MASTER OF SCIENCE IN DATA ANALYTICS

The 🌐 icon appears in the title of traditional courses that are also available as a set of module courses.

Description and Outcomes

The Master of Science in Data Analytics program was designed to provide analytics and other domain professionals with advanced-level knowledge in data analytics skills. In this program, you will apply current statistical theories, tools, and processes to curate, manipulate, and present various forms of data. You will master the ability to effectively process data that supports data-informed decisions. You will gain skills across the analytics life cycle, which include data discovery, data aggregation, planning of the data models, data model execution, communication of the results, and operationalization. Whether you intend to apply analytics skills to your current role, undertake a new specialized analytics position, or improve your decision-making by becoming a more analytics-informed leader, this program will help prepare you for those goals.

Concentrations

The program provides you with the option of selecting a concentration, in addition to the core curriculum requirements. You must have sufficient elective credits remaining to be eligible to add a concentration. The concentrations include AWS cloud technologies, cybersecurity, project management, and secure software development and quality assurance.

Program Length

The Master of Science in Data Analytics program consists of a minimum of 52 quarter credit hours. Upon successful completion of the program, you will be awarded a master of science degree.

Program Outcomes

Discipline-Specific Outcomes

1. Methods and Tools: Evaluate appropriate methods and tools to be applied to analytics-based challenges and opportunities in a given setting.
2. Data Transformation Skills: Transform data sets to provide actionable insights using AI, Machine Learning, statistical and analytics software, e.g., Python, R, SQL, and Tableau.
3. Data Analytics Life Cycle: Master the steps in the analytics life cycle from data curation and manipulation through presentation of findings and operationalization.
4. Data Infrastructure Skills: Devise infrastructure systems to ensure the quality, security, and privacy of data.

Professional Competencies

In addition to the discipline-specific outcomes, professional competencies are integrated throughout your academic program. You can review the professional competencies associated with your academic program in the Professional Competencies (https://catalog.purdueglobal.edu/graduate/professional-competencies/) section of this Catalog.

Program Availability

For program availability, please refer to the U.S. State and Other Approvals (https://catalog.purdueglobal.edu/policy-information/university-information/accreditation-approvals-memberships/) section and Program Availability Information (https://www.purdueglobal.edu/catalog-program-availability-info.pdf).

Policies

Admissions Requirements

You must meet the below admissions requirements in addition to Purdue Global's general requirements (https://catalog.purdueglobal.edu/policy-information/admissions/).

The Dean of the School of Business and Information Technology or a designee will determine if you may enroll.

If you are accepted, you will be provided with an individualized learning plan based on an assessment of your prior learning and/or experience upon enrollment. If you do not have an undergraduate or graduate degree in analytics or a related field, you may be required to complete one or more of the following courses to fulfill open elective requirements:

- IN500 Survey of Modern Data Analytics
- IN501 Fundamentals of Computer Programming
- IN502 Python and R and Statistics Tools
- IN503 Introduction to AI: Machine Learning and Deep Learning
- IN555 Statistics for Analytics
- IT527 🌐 Foundations in Data Analytics

Accelerated Master of Science in Data Analytics

If you are a graduate of the University's Bachelor of Science in Analytics, Bachelor of Science in Cloud Computing and Solutions, Bachelor of Science in Cybersecurity, or Bachelor of Science in Information Technology, are granted admission to the Master of Science in Data Analytics, and meet the requirements for the accelerated Master of Science in Data Analytics option, you may have up to three courses waived to matriculate into a shortened program.

In order to qualify for the graduate course waivers, you must meet the following criteria:

1. Complete your bachelor's degree with a minimum cumulative GPA of 3.2.
2. Obtain a grade of "B" or above in each of the undergraduate courses required for the graduate course waiver (defined below).

Waived Graduate Course	Undergraduate Courses Required for Graduate Course Waiver
IN500	IN300, IN301, IN302, and MM207
IN501	IN300 and IN304; OR IT244, IT213, and IT232
IN502	IN300, IN301, IN304, MM207
IN503	IN400, IN403, and IN404

Progression Requirements

You may enroll in no more than one course per session for your first three sessions. After completing your third session, you may enroll in two courses per session if your cumulative GPA is 3.5 or higher. Exceptions to

this policy require the approval of the Dean of the School of Business and Information Technology or a designee.

