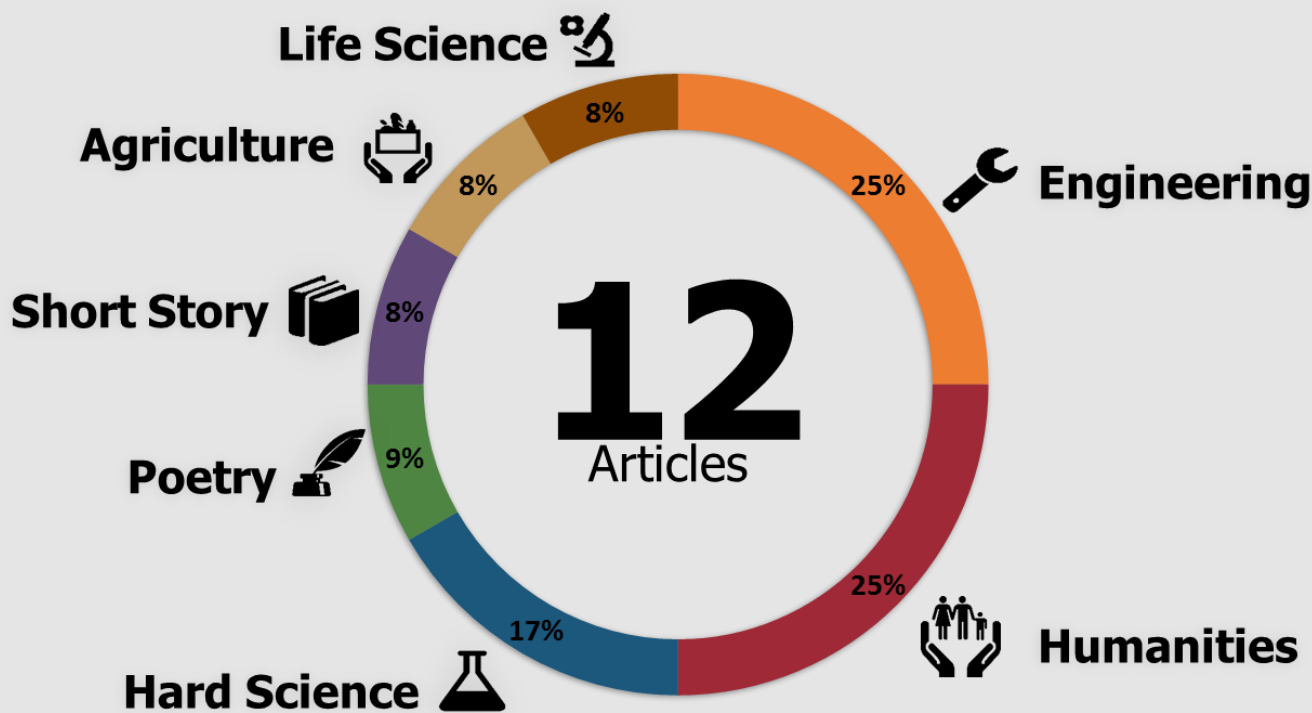




explorations

THE TEXAS A&M UNDERGRADUATE JOURNAL

*Explorations Vol. 9**



22 Scholarly Submissions **25** Creative Submissions **12** Accepted Submissions

Undergraduate Research Ambassadors



UNDERGRADUATE
RESEARCH
AMBASSADORS

The Undergraduate Research Ambassadors work to inspire broader engagement in undergraduate research by educating and serving the Texas A&M University community.

33
Scheduled
Events

227
Volunteer
hours

26
Undergraduate
Ambassadors

1 Program*

Ambassadors in 2016-2017



UNDERGRADUATE
RESEARCH
AMBASSADORS



Dillon Jones '18
Wildlife and Fisheries

Brand new
**Video
Series**

**Semester
Luncheon**



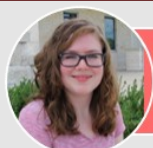
Presenting
to freshmen
at **UGR EXPO**



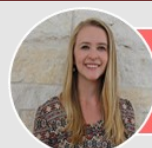
2016-2017 Undergraduate Research Ambassadors



