

# Strength in Numbers: Learning How Data Can Help Develop a More Competitive Grant Proposal

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# When Should You Include Population or User Data in a Grant Proposal?

- ▶ To Comply with Solicitation Requirements;
- ▶ To Strengthen Your Argument;
- ▶ To Tell a Better Story



# Types of Solicitations that May Require Data Inclusion

## Education & Training Grants

- ▶ National Science Foundation
  - ▶ Research Traineeship (NRT)
  - ▶ Improving Undergraduate STEM Education (IUSE)
- ▶ National Institutes of Health
  - ▶ Graduate Research Training Initiative for Student Enhancement (G-RISE)
  - ▶ Maximizing Access to Research Careers (MARC) (T34)
- ▶ Department of Education
  - ▶ Promoting Postbaccalaureate Opportunities for Hispanic Americans Program (PPOHA)

## Organizational Change Grants

- ▶ National Science Foundation
  - ▶ ADVANCE: Organizational Change for Gender Equity in STEM Academic Professions
  - ▶ Established Program to Stimulate Competitive Research (EPSCoR)
- ▶ Department of Education
  - ▶ Development Hispanic-Serving Institutions Programs (DHSI)

# Solicitation Text Specifying Required Data from Selected Training Grants

- ▶ Proposers must present a TABLE in the proposal with quantitative data showing the recruitment and retention outcomes of participating departments for the five years preceding the submission date, including time-to-degree completion. (NSF NRT)
- ▶ Particular attention must be given to the required Training Data Tables for new predoctoral programs. In the Program Plan, the application should summarize key data from the tables that highlight the characteristics of the applicant pool, participating faculty, institutional support, student outcomes, and other factors that contribute to the overall training environment of the program. (NIH G-RISE)
- ▶ The extent to which the methods of evaluation include the use of objective performance measures that are clearly related to the intended outcomes of the project and will produce quantitative and qualitative data to the extent possible. (Dept. of Ed PPOHA)



# Solicitation Text Specifying Required Data from Selected Organizational Change Grants

- ▶ Evaluation Plans - The data elements and the data collection procedures are clearly described and appropriate to measure the attainment of activity objectives and to measure the success of the project in achieving the goals of the comprehensive development plan (Dept. of Education, DHSI)
- ▶ Intersectional approaches should be considered throughout the project design - from the data collection and analysis to identify systemic inequities, to the design of the project strategies, and into the project evaluation. (NSF ADVANCE)
- ▶ Where appropriate, baseline data should be provided to give context for the impacts of the planned activities. (NSF EPSCoR)

# Key Terms to Search for in a Solicitation

- ▶ Data
- ▶ Table
- ▶ Evaluation Plan

- ▶ New Mexico is one of six Minority Majority States
- ▶ New Mexico has the 2<sup>nd</sup> highest percentage of Native Americans in the U.S. and the 4<sup>th</sup> highest number of Native American citizens\*
- ▶ New Mexico consistently ranks in the bottom two states in the country in terms of education.



\* <https://www.census.gov/quickfacts>

- ▶ UNM is a Hispanic Serving Institution (HSI) with >25% FTE Undergraduates self-identifying as being Hispanic.
- ▶ UNM is a Minority Serving Institution (MSI) because we're an HSI and because >50% of total undergraduates self-identify as being members of ethnic minority groups.
- ▶ UNM is a Minority Institution (MI) because >50% of total student body self-identifies as being members of ethnic minority groups.
- ▶ UNM is 1 of 16 Very High Research Activity (R1) HSI Universities
- ▶ UNM is 1 of 2 Flagship universities that are also R1 HSIs.
- ▶ UNM is 1 of 3 R1 universities that are also MIs
- ▶ UNM is the only Flagship university that is an R1 MI
- ▶ UNM has the highest number of Native American students at an R1 university