Certification, State Board, and National Board Exams

Certain state certification and licensure boards have specific educational requirements for programs to lead to a license or nongovernmental certification that is a precondition for employment in a recognized occupation.

Unless otherwise specified, Purdue Global's programs are not designed to meet any specific state's licensure or certification requirements. If certain licensed occupations, vocations, or professions are not explicitly listed, Purdue Global has not reviewed the licensure or certification requirements of those occupations, vocations, or professions, nor intended the program to meet such requirements. Licensure-track programs may limit enrollment to students in certain states; please see Purdue Global's Program Availability Information (https://www.purdueglobal.edu/catalog-program-availability-info.pdf) to determine enrollment eligibility.

You are responsible for understanding the requirements of optional certification exams. Such requirements may change during the course of your program. You are not automatically certified in any way upon program completion. Although certain programs are designed to prepare you to take various optional certification exams, Purdue Global cannot guarantee you will be eligible to take these exams or become certified. Your eligibility may depend on your work experience, completion of education and/or degree requirements, not having a criminal record, meeting other certification requirements, or the program or the University itself having appropriate accreditation or licensure.

Degree Plan

The 🌐 icon appears in the title of traditional courses that are also available as a set of module courses. Module course availability may be limited to certain academic calendars. See Course Types *(https://catalog.purdueglobal.edu/policy-information/university-information/approach-to-learning/) for information about module courses.*

Program Requirements

Code	Title	Credits
Core Requirements		
IN504	Advanced Applications of Python	4
IN505	🌐 Security for Analytics	4
IN506	Data Visualization and Knowledge Representation	4
IN507	Data Curation	4
IN508	Advanced Machine Learning and Artificial Intelligence	4
IN509	Advanced Deep Learning	4
Select one of the following:		4
IN596 & IN597	Master's-Level Data Analytics Internship I and Master's-Level Data Analytics Internship II	
IN599	Master's Capstone in Data Analytics	
Total Core Requirements		28
Elective Requirements		
Open Electives (see below) [1]		24
Total Open Elective Requirements		24
TOTAL CREDITS		52

[1] If you do not have an undergraduate or graduate degree in analytics or a related field, you may be required to complete one or more of the following courses to fulfill open elective requirements: IN500 Survey of Modern Data Analytics, IN501 Fundamentals of Computer Programming, IN502 Python and R and Statistics Tools, IN503 Introduction to AI: Machine Learning and Deep Learning, IN555 Statistics for Analytics, and/or IT527 🌐 Foundations in Data Analytics. See Admissions Requirements (p. 1) for more information.

Concentration Requirements

Concentration courses are completed within the open electives requirement of the degree plan.

Students in this program are not required to select a concentration.

AWS Cloud Technologies

Code	Title	Credits
IN515	AWS Academy Cloud Foundations	4
IN516	AWS Academy Cloud Architecting	4
IN517	AWS Academy Cloud Developing	4
IN518	AWS Academy Data Analytics Lab	4
IN519	AWS Academy Cloud Operations	4
TOTAL CREDITS		20

Cybersecurity

Code	Title	Credits
IT537	🌐 Introduction to Cybersecurity	4
IT542	🌐 Ethical Hacking and Network Defense	4
IT543	🌐 Cryptography Concepts and Techniques	4
IT550	🌐 Computer Forensics and Investigations	4
IT591	🌐 IT Security Auditing and Assessments	4
TOTAL CREDITS		20

Project Management

Code	Title	Credits
GM591	Strategic Project Selection and Initiation	4
GM592	Project Planning and the Project Plan	4
GM593	Project Execution With Monitoring and Control	4
GM594	Project Closing, Ethics, and Professional Responsibilities	4
TOTAL CREDITS		16

Secure Software Development and Quality Assurance

Code	Title	Credits
IN510	Secure Software Design	4
IN511	Secure Coding	4
IN512	Advanced Secure Coding	4
IN513	System and Security Testing	4
IN514	Secure Development and Operations - SecDevOps	4
TOTAL CREDITS		20