Centura Anbarasu
Biomedical Sciences



Anna Gould
Psychology



Vanessa Page
Biomedical Engineering



Matt Ballard
Geographic Science
Info and Technology



Mae Hinson
Ocean and Coastal
Resources



Hannah Pearce
Biomedical Engineering



Mikayla Barry
Biomedical Engineer



Dillon Jones
Wildlife and Fisheries
Sciences



Devyn Rice
Applied Mathematics



Melissa Brumley
Biomedical Sciences



Katherina Kang
Forensic and
Investigative Science



Jennifer Tran
Biochemistry/Genetics



Andrea Darrh
Geosciences



Gabrielle Lessen
Biochemistry



Brooke Versaw
Chemistry



Joshua Fuller
Psychology/Spanish



Sarah Mack
Industrial and
Systems ENGR



Colton Wayne
Zoology



Anthony Gasacan
Biomedical Sciences



Joshua Murley
Chemical Engineering



Sean Whitney
Aerospace
Engineering



Kanika Gakhar
Aerospace Engineering



Kelly Nieto
Chemistry



Bailey Woods
English and Classics



Omar Wyman
Biomedical
Engineering



Karissa Yamaguchi
Biochemistry/Genetics



**UNDERGRADUATE
RESEARCH
AMBASSADORS**

2017-2018 Undergraduate Research Ambassadors



Brooke Versaw,
Chemistry



Matthew "Brent"
Price, Biomedical
Sciences



Nicolas Moreno,
Genetics, Animal
Science



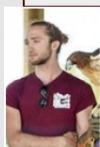
Morgan Chapman,
Chemical
Engineering



Jennifer Tran,
Biochemistry,
Genetics



Kelly Nieto,
Chemistry



Dillon Jones, Wildlife
and Fisheries
Sciences



Anthony Gasacan,
Biomedical Sciences



Rachel Thomas,
Public Health



Devyn Rice,
Applied Mathematics



Tommy Settlemyre,
Physics,
Mathematics



Olivia Oliver,
English



Sarah Mack,
Industrial
Engineering



Karissa Yamaguchi,
Biochemistry,
Genetics



Quinton Lawton,
Meteorology



Gabrielle Sutton,
Molecular and Cell
Biology, Psychology



Andrea Darrh,
Geophysics



Gabrielle Lessen,
Biochemistry



Kanika Gakhar,
Aerospace
Engineering



Madison Mcilvoy,
Chemistry



**UNDERGRADUATE
RESEARCH
AMBASSADORS**

Beckman Scholars Program*



To provide an in-depth, sustained undergraduate research experience in chemistry, biochemistry, biological, and medical sciences.

- 
- 1 Invention Patented
 - 5 Peer Reviewed Publications
 - 4 National Fellowship Awards
 - 6 National Fellowship Nominations
 - 17 Grad School Applications
 - 13 Prestigious Awards
 - 34 Presentations
 - 6 Students

1 Program

225
Students

150
Posters

30
Programs

1 Summer

*Summer 2017 Data

**REU/SURE
Summer
Research
Programs**



REU/SURE Summer Undergraduate Poster Session*



24 Summer
Programs



150 Student
Presenters



66 Texas
Students



76 Out-of-State
Students



8 International
Students

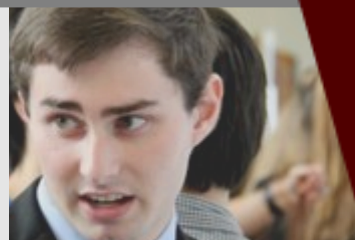
* Summer 2017 Data



LAUNCH: UGR Introduces **Undergraduates to Research opportunities**

Summer Poster Session

REU/SURE programs highlight the diversity of research at A&M. Summer undergraduate researchers present at a professional poster session sponsored by LAUNCH: UGR.



Ambassadors Video Series

The Undergraduate Research Video Series answers the questions undergraduates have when first venturing into research at A&M. Meet the UGR Ambassadors at tx.ag/AskUsAboutUGR.



Research Opportunities Database

The LAUNCH: UGR website maintains a database of research opportunities both at A&M and elsewhere. Check it out at ugr.tamu.edu.



