NAVAL POSTGRADUATE SCHOOL

Call for Applications

Data Analytics for Defense Management Certificate

Distance Learning Program

Sponsored by OUSD(C) Human Capital Resource Management (HCRM) Office

Commencing JAN 2025

The Data Analytics for Defense Management Certificate (Curriculum 194) educates defense managers in using data to inform 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 is an excellent opportunity for high potential OUSD(C) personnel to gain essential skills and knowledge in modern data analytics practices and leveraging data-based decision making.

This one year, graduate-level certificate is offered through the NPS Department of Defense Management as a part-time, online program which includes a three-day, in-person residency requirement at NPS. Qualified applicants from the OUSD(C) community in a position requiring data analytics skills are welcome to apply.

Students enroll in one course per academic quarter for four consecutive quarters. Class meets on Tuesday from 1000-1300 Pacific Time. Students are required to be online during class with a camera and a microphone using Zoom for Government for synchronous, live interaction between professors and students. The three-day residency requirement at NPS in Monterey, CA includes a statistical analysis software bootcamp, and is anticipated to be held 25-27 MAR 2025.

Tuition, TDY expenses associated with the three-day residency requirement at NPS, and textbooks are centrally funded by OUSD(C) Human Capital Resource Management (HCRM) Office. Students are required to use a computer on which statistical analysis software can be downloaded.

Admission criteria include a 2.2 GPA on a four-point scale, an undergraduate degree from an institutionally accredited four-year university or college, and 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 program. 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, NPS Department of Defense Management, Distance Learning Program Director: cchart@nps.edu or (831) 656-6269. This program information is also available at https://online.nps.edu/w/194-data-analytics-for-defense-management?inheritRedirect=true.

HOW TO APPLY

#1: Complete the NPS online application.

Applicants must complete an NPS online application using this link:
https://nps.edu/web/admissions/apply

The NPS online application deadline is 15 NOV 2024. Late applications will be considered if time permits. Complete all steps of the online application, and use the following information when 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 (WINTER) (SPRING)
Starting Quarter: 2025/2: (Winter, 1/6/2025 to 3/28/2025)

Step 5 of NPS online application
Funding POC Last Name: Lampkins
Funding POC First Name: Devante
Funding Mail Address: 1100 Defense Pentagon, Washington, DC 20301, Rm 1C521
Funding POC Email: devante.o.lampkins.civ@mail.mil
Funding POC Phone: (703) 615-8952

#2: Submit all of your official transcripts to NPS Admissions.

After submitting your application, official transcripts must be ordered from all undergraduate and graduate institutions attended, and 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:
  1) electronically delivered to admissions@nps.edu, or
  2) mailed to:

     Admissions Office (Official Transcripts)
     Naval Postgraduate School
     1 University Circle
     Herrmann Hall 061A
     Monterey, CA 93943

#3: Submit your signed Agency/Command Endorsement Letter to the NPS DDM DL Office.

Applicants are required to submit the Agency/Command Endorsement Letter located at the end of this document.

- Email your signed Agency/Command Endorsement Letter to the NPS DDM DL Office (DDMDL@nps.edu) by **1 DEC 2024**.
- Include this information in the subject line of your email:
  your last name, endorsement, OUSD(C) Data Analytics
  ex: Hart endorsement OUSD(C) Data Analytics
- Do not email the Agency/Command Endorsement Letter to NPS Admission as this will delay the processing of your application.

PROGRAM OVERVIEW

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. Additional topics include enterprise data management using Jupiter/Advana and DataBricks, advanced topics in Predictive Analytics, and Data Visualization in the enterprise data environment. 3-0 credit hours. Prerequisites: MN4913 or consent of Course Coordinator.

Data Analytics for Defense Management Certificate (Curriculum 194)

NPS Distance Learning Program

Agency/Command Endorsement Letter

DATE: [Insert Date]

FROM: Supervisor [Agency/Command]

TO: President, Naval Postgraduate School

ATTN: Dr. Christina Hart, Curriculum 194 Program Director, Department of Defense Management

SUBJ: Application for Winter 2025 (AY25) Data Analytics for Defense Management Certificate, Distance Learning Program

1. I fully support [Candidate Name]'s application to the Naval Postgraduate School Data Analytics for Defense Management Certificate.

2. I approve of [Candidate Name] attending class one day per week for three hours during regular duty hours Pacific Time.

3. [Candidate Name] recognizes participation in the Data Analytics for Defense Management Certificate represents a significant investment in the applicant's professional career development, and successful completion of the program within 12 months is required to be awarded the Curriculum 194 graduate certificate.

NAME/GRADE/SIGNATURE of Supervisor

_____

(Signature)