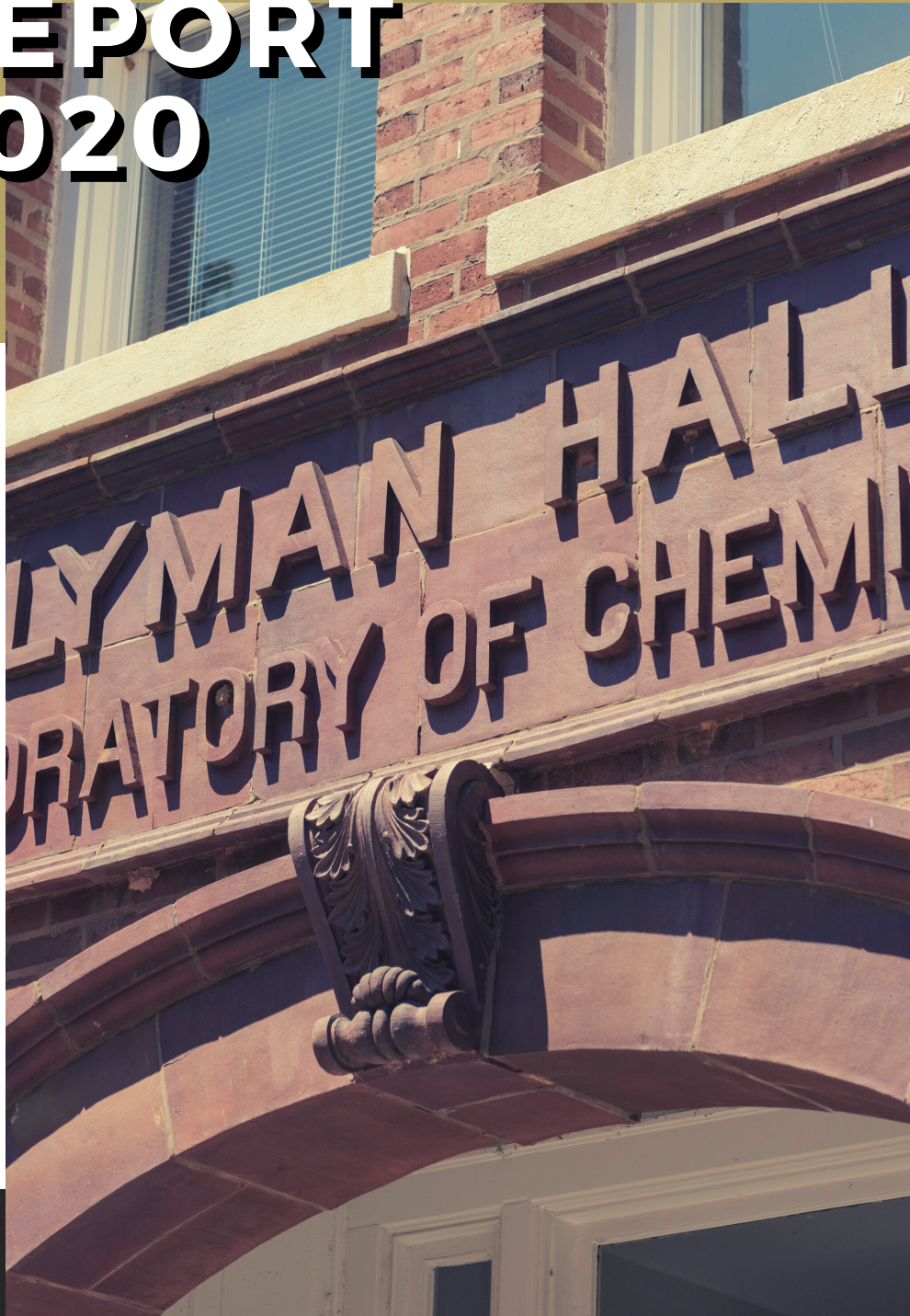# Georgia Tech | Institutional Research and Planning

BIENNIAL REPORT 2020

WHAT IS INSTITUTIONAL RESEARCH & PLANNING?

Institutional Research & Planning (IRP) is a broad category of work requiring whole brain thinking. We are a support unit consisting of data analytics professionals with an interdisciplinary blend of technical and creative skills. These skills are used to inform campus decision-making, planning, and investigation in areas such as admissions, financial aid, enrollment management, staffing, student life, finance, facilities, or athletics.