Undergraduate Research Ambassadors

At workshops, panels, and informational sessions, our UGR Ambassadors encourage students to start their research careers as undergraduates.



Undergraduate Research Expo

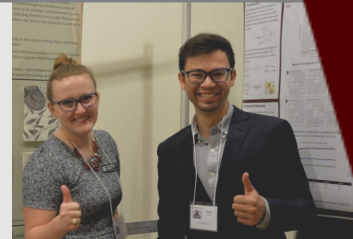
The Undergraduate Research Expo (UGR Expo) spotlights research opportunities at Texas A&M. This annual event is one of the best opportunities for undergraduates to learn about research at Texas A&M.



LAUNCH: UGR celebrates Undergraduate Research

UGR Day at the Capitol in Austin, TX

LAUNCH: UGR selects student representatives to present their research at Undergraduate Research Day at the Capitol, a day where undergraduates from institutions around Texas share their research with Texas Legislators and the public.



Government Relations

Collaboration with the Office of Government Relations illustrates the impact of undergraduates. As a Land-, Sea-, Space-Grant Institution, we are responsible for training and educating Texas' upcoming workforce.



TAMU Gov't Relations @Aggie_GR · Aug
#Whoop! Undergrads @TAMU talking abo
experiences! #UGRPostersession17



CUR Highlights

LAUNCH: UGR submits student research published within 6 months to the Council on Undergraduate Research publication, CUR Quarterly.



Social Media

LAUNCH: UGR engages students on various social media platforms and connects with research departments throughout A&M.
@tamu_UGR @ExplorationsUGR



URS Outstanding Thesis Awards

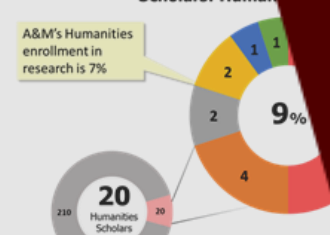
LAUNCH: UGR celebrates undergraduate research by awarding Outstanding Thesis Awards in STEM and Liberal Arts/Humanities.



LAUNCH: UGR works to improve **inclusivity/diversity** in Undergraduate Research

Humanities Representation

Undergraduate Research in the Humanities is represented in all LAUNCH: UGR programs. 9% of students in LAUNCH: UGR programs are pursuing a Humanities degree.



Explorations, an Interdisciplinary Journal

Explorations accepts and publishes research, scholarly, and creative works from all disciplines at Texas A&M.



New Liberal Arts/Humanities Template for URS

The new undergraduate thesis template allows students to write a professional thesis in line with their disciplinary norms.



Ambassadors' Representation

UGR Ambassadors represent the wide variety of programs and disciplines across campus. This year, 20 Ambassadors come from 18 departments across campus.



UGR Outreach to Learning Communities

Learning Communities assist underrepresented groups across campus achieve visibility and excel. LAUNCH: UGR works to promote undergraduate research opportunities to these students.

LAUNCH: UGR programs recognize **Undergraduate Research**

Ambassador Luncheon

UGR Ambassadors attend end-of-semester luncheons, and meet with administrators and special guests. These lunches are an opportunity for UGR Ambassadors to learn about professional organizations and provide feedback on their experiences in the program to LAUNCH: UGR.



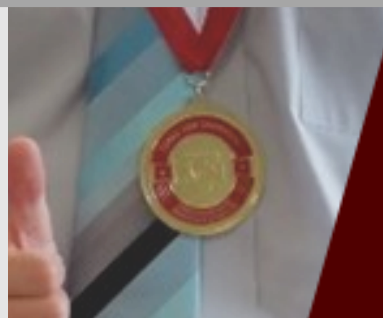
Explorations Journal Release

Explorations recognizes authors and artists, as well as the board members, faculty, staff and donors that work to make the journal possible each year. Each journal release features the author of the journal's introductory letter as the keynote speaker. The speaker is always a Texas A&M Faculty Member that has demonstrated their dedication to supporting undergraduates through leadership, scholarship, and the pursuit of knowledge.



URS Graduation Distinction

Students who have successfully completed the Undergraduate Research Scholars program are recognized at commencement, receive an Undergraduate Research Scholars medallion as graduation regalia, and are noted as an Undergraduate Research Scholars on their transcript.





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