

National Science Foundation (NSF) Higher Education Research and Development (HERD) Survey

What is it?

The NSF HERD survey, an annual census sent to all U.S. higher education institutions (colleges and universities), collects information about research and development (R&D) expenditures and is the primary source of information for research funds and disciplines. These data have been collected since 1972, but the current survey form with standardized questioning has been in place since 2010, and the results are made available to the public online at <https://ncesdata.nsf.gov/ids/>. These data are important nationally and to ASU to gauge research trends and serves as the primary source of information for higher education R&D in the U.S. These data are used to make policy decisions and although the survey is not required by the NSF, all major higher education institutions respond. At ASU, the rankings serve as a metric towards fulfilling our [charter goal](#) of establishing our university as a “leading global center for interdisciplinary research, discovery and development by 2025” by reaching \$815M in annual research expenditures.

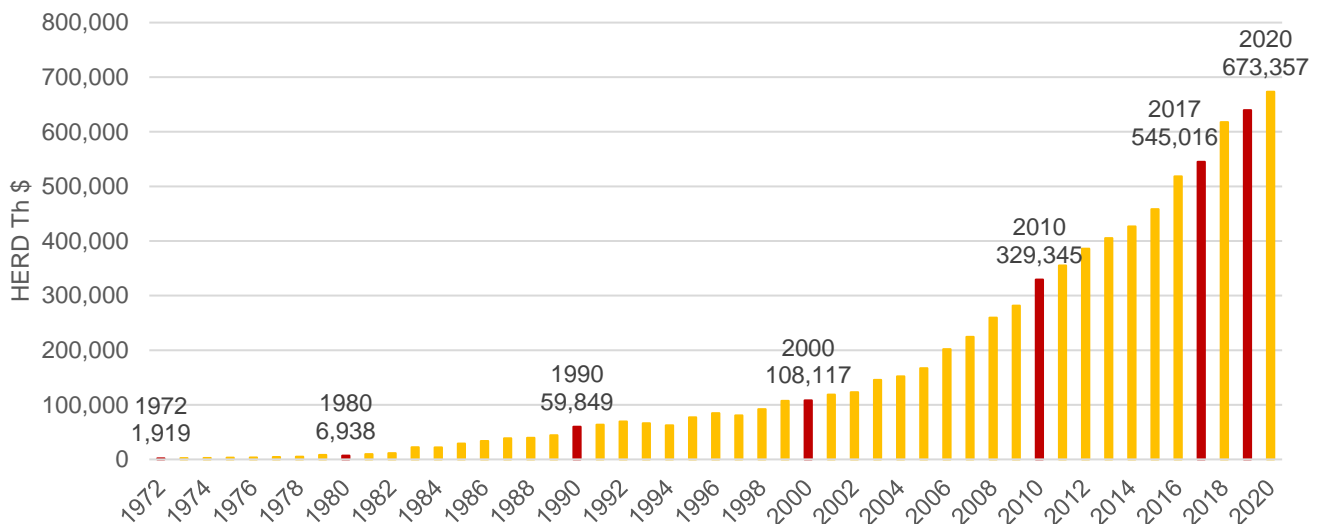
When is the deadline? When are data available?

Data for the previous fiscal year (July 1 – June 30) is usually due the following January. NSF then validates the data, updates their database, and shares submissions publicly via the NCSSES portal around November. Thus, every November, data is available for other schools for the fiscal year that ended almost a year and a half ago and competitive rankings can be calculated.



What data gets reported in HERD at ASU?

Per the instructions and the scope of the HERD survey, only expenditures on research and development are counted. This is determined by the activity type of the award in the Enterprise Research Administration (ERA) system for sponsored accounts, and the NACUBO code of the internal (non-sponsored) accounts in the financial system (Workday).



How is activity type determined for sponsored awards?

When a proposal is entered into the ERA, an activity type must be selected for F&A (indirect costs). Section 2.3, question 5, is pictured here. If the proposal is funded, this information will be carried over to the award. Choosing an F&A category of “research” means that the expenditures from this award will be counted towards HERD. The activity type is usually determined by the person filling out the ERA proposal form, which is often the research administrator, with direction from the principal investigator (PI). In general, the majority of research sponsored projects will be categorized as activity “research-individual & project – externally funded”. This includes your NIH RO1s, nonprofit research grants, NSF CAREERS, and all other research awards. “Research-training – externally funded” are grants that faculty apply for in order to fund graduate and postdoctoral early career researchers, like the IGERT. “Scholarships & Fellowships (Research related)” are typically self-nominated, like the NSF GRFP.