Institutional researchers collect, analyze, report, and utilize quantitative and qualitative data about their institution's students, faculty, staff, curriculum, course offerings, and learning outcomes. From admissions to student services, to academic departments, institutional researchers are some of the only employees in higher education who communicate with nearly every department on campus.

Institutional research is the sum total of all activities directed at empirically describing the full spectrum of functions (educational, administrative, and support) at a college or university. Instiutional research activities examine those functions in their broadest definitions and, in the context of both internal and external environments, embrace data collection and analytical strategies in support of decision making at the institution.

Source: Middaugh, M.F. (1990). "The Nature and Scope of Institutional Research," Organizing Effective Institutional Research Offices. New Directions for Institutional Research, no. 66. San Francisco, Jossey-Bass.

MEET THE TEAM

SANDRA KINNEY

Sandra Kinney has over 25 years of higher education experience in higher education administration with a focus on institutional research, data warehouse design, business intelligence tools, and Enterprise Resource Planning (ERP) implementation. She has worked at both the institution level and the state system level.

Sandra was heavily involved in the planning and development of Georgia's longitudinal data system. She has served on the National Postsecondary Education Cooperative (NPEC) and participated in the policy working group in the Post-Collegiate Outcomes collaborative project funded by the Bill & Melinda Gates Foundation. Sandra has been a contributing author on more than 30 national publications for the government and think tank organizations and has given more than 50 presentations on her work.

Jason L. Wang, Ph.D., is the Data Management Specialist in the Office of Institutional Research and Planning where he supports Georgia Tech's institutional research and decision support efforts. His responsibilities include running data reports, His responsibilities include statistical analysis and data visualization for institutional surveys, reports, and projects.

JASON WANG, PH.D.

Jason has an active interest in higher education and pedagogy. He has assisted with and taught multiple courses in the Woodruff School of Mechanical Engineering and College of Engineering including COE2001 (Statics) and COE3001 (Mechanics of Deformable Bodies). He worked as a graduate research assistant in the Center for Teaching and Learning in support of their programmatic efforts to advance teaching and learning innovation on campus. He also served in various leadership positions for the Georgia Tech's American Society for Engineering Education (ASEE) student chapter helping to establish the annual STEM Research Expo and INSPIRE^2 Workshop.

Jason is a proud Ramblin' Wreck from Georgia Tech and earned his B.S. (2008) and M.S. (2010) in Mechanical Engineering and his Ph.D. in Bioengineering in 2018. He enjoys spending his days off gardening, hiking, camping, and relaxing with his friends, family, and two dogs.

TROY SHAW, PH.D.

Troy Shaw, Ph.D., is an educator, researcher, data specialist, and project manager with over 15 years of experience in institutional research and effectiveness, assessment and evaluation, academic affairs, strategic planning, and educational leadership. He has served as an assistant dean, associate and adjunct professor, and project manager. Troy is also a National Science Foundation (NSF) panelist and research reviewer, AdvanED© (Now Cognia) STEM evaluator, and has served as a technical review panelist for the National Center for Education Statistics (NCES).

In addition to his full-time role at Georgia Institute of Technology, Troy is a lecturer of Educational Research and Leadership at Mercer University's Tift College of Education. He has taught graduate courses in educational research, qualitative research methods, assessment and evaluation, institutional effectiveness, and dissertation development. He is also a lead methodologist for several external research grants as well as an external evaluator for nonprofit organizations. Troy is heavily involved in working with P-12 STEM education initiatives, including program development and serving as a board member for educational support agencies. Prior to his career in education, he practiced architecture in North Carolina and Tennessee, specializing in educational facilities, which honed his skills in strategic planning, organization, and project management.

Samantha James has over 15 years at Georgia Tech in both academic and research unit operations. During this time, she occupied roles in Finance, Accounting, Administrative Support, Student Human Resources, and now in the Office of Institutional Research and Planning. In these roles, she has learned, trained, advocated, and analyzed procedures, voicing techniques to increase the productivity of several processes. She assisted in the development and tactical implementation of administrative improvement, financial strategy, and department-wide trainings to incorporate efficiency and consistency among those tasks to ultimately facilitate better organizational practices.