THE UNIVERSITY OF NEW MEXICO



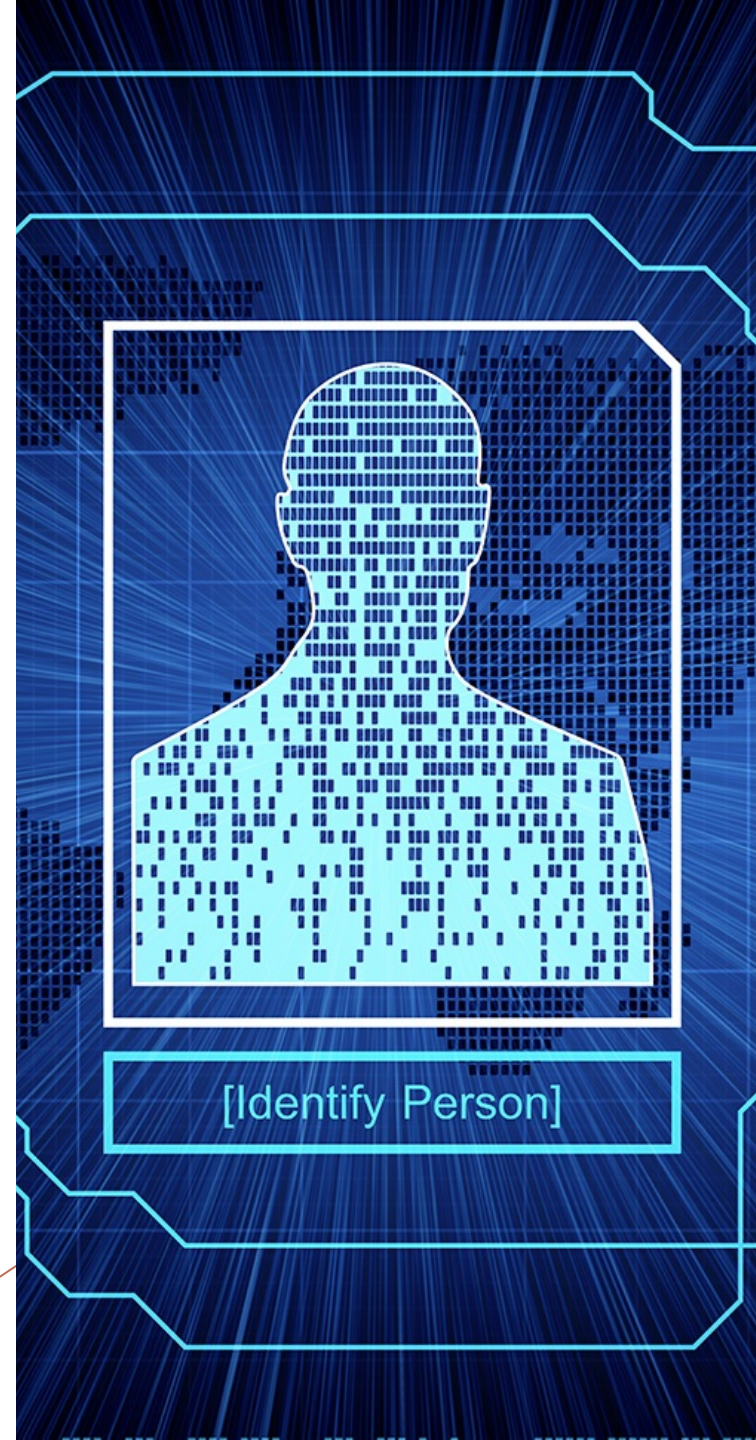
# Use the Right Data to Tell the Most Compelling, Most Accurate Story...

