DATA SCIENCES, B.S. (SCIENCE)

Begin Campus: Any Penn State Campus

End Campus: University Park

Program Description

Data Sciences is a field of study concerned with developing, applying, and validating methods, processes, systems, and tools for drawing useful knowledge, justifiable conclusions, and actionable insights from large, complex and diverse data through exploration, prediction, and inference. Data Sciences integrate aspects of Computer Science, Informatics, and Statistics to yield powerful data science methods, systems, tools, and best practices that find applications across a broad range of application domains. The curriculum for the major is designed to equip students with the knowledge and the skills needed to elicit, formulate, and solve data sciences problems using modern data science methods, tools, and best practices for data management, data exploration, data integration, predictive modeling (using machine learning), and effectively communicate their findings to, and collaborate with a broad range of stakeholders. The students will gain the critical analytical skills needed to assess the feasibility, benefits, effectiveness, limitations, risks, and ethical implications of applying data sciences methods in different settings. Experiences such as the capstone project prepare students to function effectively as members of interdisciplinary data science teams to harness the potential of data to enable discovery, optimize products and processes, and inform decisions. As distinct from majors that focus primarily on developing data science knowledge and skills to support inquiry in other domains, the primary focus of the Data Sciences major is on the development, evaluation, application, and validation of the data science tools themselves. All students in the major receive in-depth training in data sciences through a set of core courses. Additionally, data sciences students specialize in one of the following options: applied, computational, or statistical modeling data sciences, as described below.

Applied Data Sciences (DATSC_BS)

Only available through the College of Information Sciences and Technology

The students in the Applied DS option will receive exposure to an application domain so they are equipped to formulate and solve data science problems drawn from the chosen domain, e.g., life and health sciences, business, behavioral and cognitive sciences, physical sciences, agricultural sciences, among others.

Computational Data Sciences (DTSCE_BS)

Only available through the College of Engineering

The students in the Computational DS option will receive additional training in Computer Science to be able to design, analyze, implement, and deploy advanced algorithms, hardware and software architectures, and systems for data management and analyses.

Statistical Modeling Data Sciences (DTSCS_BS)

Only available through the Eberly College of Science

The students in the Statistical modeling DS option will receive additional training in Statistics to be able to formulate, develop, and apply the proper statistical models and methods for data analyses, e.g., experiment design, sampling, hypotheses testing, and limiting false discovery.

What is Data Sciences?

Data Sciences is a field that explores the methods, systems, and processes used to extract knowledge from data and turn these insights into discoveries, decisions, and actions. The emergence of massive amounts of data – also known as “big data” – found in our world through healthcare records, human sensors, digital media, and a number of other sources has increased the need for individuals who can obtain useful knowledge from big data and apply it to address major societal challenges across a variety of fields. Students pursuing this degree will develop the knowledge and skills needed to manage and analyze large-scale, unstructured data to address an expanding range of problems in industry, government, and academia.

MORE INFORMATION ABOUT DATA SCIENCES (https://ist.psu.edu/prospective/undergraduate/academics/data-sciences/)

You Might Like This Program If...

- You are curious about analyzing information to discover new insights.
- You want to apply data analytics to make strategic decisions.
- You want to understand how data can be used to visualize phenomena using AI and data science techniques.
- You are interested in statistics, mathematics, and the social sciences, and want to combine these disciplines to understand what data is really telling us.

MORE INFORMATION ABOUT WHY STUDENTS CHOOSE TO STUDY DATA SCIENCES (https://ist.psu.edu/prospective/undergraduate/academics/data-sciences/)

Entrance to Major

To be eligible for entrance into the Data Sciences major, a degree candidate must satisfy requirements for entrance to the major.

Specific entrance requirements include:

1. The degree candidate must be taking, or have taken, a program appropriate for entry to the major as shown in the bulletin.
2. The degree candidate must complete the following entrance-to-major requirements: CMPSC 121* or CMPSC 131*, CMPSC 122* or CMPSC 132*, MATH 140*, MATH 141*, STAT 200* or DS 200*. These courses must be completed by the end of the semester during which the entrance to major process is carried out.