SAMANTHA JAMES

As a Business Analyst, she now combines that organizational business knowledge to provide a holistic analysis of processes, efficiency, and institutional data. From the analysis, she then communicates findings via reports, work flows, instructional guides, and presentations for leadership to make strategic business decisions on processes and planning.

Samantha has a B.S.B. in Finance and is currently working toward an MBA. Samantha's greatest qualities, per Gallup – CliftonStrengths, is she is analytic, consistent, disciplined, productive, and promotes harmony in her surroundings.

VALERIE ROBERTS

Valerie Roberts is a business analyst, self-taught graphic artist, and resident Jack-of-All-Trades in the Office of Institutional Research and Planning. In addition to curating and creating content for IRP's website, she designs infographics and data visualizations, produces the annual online/archival Fact Book and print Mini Fact Book, and assists other analysts with research projects. Known to her colleagues as the "Sherlock Holmes of Data," Valerie has acquired a working knowledge of descriptive statistics, SQL, query modeling, and research methodologies. Her professional goal is to develop web applications for decision support.

Valerie possesses a unique combination of technical and graphic design skills. On her own initiative she is developing IRP's visual branding. She creates custom graphics and page layouts for reports, presentations, and the website. On the side, she does some copy editing and writing.

HOWARD SHULMAN

Howard Shulman has a Master's in Computer Science and over 50 years of experience in the field. He has worked for the United States Department of the Army, Bell Labs, Unisys, and Georgia Piedmont Technical College, in addition to working as an independent consultant.

His areas of expertise are in general programming, SQL for SQL Server and Oracle, and web design. He has taught college-level courses in C, C++, C#, Visual Basic, and Java. He has also developed applications in these languages and Fortran as well.
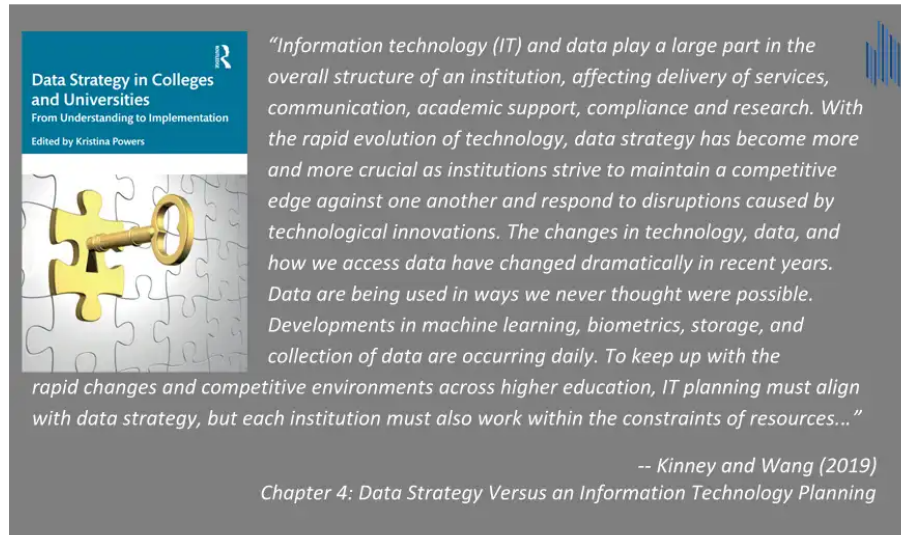
Jason Wang and Sandra Kinney published a chapter in a book on data strategy.

AN EXCERPT FROM DATA STRATEGY IN COLLEGES AND UNIVERSITIES:

Data Strategy in Colleges and Universities
From Understanding to Implementation
Edited by Kristina Powers

"Information technology (IT) and data play a large part in the overall structure of an institution, affecting delivery of services, communication, academic support, compliance and research. With the rapid evolution of technology, data strategy has become more and more crucial as institutions strive to maintain a competitive edge against one another and respond to disruptions caused by technological innovations. The changes in technology, data, and how we access data have changed dramatically in recent years. Data are being used in ways we never thought were possible. Developments in machine learning, biometrics, storage, and collection of data are occurring daily. To keep up with the rapid changes and competitive environments across higher education, IT planning must align with data strategy, but each institution must also work within the constraints of resources..."

