



NAVAL
POSTGRADUATE
SCHOOL

Call for Applications

Data Analytics for Defense Management Certificate

Distance Learning Program

Commencing April 2025

The Data Analytics for Defense Management Certificate (Curriculum 194) educates federal agency personnel with tools to use data in decision making and to manage data-related projects and programs. Students with no prior data or statistics background become data literate with an understanding of how data creates value in defense organizations.

This non-resident, one year graduate-level certificate is offered through the NPS Department of Defense Management as a part-time, online program. Qualified federal civilian employees, active-duty military personnel, and defense contractors are welcome to apply.

Students enroll in one course per academic quarter for four consecutive quarters over the Internet using Zoom for Government. Class meets one day per week for one 3-hour session during regular duty hours Pacific Time. The anticipated day and time are Wednesday 1000-1300. Students are required to be online during class for synchronous, live interaction between professors and students. A web camera and microphone are required for class.

- The price per course is \$2,600 to be funded by the student's command/agency for all students other than active-duty Navy and Marine Corps personnel. Contact your command/agency for continued service obligation details.
- Active-duty Navy and Marine Corps personnel are centrally funded by the DON and do not pay tuition. Contact your Detailer/Monitor for continued service obligation details.
- Students or their command/agency are responsible for textbooks/course materials costs.
- Students are required to use a computer on which statistical software can be downloaded.

Admission criteria include:

- An undergraduate degree from a regionally accredited four-year university or college.
- A GPA of 2.2 on a four-point scale.
- A minimum of college-level algebra.
- Mathematical literacy is a requirement for entry but students are not required to have any prior knowledge of probability, statistics, statistical software, or computer programming. A self-study mathematics refresher will be provided to all students upon acceptance into the certificate. The purpose of the mathematics refresher is to review fundamental mathematic concepts that are particularly important for student success in MN3911 as well as throughout the curriculum.

For additional information, contact Dr. Christina Hart, Department of Defense Management Distance Learning Program Director, cchart@nps.edu or phone (831) 656-6269.

How to Apply:

Applicants must complete an NPS online application using this link:

<https://nps.edu/web/admissions/apply>.

The NPS online application deadline is 13 JAN 2025. Late applications will be considered if time permits.

The required application information differs depending on whether you are a federal civilian working in the DON FM community, active-duty Navy or Marine Corps personnel, or all other applicants.

DON FM civilian personnel:

If you are a DON FM workforce applicant, your tuition is centrally funded by the ASN (FM&C) FM Human Capital Office. Contact Mr. Pete Bowman, FM Human Capital Branch Head, for application information: peter.n.bowman.civ@us.navy.mil, (703) 692-4843.

Active-duty Navy and Marine Corps personnel:

Complete all steps of the application and use this information for completing Step 1.

- Step 1 of NPS online application
Program Delivery: via Distance Learning (DL)
Program Type: Certificate
Program: Data Analytics for Defense Management (DL); Curric 194 (SPRING)
Starting Quarter: 2025/3: (Spring, 3/31/2025 to 6/20/2025)

All other federal agency personnel and defense contractors:

Complete all steps of the application and use this information for completing Steps 1 and 5.

- Step 1 of NPS online application
Program Delivery: via Distance Learning (DL)
Program Type: Certificate
Program: Data Analytics for Defense Management (DL); Curric 194 (SPRING)
Starting Quarter: 2025/3: (Spring, 3/31/2025 to 6/20/2025)
- Step 5 of NPS online application
Input information for the Funding POC at your command/agency who will receive the NPS tuition invoice. Do not input yourself as the Funding POC as students are not permitted to fund their own tuition.

All applicants are required to submit official transcripts to NPS Admissions.

- After submitting your application, official transcripts must be ordered from all undergraduate and graduate institutions attended and be delivered from the institutions directly to NPS Admissions or via the institutions' designated transcript exchange service.
- NPS does not accept transcripts submitted by the applicant.
- Transcripts must be electronically delivered to **admissions@nps.edu** or mailed to:
Admissions Office (Official Transcripts)
Naval Postgraduate School
1 University Circle, Herrmann Hall 061A
Monterey, CA 93943

Students will learn:

- Foundational concepts in statistics, probability, programming logic, and database management.
- To conduct descriptive and predictive data analyses, and to design analyses to support managerial decision making.
- Terminology and basic methods of machine learning and AI.
- To produce decision-relevant, data-driven analyses as well as to understand and manage data projects and data produced by others.
- How to apply analytics tools across areas of defense management such as financial management, manpower, budgeting, logistics, and acquisitions.
- To visualize and effectively communicate data-derived insights.

Required Courses:

MN3911 - *Introduction to Data Analytics for Defense Management*

This course introduces students to foundational techniques for preparing and analyzing data. Each week, students will learn one or more concepts, and then apply acquired skills in a structured learning exercise. Topics include pivot tables, visualization, data storage and retrieval, summary statistics, and an introduction to probability and probability distributions. 3-0 credit hours. Prerequisites: None.

MN4912 - *Multivariate Data Analysis*

This course introduces concepts and skills that are necessary to use data for inference, prediction, and to identify causal relationships. Students will build on skills and analytic techniques which were introduced in MN3911, and they will use real-world DoD data and managerially relevant examples. Topics include linear and logistic regression, sampling distributions, estimation, prediction and hypothesis testing, and study design. 3-0 credit hours. Prerequisites: MN3911 or consent of course coordinator (GE3040 or MN3041 or college-level statistics would be acceptable).

MN4913 - *Advanced Model Building for Causal Inference and Prediction*

This course introduces students to a range of advanced techniques for prediction and inference that can be used to solve real-world defense problems and inform policy. The first half of the course will be dedicated to developing predictive methods that can be applied in many real-world scenarios. In the second half of the course, students will be introduced to program evaluation methods. 3-0 credit hours. Prerequisites: MN4912 or consent of course coordinator.

[MN4914](#) - *Applications of Data Analytics in Defense Management*

This course introduces students to a wide range of defense management applications which use data and analysis to help solve problems and inform policy. Each week, students will learn about an application from a different DDM faculty member who specializes in the given area, and then apply their data analysis skills in a structured learning exercise. Topics include finance, personnel, manpower, cost-benefit analysis, acquisitions, budgeting, operations, logistics, and content analysis. 3-0 credit hours. Prerequisites: MN4913 or consent of course coordinator.

Additional topics include: Enterprise data management using Jupiter/Advana and DataBricks, advanced topics in Predictive Analytics, and Data Visualization in the enterprise data environment.