- ▶ Spring 2019 Native American Enrollment
  - ▶ 5.1% total student population is Native American (NA) which equals 1,170 students
  - ▶ Only 320 NA students are enrolled in STEM degree programs (27%)
  - ▶ Only 9 are enrolled in MS STEM degree programs (0.77%)
  - ▶ Only 14 are enrolled in PhD STEM degree programs (1.20%)
- ▶ Spring 2019 Hispanic Enrollment
  - ▶ 43.9% of total student population is Hispanic which equals 10,008 students
  - ▶ Only 34% of total School of Engineering (SOE) students are Hispanic
  - ▶ Only 18% of SOE graduate students are Hispanic



# Finding the Right Data

- ▶ Peruse the Office of Institutional Analytics website
  - ▶ Access Tableau Reports for a number of pre-compiled student, staff, and faculty demographic and activity reports
- ▶ Use MyReports ad hoc student records to access relevant data compiled by UNM Enrollment Management
  - ▶ Banner Authorization Request - Student Detail MyReports User
  - ▶ Authorization request is specified by relevant School or College unless job demands access to cross disciplinary student records
- ▶ Student Population Experts on Campus
  - ▶ STEM Collaborative Center
  - ▶ Individual Department Recruitment Offices





Home

About STCC ▾

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Tools for Faculty and Staff ▾

Archives

Tools For Faculty and Staff

- STEM Communication Network
- Directory of UNM STEM Programs
- STEM University
- STEM Benchmarking Data
- State of STEM Report
- Event Scheduling Assistant
- Event Attendance Tracker
- Literature Review: Hispanic UG Success



Change the WORLD





# Tools for Faculty and Staff

Tools For Faculty and Staff

STEM Communication Network

Directory of UNM STEM Programs

STEM University

**STEM Benchmarking Data**

State of STEM Report

Event Scheduling Assistant

Event Attendance Tracker

Literature Review: Hispanic UG Success

## Contact Us

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Albuquerque, NM 87131

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Building 67, Room #211

Phone: (505) 277-0878  
[stem@unm.edu](mailto:stem@unm.edu)



## STEM Benchmarking Data

How is UNM doing in its efforts to improve STEM education for all undergraduate students? The answer to this question can best be assessed through impact data. For instance, are STEM student retention rates and graduation rates improving? Are fewer STEM students dropping out of UNM, or switching majors out of STEM fields? The benchmarking reports below will be updated annually, and provide a longitudinal glimpse of UNM's STEM undergraduate education performance. This data may be especially useful to faculty and staff who are seeking grant funding to improve STEM education at UNM.

### [STEM Benchmarking Data, Broad Definition of STEM](#)

The term "STEM" has different definitions to different funding agencies. This benchmarking dataset uses a broad definition of STEM, INCLUDING such fields as health science, economics, science education and architecture. This data is currently available as a PDF, but eventually will be made available as a dashboard. [Click here](#) to access an archive of the November 2016 STEM Benchmarking Data report. [Click here](#) to access an archive of the May 2018 STEM Benchmarking Data report. [Click here](#) to access an archive of the October 2018 STEM Benchmarking Data report

### [STEM Benchmarking Data, Narrow Definition of STEM](#)

This benchmarking dataset uses a narrow definition of STEM, EXCLUDING such fields as health science, economics, science education and architecture. This report is currently under construction, so check back soon.

### [UNM's Murky Middle STEM Student](#)

[Click here](#) to access a report on which used the narrow definition of STEM to address which attribute (demographics, socioeconomic factors, major) acts as the best predictor to Murky Middle (MM) STEM students' long-term performance (persistence) and persistence within the STEM fields?



### Human Resou...

#### General Information

- [HR Website](#)
- [EPAF Resource Page](#)
- [ePAN](#)
- [Employment Knowledge Base](#)
- [Salary Structure Table](#)
- [Standard Time Sheet for Staff](#)

#### Staff Resources

- [Counseling Assistance and Referral Services \(CARS\)](#)
- [Ombuds Services/Dispute Resolution](#)
- [Lesbian, Gay, Bisexual, Transgender, and Questioning \(LGBTQ\) Resource Center](#)
- [HR Consulting Services](#)
- [Office of Equal Opportunity](#)



### LoboWeb (Employees)

LoboWeb is the place for employees to view/update personal information, benefits and deductions, pay information, tax forms and more.