-- Kinney and Wang (2019)
Chapter 4: Data Strategy Versus an Information Technology Planning

https://instituteforeffectiveness.org/spotlight-strategy-sandra-kinney

Best Presentation at the Georgia Association for Institutional Research Planning and Quality 2019.
1st Place: Sandra Kinney and Jason Wang (Georgia Institute of Technology).
Combining Federal Data Sets with Institutional Data

http://irp.gatech.edu/research-reports/combining-federal-institution-data
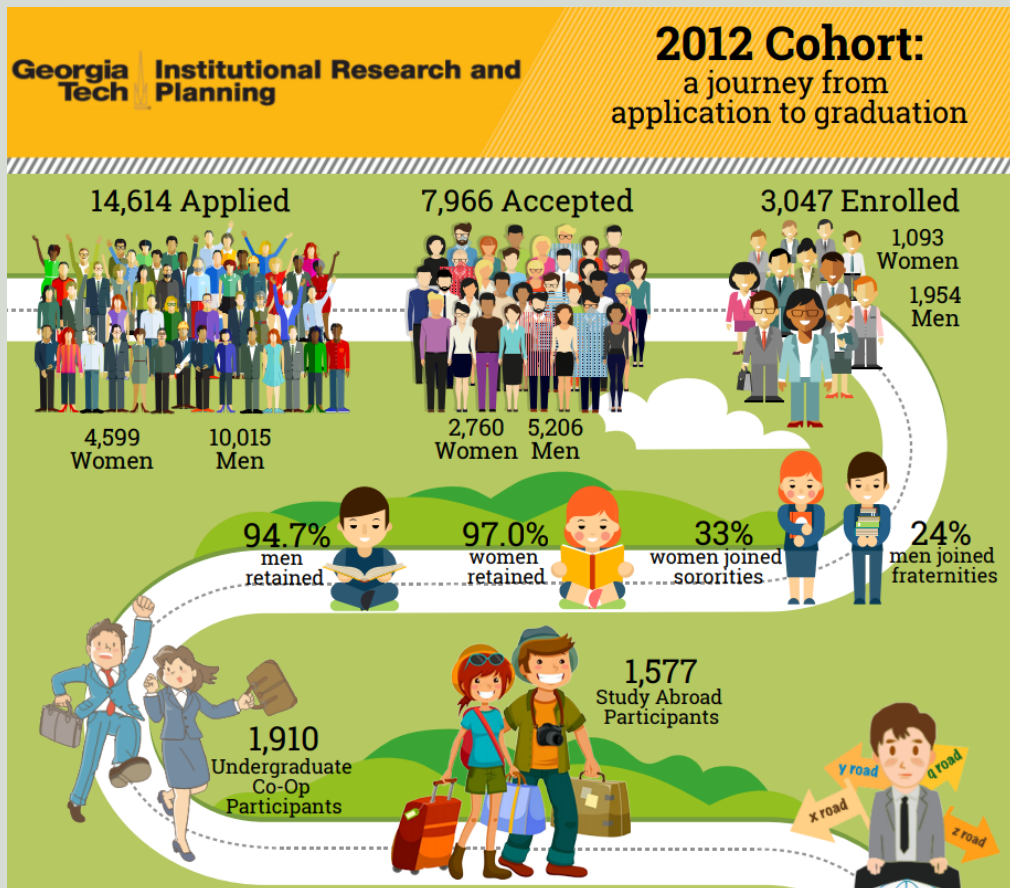
Sandra Kinney was selected as an IPEDS Educator. IPEDS Educators are selected every two years in a competitive process through a contract with RTI and funded by the National Center for Education Statistics. IPEDS Educators are highly experienced in providing and using IPEDS data and have expertise in working with different sectors of higher education. Nationwide, only 30 educators are selected with approximately 10 to 12 educators selected as lead educators. Sandra has been an IPEDS educator for 18 years and is one of the longest-serving educators in the group. She has developed the following curriculum: Finance for IR Professionals, The Public Fact of Your Institution, and Benchmarking.

https://www.airweb.org/collaborate-learn/ipeds-training-center/courses-workshops/current-ipeds-educators

STAFF ACCOMPLISHMENTS

Valerie is currently working towards a Master of Science in Information Technology in the College of Computing and Software Engineering at Kennesaw State University. She maintains a 4.0 GPA and has qualified for the Dean's 4.0 Club for three consecutive semesters. In addition to maintaining IRP's website, she designed a staff info page, a dashboard for ABET accreditation, and most of the infographics.