* *Course requires a grade of C or better.*

Degree Requirements

For the Bachelor of Science degree in Data Sciences, a minimum of 123 credits is required:

Requirement	Credits
General Education	45
Electives	3-12
Requirements for the Major	72-81

6 of the 45 credits for General Education are included in the Requirements for the Major. This includes: 6 credits of GQ courses.

Requirements for the Major

To graduate, a student enrolled in the major must earn a grade of C or better in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 (https://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#82-44).

Common Requirements for the Major (All Options)

Code	Title	Credits
Prescribed Courses		
Prescribed Courses: Require a grade of C or better		
DS 220	Data Management for Data Sciences	3
DS 340W	Applied Data Sciences	3
DS 435	Ethical Issues in Data Science Practice	3
MATH 140	Calculus With Analytic Geometry I	4
MATH 141	Calculus with Analytic Geometry II	4
MATH 220	Matrices	2
STAT 184	Introduction to R	2
STAT 380	Data Science Through Statistical Reasoning and Computation	3
Additional Courses		
Additional Courses: Require a grade of C or better		
1 credit of First-Year Seminar		1
CMPSC 121	Introduction to Programming Techniques	3
or CMPSC 131	Programming and Computation I: Fundamentals	
CMPSC 122	Intermediate Programming	3
or CMPSC 132	Programming and Computation II: Data Structures	
DS 440	Data Sciences Capstone Course	3
or DS 440W	Data Science Capstone	
Requirements for the Option		
Select an option		38-47

Requirements for the Option

Applied Data Sciences (DATSC_BS): 47 credits
Only Available through the College of Information Sciences and Technology

Code	Title	Credits
Prescribed Courses		
Prescribed Courses: Require a grade of C or better		
DS 200	Introduction to Data Sciences	4
DS 300	Privacy and Security for Data Sciences	3
DS 305	Algorithmic Methods and Tools	3
DS 310	Machine Learning for Data Analytics	3
DS 320	Data Integration	3
DS 330	Visual Analytics for Data Sciences	3
DS/CMPSC 410	Programming Models for Big Data	3
IST 495	Internship	1
Additional Courses		
Select 6 credits from any combination:		6
DS 402	Emerging Trends in the Data Sciences	
DS 420	Network Analytics	
DS/CMPSC 442	Artificial Intelligence	
DS 494	Research Project	
IST 441	Information Retrieval and Organization	
IST 442	Information Technology in an International Context	
SODA 308	Research Design for Social Data Analytics	
Additional Courses: Require a grade of C or better		
Select 3 credits from the following:		3
CMPSC 360	Discrete Mathematics for Computer Science	
IST 230	Language, Logic, and Discrete Mathematics	
MATH 311W	Concepts of Discrete Mathematics	
Select 3 credits from the following:		3
STAT/MATH 318	Elementary Probability	
STAT/MATH 414	Introduction to Probability Theory	
STAT/MATH 418	Introduction to Probability and Stochastic Processes for Engineering	
Supporting Courses and Related Areas [1]		
Select 12 credits from the lists of Application Focus courses; 6 credits must at at the 300- or 400-levels.		12

[1] Students may apply up to 3 credits of ROTC as option Application Focus list credits and 3 credits of ROTC as GHW credits.

LIST OF APPLIED DATA SCIENCES COURSES (https://bulletins.psu.edu/undergraduate/colleges/information-sciences-technology/data-sciences-bs/#suggestedacademicplantext)

Computational Data Sciences (DTSCE_BS): 47 credits
Only Available through the College of Engineering

Code	Title	Credits
Prescribed Courses		
Prescribed Courses: Require a grade of C or better		
CMPSC 221	Object Oriented Programming with Web-Based Applications	3
CMPSC 360	Discrete Mathematics for Computer Science	3
CMPSC 442	Artificial Intelligence	3
CMPSC 448	Machine Learning and Algorithmic AI	3
CMPSC 461	Programming Language Concepts	3
CMPSC 465	Data Structures and Algorithms	3
DS/CMPSC 410	Programming Models for Big Data	3
MATH 230	Calculus and Vector Analysis	4
STAT/MATH 414	Introduction to Probability Theory	3
STAT/MATH 415	Introduction to Mathematical Statistics	3
Additional Courses		
Additional Courses: Require a grade of C or better		
DS 200	Introduction to Data Sciences	4
or STAT 200	Elementary Statistics	
Supporting Courses and Related Areas [1]		
Select 6 credits from Computational Option List A in Appendix C		6
Select 6 credits from Computational Option List B in Appendix C		6

[1] Students may apply up to 3 credits of ROTC as option list credits and 3 credits of ROTC as GHW credits.