ENTER LOBOWEB

#### Quick links:

[Employee Dashboard](#)

[Finance](#)



### UNM Busines...

- [Workflow](#)
- [AppReview GradApp](#)
- [Grad Studies App](#)

#### Reporting

- [E-Print](#)
- [HR Reports](#)
- [MyReports](#)
- [MySpend Portal](#)

#### Banner Resources

- [Banner Authorization Requests](#)
- [Report a Duplicate Person/Non-person](#)
- [Search Class Schedule](#)
- [Search Course Catalog](#)
- [Electronic Forms](#)
- [Purchasing Department Website](#)



### Employee and Organizational Development

Employee and Organizational Development (EOD) provides a variety of organizational development services to UNM employees. Our Training Programs cover all aspects of work at the university: Administrative, Management/ Leadership, and Personal/Professional.



# Student Reports Available on MyReports

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- Records can include all student information which requires user to complete FERPA training prior to gaining authorization to access these reports.

- ▼ Student\_Reports
  - HTML Academic\_Study\_Aggregate\_Guided\_Adhoc
  - HTML Academic\_Study\_Census\_Guided\_Adhoc
  - HTML Academic\_Study\_Detail\_Guided\_Adhoc
  - HTML Admissions\_Applicants\_Detail\_Guided\_Adhoc
  - HTML Class\_List\_Guided\_Adhoc
  - HTML Department\_Enrollment\_Status
  - HTML Fill\_Rate\_Frozen\_Guided\_Adhoc
  - HTML Fill\_Rate\_Report
  - HTML Freshman\_Cohort\_Demographics\_Major\_Degree
  - HTML Freshman\_Cohort\_Guided\_Adhoc
  - HTML Graduates\_and\_Pending\_Graduates\_Guided\_Adhoc
  - HTML Regstats\_CourseCampus\_Headcount
  - HTML Regstats\_Student\_Credit\_Hours
  - HTML Regstats\_StudentCampus\_Headcount
  - HTML Schedule\_Build\_Reports
  - HTML Student\_Activities\_Guided\_Adhoc
  - HTML Student\_Attributes\_Guided\_Adhoc



# How to Access MyReports from Home




## VPN Service

UNM NetID


UNM NetID Password

LOG IN


- ▶ Get Virtual private network (VPN) Access to the University Server,  
<https://unmvpn.unm.edu/global-protect/login.esp>
- ▶ Directly access MyReports from the direct VPN website or download the VPN application and access it through MyReports on  
<http://my.unm.edu/home>




Banner Workflow




UNM BAR




Curriculum Workflow



FAMIS Portal



UNM MyReports



Pinnacle



WebTMA



**Admissions Applicants Detail Guided Adhoc**

**Academic Period**  **Admissions Campus**

**Please Select Sort Field(s)**

- Application Date
- Degree Code
- Degree
- Admissions Campus Code
- Admissions Campus
- Student Level Code
- Student Level
- Student Population Code
- Student Population
- Residency Code
- Residency
- College Code
- College
- Major Code

**Please Select Detail Field(s)**

- Academic Period
- ID
- Name
- Confidentiality Ind.
- Latest Decision
- Latest Decision Date
- First Name
- Middle Name
- Last Name
- Ethnicity
- Gender
- Age
- Email Address
- Phone Number
- Address Line 1
- Address Line 2
- City
- State
- Nation
- Zip Code
- Deceased Status

**College**

- ALL
- AP - School of Arch. and Planning
- AS - College of Arts and Sciences
- ED - College of Education
- EN - School of Engineering
- FA - College of Fine Arts
- GP - Graduate Programs
- HC - Honors College

**Major**

- ALL
- ABA - Applied Behavior Analysis
- ACCT - Accounting
- AMST - American Studies
- ANTH - Anthropology
- ARCH - Architecture
- ARTE - Art Education
- ARTH - Art History