Georgia Tech | Institutional Research and Planning

2012 Cohort: a journey from application to graduation

14,614 Applied
4,599 Women   10,015 Men

7,966 Accepted
2,760 Women   5,206 Men

3,047 Enrolled
1,093 Women
1,954 Men

94.7% men retained

97.0% women retained

33% women joined sororities

24% men joined fraternities

1,910 Undergraduate Co-Op Participants

1,577 Study Abroad Participants

y road   a road   x road   z road

Samantha is currently working towards a Master of Business Administration in the Coles College of Business at Kennesaw State University. She has maintained a 4.0 GPA throughout her program, which will be complete as of Summer 2021.

Institutional Research and Analysis

The following are examples of some reports that IRP has completed in the past two years. Although this is by no means an exhaustive list, it gives a good indication of the projects IRP has worked on in the past two years.

Academic Data

- Low Course Enrollment
  This study was requested by the Provost to examine lecture courses with low enrollment from Fall 2015 to Spring 2019. The analysis included qualitative analysis provided by narrative summaries by Deans from each College at Georgia Tech and quantitative analysis using course data pulled from Banner. Courses excluded from the study included those that were small by design, restricted enrollment, small program, new course offering or non-traditional lecture (seminars, studios, etc.).

- ECE Curriculum Study
  This mixed-methods study was conducted to determine the impact certain curricular revisions would have on the BSCMPE and BSEE programs, including determining the feasibility of changing the current BSCMPE and BSEE Technical Interest Models to an Integrated Thread Model similar to the BSCS, BSCS-LMC, BSCM, and BSCM-LCC models employed by Georgia Tech's College of Computing and Ivan Allen college of Liberal Arts.

- Classification of Instructional Programs Review
  The Classification of Instructional Programs (CIP) provides a taxonomic scheme that supports the accurate tracking and reporting of fields of study and program completions activity. The CIP was originally developed by the U.S. Department of Education's National Center for Education Statistics (NCES) in 1980, with revisions occurring approximately every 10 years. The CIP 2020 contains more than 300 new programs of study. The CIP Review examined Georgia Tech's programs and the codes assigned to them.

- STEM Designated Programs
  IRP worked with several colleges to determine programs that could be classified as STEM designated. These are programs that do not have a STEM Classification of Instructional Program (CIP) but where more than 50 percent of required courses are STEM courses.

Staff Data

- Staff Salary Equity Report
  This study is conducted periodically to determine whether any inequities exist in pay across various demographic, years of experience, and other occupational factors.

Student Data

- First-Year Outcomes
  This study examined both freshman and transfer students in their first year at Georgia Tech. The study examined grade forgiveness policies for freshman students and the courses frequently repeated by freshman. The study also examined how transfer students performed in their first year at Georgia Tech and the subject area/courses students performed poorly in.

- Advanced Placement, International Baccalaureate, and Dual Enrollment Study
  This report examines the trends in the number of freshmen receiving credit for Advanced Placement, Dual Enrollment and International Baccalaureate from 2010 through 2018 including impacts on academic performance and trends in numbers of students receiving academic credits from these pre-college programs.

- Freshman Retention and Graduation
  The Freshman Retention and Graduation study is produced each year to monitor the progress of transfer students to Georgia Tech in student success including retention and graduation. Each year, different aspects of retention and graduation are examined to provide additional context to programs or behaviors that may affect student graduation or time-to-graduation at Georgia Tech.