LIST OF COMPUTATIONAL DATA SCIENCES COURSES (http://www.eecs.psu.edu/students/undergraduate/Data-Sciences.aspx)

Statistical Modeling Data Sciences (DTSCS_BS): 38 credits
Only Available through the Eberly College of Science

Code	Title	Credits
Prescribed Courses		
Prescribed Courses: Require a grade of C or better		
MATH 230	Calculus and Vector Analysis	4
STAT/MATH 414	Introduction to Probability Theory	3
STAT/MATH 415	Introduction to Mathematical Statistics	3
STAT 440	Computational Statistics	3
STAT 462	Applied Regression Analysis	3
Additional Courses		
Additional Courses: Require a grade of C or better		
DS 200	Introduction to Data Sciences	4
or STAT 200	Elementary Statistics	
DS 310	Machine Learning for Data Analytics	3
or CMPSC 448	Machine Learning and Algorithmic AI	
MATH 311W	Concepts of Discrete Mathematics	3
or CMPSC 360	Discrete Mathematics for Computer Science	
Supporting Courses and Related Areas [1]		
Select 6 credits from Statistical Modeling Option List A courses, see Appendix D		6
Select 6 credits from Statistical Modeling Option List B courses, see Appendix D		6

[1] Students may apply up to 3 credits of ROTC as option list credits and 3 credits of ROTC as GHW credits.

LIST OF STATISTICAL MODELING DATA SCIENCES COURSES (p. 4)

General Education

Connecting career and curiosity, the General Education curriculum provides the opportunity for students to acquire transferable skills necessary to be successful in the future and to thrive while living in interconnected contexts. General Education aids students in developing intellectual curiosity, a strengthened ability to think, and a deeper sense of aesthetic appreciation. These are requirements for all baccalaureate students and are often partially incorporated into the requirements of a program. For additional information, see the General Education Requirements (https://bulletins.psu.edu/undergraduate/general-education/baccalaureate-degree-general-education-program/) section of the Bulletin and consult your academic adviser.

The keystone symbol appears next to the title of any course that is designated as a General Education course. Program requirements may also satisfy General Education requirements and vary for each program.

Foundations (grade of C or better is required and Inter-Domain courses do not meet this requirement.)

- **Quantification (GQ):** 6 credits
- **Writing and Speaking (GWS):** 9 credits

Breadth in the Knowledge Domains (Inter-Domain courses do not meet this requirement.)

- **Arts (GA):** 3 credits
- **Health and Wellness (GHW):** 3 credits
- **Humanities (GH):** 3 credits
- **Social and Behavioral Sciences (GS):** 3 credits
- **Natural Sciences (GN):** 3 credits

Integrative Studies

- **Inter-Domain Courses (Inter-Domain):** 6 credits

Exploration

- **GN,** may be completed with Inter-Domain courses: 3 credits
- **GA, GH, GN, GS, Inter-Domain courses.** This may include 3 credits of World Language course work beyond the 12th credit level or the requirements for the student's degree program, whichever is higher**:** 6 credits

University Degree Requirements

First Year Engagement

All students enrolled in a college or the Division of Undergraduate Studies at University Park, and the World Campus are required to take 1 to 3 credits of the First-Year Seminar, as specified by their college First-Year Engagement Plan.

Other Penn State colleges and campuses may require the First-Year Seminar; colleges and campuses that do not require a First-Year Seminar provide students with a first-year engagement experience.

First-year baccalaureate students entering Penn State should consult their academic adviser for these requirements.

Cultures Requirement

6 credits are required and may satisfy other requirements

- United States Cultures: 3 credits
- International Cultures: 3 credits

Writing Across the Curriculum

3 credits required from the college of graduation and likely prescribed as part of major requirements.

Total Minimum Credits

A minimum of 120 degree credits must be earned for a baccalaureate degree. The requirements for some programs may exceed 120 credits. Students should consult with their college or department adviser for information on specific credit requirements.