**First Concentration**

- ALL
- MISSING
- Accounting
- Advanced Accounting
- Biomedical Engineering
- Civil Engineering
- Chemical Engineering
- Computer Engineering

**Residency**

- ALL
- Undeclared
- Non-Resident
- Resident
- International

**Student Population**

- ALL
- Undeclared
- First Time/Beginning Freshman
- Continuing
- Frst Time Grad/Prf Deg not UNM
- First Time Grad/Prof w/UNM Deg
- Concurrent
- Readmit
- New Transfer from NM Inst
- New Transfer from Out of State

**Student Level**

- ALL
- Graduate/GASM
- Law School
- Doctor of Medicine
- Non Degree Graduate
- Non Degree Undergraduate
- PharmD
- Undergraduate

**Latest Decision**

- ALL
- 
- B - Cancel Before Adm Decision
- BB - Sem Change Before Adm Dec
- C - Cancel After Adm Decision
- CC - Sem Change After Adm Deci
- E - Admitted
- ED - Dual Enrollment Graduate
- ES - Early Start Program Offer
- F - Freshman Formula Admit
- FR - Final/Dept Review
- GW - Gateway
- JE - PreReg Admitted
- LE - PreReg Provisional Admit
- N - Intrn'l Admission Offer
- QE - PreReg Admit From Provisi
- R - Refusal

**Application Status**

- ALL
- C - Complete ready for review
- D - Decision Made
- H - Holding Application
- I - Incomplete items outstandi
- P - Pending Second Review

**Select Type of Display Output**

HTML  Active HTML  Excel  PDF

**Save Selections**

**Run Report**

Who  
Applied  
and was  
Accepted?

Admissions  
Applicants  
Detail

Class List Guided Adhoc

Academic Period

Summer 2020

Course Campus

ALL  
Albuquerque/Main  
Online & ITV  
Albq Westside (UNM West)  
Gallup  
Los Alamos  
Taos

Subject

ALL  
ACCT - Accounting  
AFST - Africana Studies  
ALB - Arts Leadership & Business  
AMST - American Studies  
ANTH - Anthropology  
ARCH - Architecture

Course Number

ALL  
011  
012  
021  
022  
099  
100

Course Section Number

ALL  
001  
002  
003  
004  
005  
006

Please Select Course Sort Field(s)

Academic Period Code  
Sub-Academic Period Code  
Sub-Academic Period  
Course Campus Code  
Course Campus  
Course College Code  
Course College  
Department Code  
Department  
Instruction Delivery Mode Code  
Instruction Delivery Mode  
Long Course Title  
Course Group  
CIP Code  
Primary Instructor Preferred First Name  
Primary Instructor NetID  
Course Max Credits



Academic Period  
Subject Code  
Course Number  
Course Section Number  
Course Reference Number  
Short Course Title  
Primary Instructor ID  
Primary Instructor Last Name  
Primary Instructor First Name  
Primary Instructor Email  
Meeting Days  
Meeting Time  
Building  
Room  
Start Date  
End Date  
Actual Enrollment

Registration Status

All  
Registered  
Dropped  
Wait Listed

Is Enhanced

N/A

Is Correspondence

N/A

Is ITV

N/A

Is Extended Learning

N/A

Is ITV Parent

N/A

Is Live

N/A

Is Hybrid

N/A

Is Branch

N/A

Is Online

N/A

Is MOPS

N/A

Please Select Student Detail field(s)

Student Preferred First Name  
Student First Name  
Student Last Name  
Student NetID  
Current Age  
Gender  
IPEDS Race  
Student Campus Code  
Student Campus  
Student College Code  
Student College  
Major Code



Student ID  
Confidentiality Indicator  
Student Name  
Registration Status

Select Type of Display Output

HTML  Active HTML  
 Excel  PDF

Run Report

Save Selections

Who is Enrolled  
in Specific  
Classes and/or  
Majors?  
Class List







Who has graduated and how long did it take?

