FUNCTIONAL DATA ANALYTICS, B.S.

Begin Campus: Any Penn State Campus

End Campus: Erie, World Campus

Degree Requirements

For the Bachelor of Science degree in Functional Data Analytics, a minimum of 122 credits is required:

Requirement	Credits
General Education	45
Requirements for the Major	93-98

18 of the 45 credits for General Education are included in the Requirements for the Major. This includes 3 credits of GH courses; 6 credits of GQ courses; 9 credits of GWS courses.

Per Senate Policy 83.80.5, the college dean or campus chancellor and program faculty may require up to 24 credits of coursework in the major to be taken at the location or in the college or program where the degree is earned.

Requirements for the Major

Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

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/students/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/).

Code	Title	Credits
Prescribed Courses		
Prescribed Courses: Require a grade of C or better		
CAS 100	Effective Speech	3
DA 101	Introduction to Data Analytics	3
DA 201W	Descriptive Analytics	4
DA 301	Diagnostic Analytics	3
DA 302W	Predictive Analytics	4
DA 401W	Prescriptive Analytics	4
DA 402	Qualitative Analytics	3
DA 475	Data Analytics Implementation Capstone I	3
DA 476	Data Analytics Implementation Capstone II	3
DIGIT 410	Data Visualization	3
DIGIT/GAME 430	Simulations of Human Behavior	3
ENGL 202C	Effective Writing: Technical Writing	3
IST 230	Language, Logic, and Discrete Mathematics	3
MGMT 409	Project Management for Engineers	3
MIS 415	Social Media Management and Analytics	3
MIS 447	Data Warehousing	3
PHIL 103	Ethics	3
STAT 184	Introduction to R	2
Additional Courses		

Code	Title	Credits
Additional Courses: Require a grade of C or better		
CMPSC 121	Introduction to Programming Techniques	3
or CMPSC 131	Programming and Computation I: Fundamentals	
DA 305	Data Ethics and Privacy	3
or DS 435	Ethical Issues in Data Science Practice	
ENGL 15	Rhetoric and Composition	3
or ENGL 30H	Honors Rhetoric and Composition	
MATH 110	Techniques of Calculus I	4
or MATH 140	Calculus With Analytic Geometry I	
MIS 336	Database Management Systems	3
or IST 210	Organization of Data	
Select 3-4 credits from the following:		3-4
DS 200	Introduction to Data Sciences	
PSYCH 200	Elementary Statistics in Psychology	
SCM 200	Introduction to Statistics for Business	
STAT 200	Elementary Statistics	
STAT 250	Introduction to Biostatistics	
Supporting Courses and Related Areas		
Select one special interest concentration from the program approved list of concentrations.		12-16
Select 6 credits from any major field or course, except STAT 100, MATH 200, MATH 201, any ENGL course below ENGL 15, all KINES (GHW) courses, and any MATH course below MATH 83. Petitions for exceptions are available through the applicable program chair.		6

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/students/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/)). For more information, check the Suggested Academic Plan for your intended program.