Quality of Work

Candidates must complete the degree requirements for their major and earn at least a 2.00 grade-point average for all courses completed within their degree program.

Limitations on Source and Time for Credit Acquisition

The college dean or campus chancellor and program faculty may require up to 24 credits of course work in the major to be taken at the location or in the college or program where the degree is earned. Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80 (https://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#83-80)). For more information, check the Suggested Academic Plan for your intended program.

Integrated B.S. in Data Sciences and M.A.S. in Applied Statistics

Requirements for the Integrated B.S. in Data Sciences and M.A.S. in Applied Statistics can be found in the Graduate Bulletin

(https://bulletins.psu.edu/graduate/programs/majors/statistics/#integratedundergradgradprogramstext).

Program Learning Objectives

1. **Knowledge:** Understand the technical fundamentals of data sciences with a focus on developing the knowledge and skills needed to manage and analyze data to solve problems in our world.
   a. Integrate statistical concepts/methods and computational/machine learning methods to discover the structure of data and build predictive models.
   b. Apply the principles of data management to organize and use different types of data, both structured and unstructured.
2. **Problem-Solving and Evaluation:** Identify, formulate and solve data science problems that arise in various applications.
   a. Identify and incorporate relevant abstraction and domain knowledge to formulate data science problems in different application contexts.
   b. Design or adapt appropriate statistical, machine learning, and other data science methods for solving specific problems.
   c. Compare, contrast, and evaluate competing data science methods appropriate to the context of the problem.
   d. Employ modern computing infrastructure to scale up data science methods for massive and complex data.
   e. Integrate data from multiple sources while considering the best practices, challenges, and pitfalls of using heterogeneous data to solve problems.
3. **Communication:** Articulate the benefits, risks, formulation, solution, and results of data science projects to diverse stakeholders, including fellow data scientists, collaborators with subject matter expertise, and the general public, using written, verbal, and visual forms.
4. **Teamwork:** Participate effectively on teams in order to accomplish the goals of a project containing data science components.
5. **Data Ethics:** Critically evaluate and conscientiously respond to the ethical and societal implications of data science practice.
   a. Analyze the potential human impacts of data-driven technologies, especially for marginalized communities.
   b. Develop strategies to solve data science problems that reflect shared social and ethical values, such as privacy, security, fairness, and accountability.
   c. Interpret and apply the ethical responsibilities of computing professionals.
   d. Ensure reproducibility of data science analyses.
6. **Lifelong Learning:** Recognize the importance of continued learning beyond graduation.
   a. Demonstrate readiness to join an evolving professional community by participating in professional development, such as reading trade journals and engaging with appropriate professional organizations.
   b. Demonstrate readiness for independent learning by performing literature reviews and staying abreast of current trends within the field of data science.
7. **Option Objectives:**
   a. Applied Data Sciences Option: Gain in-depth knowledge in a chosen application focus area and demonstrate skills to formulate and solve data science problems in the context of applications in that area.
   b. Computational Data Sciences Option: Design, development, and analysis of software (computational solutions) for data science problems.
   c. Statistical Modeling Data Sciences Option: Demonstrate facility with common regression-based inferential modeling techniques including analysis of variance, generalized linear models, multiple regression, and logistic regression, as well as proficiency in basic statistical optimization and simulation techniques.

Academic Advising

The objectives of the university's academic advising program are to help advisees identify and achieve their academic goals, to promote their intellectual discovery, and to encourage students to take advantage of both in-and out-of class educational opportunities in order that they become self-directed learners and decision makers.

Both advisers and advisees share responsibility for making the advising relationship succeed. By encouraging their advisees to become engaged in their education, to meet their educational goals, and to develop the habit of learning, advisers assume a significant educational role. The advisee's unit of enrollment will provide each advisee with a primary academic adviser, the information needed to plan the chosen program of study, and referrals to other specialized resources.

READ SENATE POLICY 32-00: ADVISING POLICY (https://senate.psu.edu/policies-and-rules-for-undergraduate-students/32-00-advising-policy/)

University Park

Eberly College of Science

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814-865-1348
stat-advising@psu.edu

College of Engineering

CSE Advising
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University Park, PA 16802
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Undergraduate Academic Advising Center
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Suggested Academic Plan

The suggested academic plan(s) listed on this page are the plan(s) that are in effect during the 2024-25 academic year. To access previous years' suggested academic plans, please visit the archive (https://bulletins.psu.edu/undergraduate/archive/) to view the appropriate Undergraduate Bulletin edition.