Identify the F&A Rate Category and the best project activity.

F&A Category	Activity
<input checked="" type="radio"/> Research	Research-Individual & Project - Externally Funded
<input type="radio"/> Research	Research-Training - Externally Funded
<input type="radio"/> Research	Scholarships & Fellowships (Research related)
<input type="radio"/> Other	Public Service-Community Service
<input type="radio"/> Instruction	Instruction-General Academic Instruction
<input type="radio"/> Instruction	Scholarships & Fellowships (Not research related)

How is activity determined for non-sponsored expenditures?

In Workday, the activity of the account is determined when the NACUBO code is selected. These codes are part of a national standard set of codes for higher education and the ones that are mapped as research are included in HERD. Examples include A2*** (e.g. A2000 = research support, A2200 = individual and project research), A6102 (institutional support – research related), and A1101 (general department research/IIA/RID). Each account is set up and categorized by various financial managers and business administrators in various units on campus.

I see rankings of HERD expenditures by research discipline. What are these? How are these determined?

NSF has determined 10 disciplines, and within each are subdisciplines (social sciences shown below). Each HR code at ASU is classified during set-up in the ERA to fit into one subdiscipline. For each award, the lead unit HR code is used to classify all expenditures. This unit defaults to the PI's unit but can be changed during award set-up.

H. Social Sciences

1. Anthropology

Cultural anthropology
Medical anthropology
Physical and biological anthropology

2. Economics

Applied economics
Business development
Development economics and international development
Econometrics and quantitative economics
Industrial economics
International economics
Labor economics
Managerial economics
Public finance and fiscal policy

3. Political Science and Government

Comparative government
Government
Legal systems
Political economy
Political science
Political theory

4. Sociology, Demography, and Population Studies

Comparative and historical sociology
Complex organizations
Cultural and social structure
Demography and population studies
Group interactions
Rural sociology
Social problems and welfare theory
Sociology

5. Other Social Sciences

Archeology
Area, ethnic, cultural, gender, and group studies
Cartography
Criminal science and corrections
Criminology
Geography
Gerontology, social sciences
International relations and national security studies
Linguistics
Public policy analysis
Regional studies
Urban studies, affairs

Common misunderstandings of HERD

- Are research seed grants and start-up funds counted? What about research salaries, money I spend on graduate research associates, funds that were donated by a nonprofit?
 - It depends. If these are funds spent out of Workday accounts determined as research NACUBO codes, then yes. Else, no. It doesn't matter who/where the funds came from. The only thing that matters is the activity type of the account that the money is spent out of. If you don't know, talk to your finance manager to see what activity type your account in question is classified as.
- Why does the KE Analytics pivot table/chartbooks expenditure amount not match the HERD number for a certain year?
 - HERD includes all research expenditures, but the pivot table only includes expenditures from sponsored awards (in the ERA), from TRIF, and from the ASU Foundation (select pivot table field "recognition source"). Don't forget to also filter for only research activity types. HERD also instructs us to make adjustments for negative expenditures, which are corrections to expenditures on certain accounts, as well as count for unreimbursed F&A.
- I've seen research expenditure dollars from the Fulton Schools of Engineering (for example) that don't match the engineering discipline number. Why?
 - Our colleges/institutes are interdisciplinary, which means that not all FSE expenditures go into the NSF engineering discipline, and not all NSF engineering discipline expenditures are from FSE. For example, the majority of the CIDSE HR codes falls into the computer science discipline, which is a separate HERD discipline from engineering.
- Expenditures for a discipline have sometimes changed by quite a few million, but I've seen the rankings go the other direction, or not even change at all. How does this make sense?
 - Rankings are based on how ASU compares with other universities in that FY. In one year, \$x may be ranked #10, but in another, may be #20. In general, research-heavy disciplines like science and engineering have a larger range of expenditures reported so it takes a significant expenditure change to usually affect rankings. Similarly, a few hundred dollars may result in a change for the arts and humanities.

Additional information

- <https://analytics.research.asu.edu/reports>
- <https://researchadmin.asu.edu/nsf-herd-survey>
- <https://www.nsf.gov/statistics/srvyherd/>
- <https://ncesdata.nsf.gov/ids/herd>