- Transfer Graduation and Retention
  The Transfer Retention and Graduation study is produced each year to monitor the progress of transfer students to Georgia Tech in student success including retention and graduation. Each year, different aspects of retention and graduation are examined to provide additional context to programs or behaviors that may affect student graduation or time-to-graduation at Georgia Tech.
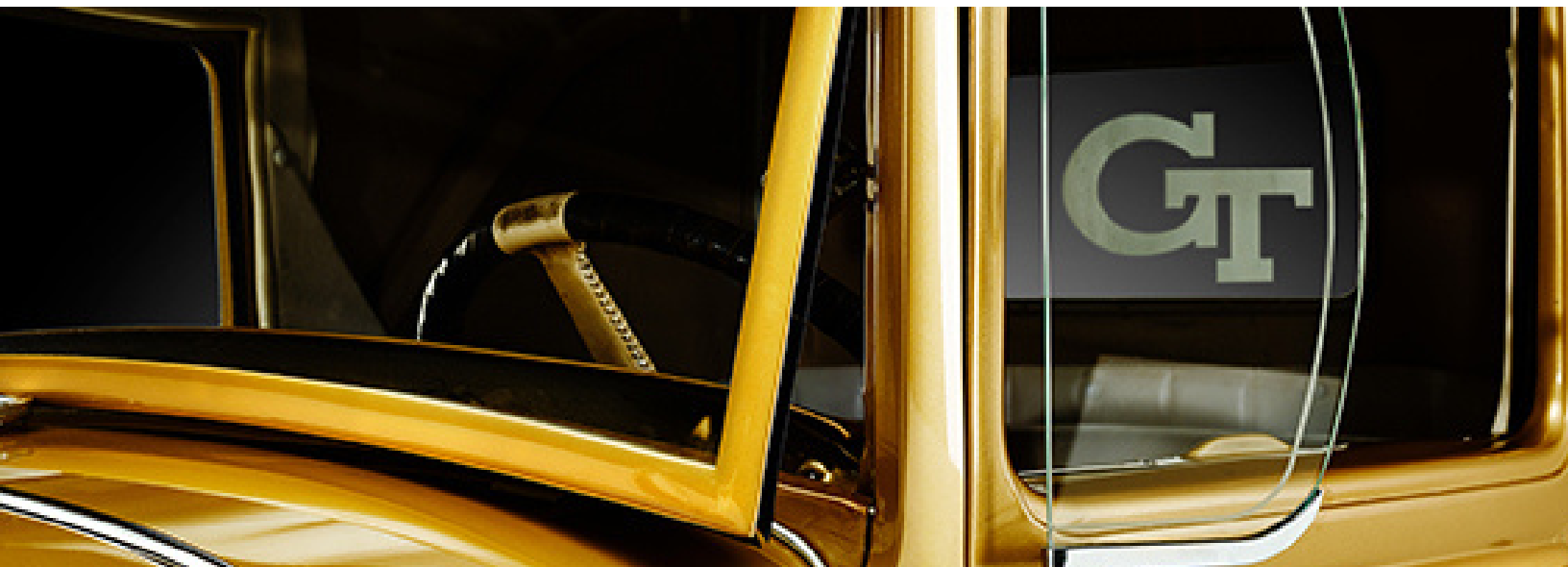
⟫ Institutional Planning and Support

Institute Data

- Assist with Open Records and Solomon Act requests

- Provide data for grants such as T32 Training Grants and Minority Grants

- Provide data for Institutional Review Board (IRB) approved requests

- Ad hoc data requests

- Data in support of research for academic units

- Disclosures
  - SACS
  - Student Success

- Institute Strategic Planning Support

- Analysis of U.S. News & World Report rankings data

Student Data

- Student disclosure on enrollment and success metrics for College of Engineering accreditation by the Accreditation Board for Engineering & Technology (ABET)

- Data for COE Center for Engineering Education and Diversity grants

- Enrollment projections

⟫ External Reporting

- Non-governmental surveys (e.g., AAUDE, AAUP)

- Federal and State compliance reporting (e.g., IPEDS, USG fiscal/other)

⟫ IRP Projects

- Collaborative assistance with Summer Programs

- Collaboration with Georgia Power and Georgia Dept of Labor on data usage best practices