Statistical Modeling Data Sciences: Data Sciences, B.S. at University Park Campus

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any

time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

First Year

Fall	Credits	Spring	Credits
MATH 140*	4	MATH 141*	4
PSU 16	1	MATH 220*	3
CMPSC 131*	3	CMPSC 132*	3
DS 200*	4	ENGL 15 (GWS)‡	3
STAT 184*	3	General Education Course (Inter-Domain)	3
	15		**16**

Second Year

Fall	Credits	Spring	Credits
MATH 230*	4	STAT 462*	3
CAS 100 (GWS)‡	3	STAT 414*	3
DS 220*	3	DS 435*	3
STAT 380*	3	IL Cultures	3
General Education Course (GS)	3	General Education Course (Inter-Domain)	3
	16		**15**

Third Year

Fall	Credits	Spring	Credits
STAT/MATH 415*	3	DS 310 or CMPSC 448*	3
MATH 311W or CMPSC 360*	3	STAT 440*	3
List B Selection*	3	CMPSC 465*[1]	3
US Cultures	3	List A Selection*	3
General Education Course (Exploration)	3	General Education Course (GN)	3
		General Education Course (GHW)	1.5
	15		**16.5**

Fourth Year

Fall	Credits	Spring	Credits
DS 340W*	3	DS 440*	3
ENGL 202C (GWS)‡	3	General Education Course (GH)	3
List A Selection*	3	General Education Course (GHW)	1.5
General Education Course (GA)	3	General Education Course (Exploration)	3
General Education Course (GN)	3	Elective	3
	15		**13.5**

Total Credits 122

* Course requires a grade of C or better for the major
‡ Course requires a grade of C or better for General Education
\# Course is an Entrance to Major requirement
† Course satisfies General Education and degree requirement

[1] C or better required and required as a prerequisite for DS 440. For those who enter the major before changes, we will take it as a List B class.

University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy Cultural Diversity Requirements (United States and International Cultures).

W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

General Education includes Foundations (GWS and GQ), Knowledge Domains (GHW, GN, GA, GH, GS) and Integrative Studies (Inter-domain) requirements. N or Q (Honors) is the suffix at the end of a course number used to help identify an Inter-domain course, but the inter-domain attribute is used to fill audit requirements. Foundations courses (GWS and GQ) require a grade of 'C' or better.

All incoming Schreyer Honors College first-year students at University Park will take ENGL 137H/CAS 137H in the fall semester and ENGL 138T/CAS 138T in the spring semester. These courses carry the GWS designation and satisfy a portion of that General Education requirement. If the student's program prescribes GWS these courses will replace both ENGL 15/ENGL 30H and CAS 100A/CAS 100B/CAS 100C. Each course is 3 credits.

Advising Notes:

- Classes that listed under US and IL must be unique so that total credits adds up to what's needed. That is, if these classes are in either GN, GA, GS, GH, GHW or Exploration, you will need more credits to meet the total.
- Depending on your year of entrance, total credits required may be different. Please consult an adviser to make sure you are satisfying the degree requirement and total credits adds up to the required amount.
- List A Courses (6 credits required from this list):
  - MATH 435
  - MATH 436 or MATH 441
  - MATH 451 or MATH 455
  - MATH 484
  - MATH 416/STAT 416
  - STAT 461
  - STAT 463
  - STAT 466
  - STAT 483
- List B Courses (6 credits required from this list):
  - DS 320
  - DS 330
  - DS 410
  - DS 402
  - IST 461
  - CMPSC 442
  - CMPSC 465

Statistical Modeling Data Sciences: Data Sciences, B.S. at Commonwealth Campuses

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

First Year

Fall	Credits	Spring	Credits
MATH 140*‡#†	4	MATH 141*‡#†	4
STAT 200 or DS 200*†	4	STAT 184 (DLC section)*	3
PSU 16	1	CMPSC 122 or 132*†	3
CMPSC 121 or 131*†	3	General Education Course (Inter-Domain)	3
ENGL 15 (or General Education Course)‡	3	General Education Course (GS)	3
	15		**16**