Graduates and Pending Graduates

The screenshot shows the 'Graduates and Pending Graduates Guided Adhoc' report interface. At the top left is the University of New Mexico logo. The header includes 'ENROLLMENT MANAGEMENT REPORTING TEAM' and a contact email 'emrt@unm.edu'. The main title is 'Graduates and Pending Graduates Guided Adhoc'. The interface is divided into several filter sections: 'Academic Period' (listing years from 2019 to 2021), 'Campus' (set to 'Albuquerque/Main'), 'College' (listing various schools like AP, AS, ED, EN, FA, GP, HC, LL), 'Department' (listing various departments like SOE, AS, International Programs, etc.), 'Major' (listing various majors like Dental Hygiene, Computer Science, etc.), 'Minor' (listing various minors like Art History, Art Studio, etc.), 'Award Category' (listing various degrees like Baccalaureate, Masters, etc.), and 'Graduation Status' (listing Pending, Sought). There are also 'Please Select Detail Field(s)' and 'Ethnicity' filters. At the bottom, there are options for 'Please Select Type of Display Output' (HTML, Active HTML, Excel, PDF) and two buttons: 'Grad/Pending Grad Report' and 'Save Selections'.

## Academic Study Detail Guided Adhoc

### Academic Period

Spring 2020

### Please Select Sort Field(s)

Second Minor  
Student Population  
First Concentration  
Second Concentration  
Third Concentration  
Semester Admitted  
Expected Graduation Date  
Catalog Academic Period



Academic Period

### Select Student Personal Field(s)

Student Last Name  
Student First Name  
Preferred First Name  
Email Address  
NetID  
Street Line 1  
Street Line 2  
City  
County Code



Confidentiality Indicator  
ID

### Student Campus

ALL  
MISSING  
Albuquerque/Main  
Gallup  
Los Alamos  
Taos  
Valencia

### Student College

ALL  
00 - No College Designated  
AD - Associate Degree  
AP - School of Arch. and Planning  
AS - College of Arts and Sciences  
CP - Undergrad Certificate Program  
ED - College of Education

### Major

ALL  
0000 - Undeclared  
AAC - Applied Arts & Crafts  
AAHS - Human Services  
ABA - Applied Behavior Analysis  
ACCT - Accounting  
AFST - Africana Studies  
AMST - American Studies

### Minor

ALL  
-  
AFST - Africana Studies  
ALB - Arts Leadership & Business  
AM - Arts Management  
AMST - American Studies  
ANIM - Animation  
ANTH - Anthropology

### Registered Any Campus

No  Yes  No Limit

### Registered Albuquerque

No  Yes  No Limit

### Registered Los Alamos

No  Yes  No Limit

### Registered Taos

No  Yes  No Limit

### Registered Gallup

No  Yes  No Limit

### Registered Valencia

No  Yes  No Limit

### Residency

No  Yes  No Limit

### Permit Registration

No  Yes  No Limit

### Dean's List

Yes  No Limit

### Select Type of Display Output

HTML  
 Active HTML  
 Excel  
 PDF

### Student Level

ALL  
Undeclared  
Associate/Certificate  
Graduate/GASM  
Law School  
Doctor of Medicine  
Non Degree Graduate

### Concentration

ALL  
MISSING  
ACNP Adult/Gerontology  
Accounting  
Acute Care Nurse Practitioner  
Advanced Accounting  
Adult Ed and Prof Development

### IPEDS Race

ALL  
Hispanic  
American Indian  
Asian  
Black or Afro American  
Native Hawaiian  
White

Run Report

Save Selections

?

Who is enrolled  
and what are  
they majoring  
in?