- NSF research and interactive dashboard

- Migrated and redesigned IRP website from Drupal 7 to Drupal 8

- Fact Book -- archiving Georgia Tech's year in numbers

- AAMI Grant - USG's African-American Male Initiative
- AAUDE Faculty Salary Survey
- AAUDE First Time Freshman Profile Survey
- AAUP Faculty Salary Survey
- ACT Institutional Data Questionnaire
- ALA APA Library Study
- American Talent Initiative (ATI)
- Atlanta Business Chronicle - Area's Largest Colleges/Universities
- Atlanta Business Chronicle - Top Employers
- Atlanta Regional Council for Higher Education (ARCHE) Enrollment Survey
- Barron's Profiles of American Colleges
- Cambridge Associates Tuition Survey
- CGS International Graduate Admissions Survey
- Clarivate Analytics/ Thomson Reuters Global Institutional Profiles Project
- College Board: Annual Survey of Colleges - Common Data Set
- College Board: Section G Tuition Update
- Common Data Set
- Consortium for Student Retention Data Exchange (CSRDE) Sec 1 - FTFT students, required for all 4-year institutions
- Council of Graduate Schools (CGS) - GRE Survey of Graduate Enrollment
- CUPA Faculty Salary Survey
- Institutional Survey for The Elite College Guide
- IPEDS
  - 12 Month Enrollment
  - 200% Graduation Rates (GR200)
  - Academic Libraries
  - Admissions
  - Completions Survey
  - Faculty Human Resources
  - Fall Enrollment Survey
  - Finance Survey
  - Graduation Rates Survey
  - IC-Header
  - Institutional Characteristics Survey
  - Outcome Measures
  - Student Financial Aid Survey
- Kiplinger Update
- Moody's
  - Bond Rating Presentation
  - Tuition Survey

- NACME Retention to Graduation Report
- NACUBO-TIAA Study of Endowments (NTSE)
- National Science Foundation (NSF)
  - NIH/GSS Survey of Grad Students & PostDocs Part 1 and Part 2
  - Research & Development Survey (NSF - HERD)
  - Survey of Research and Computing Facilities
  - WebAMP Survey
- Oklahoma State Faculty Salary Survey
- Peterson's
  - Annual Survey of Graduate and Professional Institutions
  - Annual Survey of Undergraduate Institutions
  - Interim Expenses Update for Undergraduate Institutions
  - Survey of Undergraduate Financial Aid
  - Tuition Update
- Princeton Review
  - Common Data Set
  - Review Data Set
- Purdue Strategic Plan Indicators
- QS Academic/Employer Reputation Survey
- Retention and Graduation Studies
- Student Achievement Measured (SAM)
- Sustainability Tracking Assessment and Rating System (STARS)
- Southern University Group (SUG)
  - Department Chair/Head Salary Survey
  - Library Salary Survey
  - SREB Survey
  - Tuition and Fees
  - University of Alabama Administrative Salary Survey
  - University of Alabama Faculty Salary Survey
- Times Higher Education World University Rankings
- University of Wyoming Tuition & Fees Survey
- US News & World Report
  - Best Colleges - Main Statistical Survey
  - Best Colleges Ranking Release & Analysis
  - Best Colleges Reputation Survey Contact Verification
  - Graduate Engineering
- University of Virginia (UVA)
  - State Appropriations/FTE Survey
  - Tuition and Fees Survey

- Academic Analytics - Faculty Data
- Academic Program Review
  - Scheller College of Business
  - Building Construction
  - Earth and Atmospheric Sciences
  - Interdisciplinary
    - COE;* COC; COD; COS; Emory
    - COS;* COC; COE
    - SCoB;* COE, COS
  - Literature, Media, and Communication
- Academic Program Reviews 2021 - 2022
- Academic Unit Data Support
- Budget Narratives
- Challenges and Edge Tracking
- College Performance Indicators
- Curriculum Inventory Report
  - Fall
  - Spring
  - Summer
- USG Data Collection Verification
  - Academic Data Collection
  - Financial Aid Data Mart
  - Human Resources Data Mart
  - Outcomes Measures
- Enrollment Forecasting Models
- Fact Book
  - Online
  - PDF
  - Data extraction for select tables
  - Printed Mini edition

- Faculty Data Capture (November 1)
- Faculty Salary Benchmarking
- Financial Aid Data Verification
- Full Time Freshmen (FTF) Cohort Analysis
- General Research Reports
- Graduate Admissions
- Graduate Cohort Analysis
- Major Migration Patterns
- NCAA Athletics
  - Athlete Internships
  - Graduation and retention rates
  - Student athletes by academic standing
  - Student athletes by status
- Non-Registered Students Lists (summer)
- Non-Returning Students Survey for Brent Griffin
- Open Records Request
- Southern Assoc. of Colleges and Schools (SACS)
  - Financial Profile
  - Institutional Profile
- Salary Equity Study
- SEVIS Program listing by College
- SOUP Participation and Grades
- Strategic Planning Support
- Summer Programs Collaborative Assistance
- T32 NIH NRT Training Grants
- Transfer Cohort Analysis
- Tuition Analysis
- Tuition Differentials by Programs

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