Second Year

Fall	Credits	Spring	Credits
MATH 220*†	3	STAT 414*	3
MATH 230*	4	ENGL 202C (GWS)‡	3
CAS 100A (GWS)‡	3	IL Cultures	3
General Education Course (GH)	3	General Education Course (Inter-Domain)	3
General Education Course (GN)	3	General Education Course (GN)	3
		General Education Course (GHW)	1.5
	16		**16.5**

Third Year

Fall	Credits	Spring	Credits
DS 220*	3	DS 310 or CMPSC 448*	3
STAT 380*	3	CMPSC 465*[1]	3
STAT 415*	3	DS 435*	3
STAT 462*	3	List A Selection	3
MATH 311W or CMPSC 360*	3	General Education Course (Exploration)	3
	15		**15**

Fourth Year

Fall	Credits	Spring	Credits
DS 340W*	3	DS 440*	3
STAT 440*	3	List B Selection	3
List A Selection*	3	General Education Course (GHW)	1.5
US Cultures	3	General Education Course (Exploration)	3
General Education Course (GA)	3	Elective	3
	15		**13.5**

Total Credits 122

* Course requires a grade of C or better for the major

‡ Course requires a grade of C or better for General Education

\# Course is an Entrance to Major requirement

† Course satisfies General Education and degree requirement

[1] C or better required and required as a prerequisite for DS 440. For those who enter the major before changes, we will take it as a List B class.

University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy Cultural Diversity Requirements (United States and International Cultures).

W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

General Education includes Foundations (GWS and GQ), Knowledge Domains (GHW, GN, GA, GH, GS) and Integrative Studies (Inter-domain) requirements. N or Q (Honors) is the suffix at the end of a course number used to help identify an Inter-domain course, but the inter-domain attribute is used to fill audit requirements. Foundations courses (GWS and GQ) require a grade of 'C' or better.

Advising Notes:

- Classes that listed under US and IL must be unique so that total credits adds up to what's needed. That is, if these classes are in either GN, GA, GS, GH, GHW or Exploration, you will need more credits to meet the total.
- Depending on your year of entrance, total credits required may be different. Please consult an adviser to make sure you are satisfying the degree requirement and total credits adds up to the required amount.
- List A Courses (6 credits required from this list):
  - MATH 435
  - MATH 436 or MATH 441
  - MATH 451 or MATH 455
  - MATH 484
  - MATH 416/STAT 416
  - STAT 461
  - STAT 463
  - STAT 466
  - STAT 483
- List B Courses (6 credits required from this list):
  - DS 320
  - DS 330
  - DS 410
  - DS 402
  - IST 461
  - CMPSC 442
  - CMPSC 465

Career Paths

Data Sciences blends the technical expertise needed to analyze, interpret, and manage big data with the interpersonal skills needed to communicate insights to a variety of audiences. The program prepares students to meet the growing need for professionals who have the analytical and problem-solving skills to address a wide range of societal

and technical challenges. Many companies participate in career fairs in Engineering, IST and Science with an express interest in hiring data science interns or graduates. A growing number of M.S. and Ph.D. programs await those who wish to pursue more advanced studies.

Careers

Because our courses blend technical knowledge with skills in communication and business, a Data Sciences degree allows students to compete for leading-edge analytics positions across many different industry sectors. Possible careers include: Data Science and AI Engineers, Data Scientist, Data Analyst, Data Specialist, Data Visualization Specialist, IT Analyst, Machine Learning Engineer, Data Engineer, Business Systems Analyst/Consultant.

MORE INFORMATION FOR THE APPLIED DATA SCIENCES OPTION (https://www.ist.psu.edu/current/careers/development/process/path/)

MORE INFORMATION FOR THE COMPUTATIONAL DATA SCIENCES OPTION (https://www.eecs.psu.edu/students/undergraduate/Data-Sciences.aspx)

MORE INFORMATION FOR THE STATISTICAL MODELING DATA SCIENCES OPTION (https://science.psu.edu/stat/undergraduate-programs/)

Professional Resources

- Association for Computing Machinery (https://acm.psu.edu)
- Association for Information Science and Technology (https://www.asist.org)

Contact

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