Academic  
Study Detail

# Organizing Data Within a Proposal

Effectively Visualizing the Best Story



# Presenting the Required Data Accurately

	Physics	Chemistry	OSE	ECE	CS
<b>PhD Applications</b>	2014: 89	2014: 58	2014: 75	2014: 61	2014: 57
	2015: 111	2015: 76	2015: 48	2015: 76	2015: 50
	2016: 83	2016: 56	2016: 65	2016: 69	2016: 49
	2017: 100	2017: 53	2017: 50	2017: 65	2017: 72
	2018: 78	2018: 47	2018: 50	2018: 40	2018: 62
<b>PhD Offers</b>	2014: 33	2014: 20	2014: 33	2014: 25	2014: 40
	2015: 40	2015: 32	2015: 19	2015: 44	2015: 38
	2016: 34	2016: 27	2016: 25	2016: 30	2016: 26
	2017: 44	2017: 16	2017: 22	2017: 25	2017: 44
	2018: 36	2018: 16	2018: 20	2018: 26	2018: 38
<b>PhD Accepts</b>	2014: 9	2014: 9	2014: 9	2014: 9	2014: 13
	2015: 13	2015: 17	2015: 8	2015: 13	2015: 19
	2016: 12	2016: 12	2016: 11	2016: 17	2016: 13
	2017: 11	2017: 12	2017: 9	2017: 14	2017: 36
	2018: 6	2018: 8	2018: 14	2018: 9	2018: 24
<b>PhD Time to Degree</b>	2014: 7	2014: 5	2014: 7	2014: 5.4	2014: 6.5
	2015: 6	2015: 6	2015: 8	2015: 6.1	2015: 6
	2016: 6.5	2016: 5	2016: 6.5	2016: 5.5	2016: 6.7
	2017: 6	2017: 6	2017: 6.7	2017: 5.9	2017: 6.3
	2018: 6.7	2018: 5	2018: 5.6	2018: 6.1	2018: 5.6

**Table 2. Recruitment and Retention Data.**

Shown over the past 5 years are the number of applicants, offers, and students who accepted the offer to attend UNM in participating PhD programs. Also shown is the average number of years to degree for students graduating in that year.

While recruitment and retention rates at UNM PhD programs are often below national averages, we expect QuIST to enhance student outcomes.



# Telling a More Tangible Story with Clearly Organized Data

**Table 5. Recruitment and retention outcomes in participating UNM departments for five years. Data are reported for PhD students. National data were obtained from the NSF Survey of Earned Doctorates.**

PhD Graduate Data		# of Applications	# of Offers	# of Accepts	% Acceptance Rate	Admitted Cohort Demographics			UNM PhD Time to Degree (yrs)	National PhD Time to Degree (yrs)
						% Women	% Ethnically Underrepresented	% U.S. Citizen/P.R.		
Anthropology	2014-2015	75	22	18	24%	50%	17%	94%	12.4	7.7
	2015-2016	61	18	14	23%	50%	14%	93%	10.4	
	2016-2017	56	22	18	32%	72%	11%	83%	8.5	
	2017-2018	46	15	13	28%	69%	31%	100%	7.1	
	2018-2019	29	12	10	34%	60%	20%	100%	9.2	
Biology	2014-2015	61	15	14	23%	50%	7%	79%	5.7	5.8
	2015-2016	59	16	13	22%	54%	15%	100%	5.4	
	2016-2017	59	13	12	20%	75%	17%	92%	5.8	
	2017-2018	52	18	18	35%	50%	17%	100%	6.7	
	2018-2019	55	21	19	35%	53%	16%	79%	5.8	
Earth and Planetary Science	2014-2015	21	4	4	19%	75%	0%	79%	4.0	5.7
	2015-2016	30	5	5	17%	20%	0%	100%	6.2	
	2016-2017	37	11	9	24%	78%	0%	78%	5.1	
	2017-2018	31	7	6	19%	0%	0%	50%	5.6	
	2018-2019	32	10	9	28%	44%	11%	89%	7.4	



# Tips to Keep in Mind

- ▶ Rearrange the data in a variety of ways.
- ▶ Ask whether the data is telling the story you want it to.
- ▶ Make sure the data is not overwhelming.
- ▶ Get feedback from others.

Q u e s t i o n s ?

# Presenter Contact Information

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