CURRICULUM

Core Courses | 23 units

Programming and Databases in Data Science

Data Visualization and Storytelling

Data Mining

Statistical Machine Learning in Data Science

Big Data Processing

Research Methods and Ethics in Data Science

Thesis Proposal

Thesis Implementation

Elective Courses | 8 units

Special Topics

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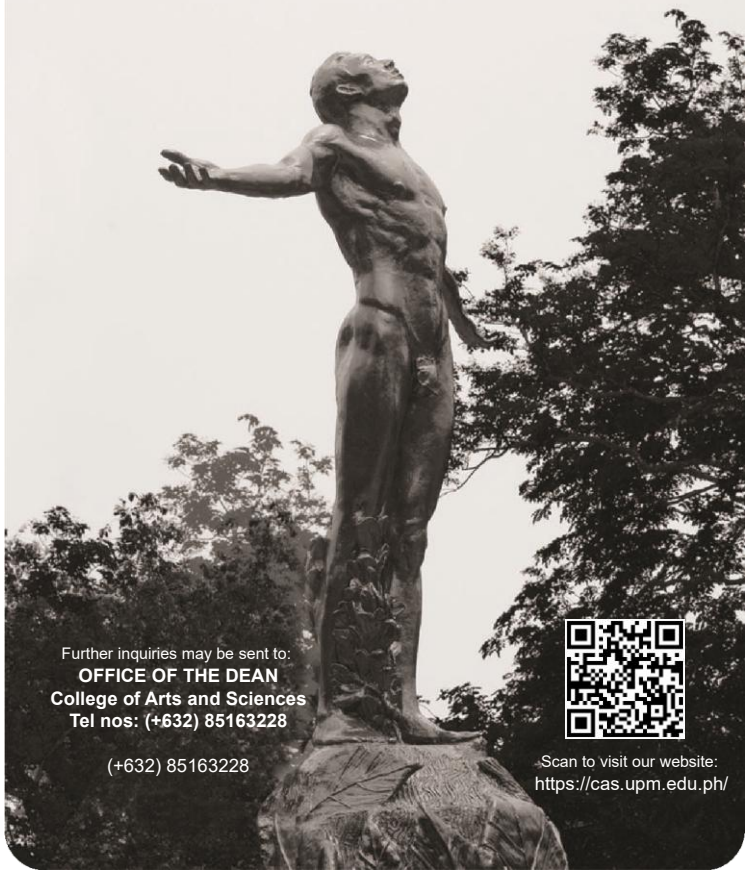
Total Units 31



Further inquiries may be sent to:
OFFICE OF THE DEAN
College of Arts and Sciences
Tel nos: (+632) 85163228

(+632) 85163228

Scan to visit our website:
https://cas.upm.edu.ph/

CONTACT US
Application forms may be obtained from and returned to:

THE DIRECTOR
NATIONAL GRADUATE OFFICE FOR THE HEALTH SCIENCES

(632) 88141 247
(632) 88141 248

National Graduate Office for the Health Sciences

upm-ngohs@up.edu.ph

ngohs.upm.edu.ph

Scan to visit NGOHS website

S. 2023

COLLEGE OF
ARTS AND SCIENCES

MASTER OF SCIENCE IN DATA SCIENCE

Data Science 260	Affective Computing
Data Science 270	Pattern Recognition
Data Science 235	Advanced Computational Statistics
Data Science 238	Time Series and Forecasting in Data Science
Data Science 273	Advanced Machine Learning Methods
Data Science 280	Prescriptive Analytics and Modeling in Data Science
Data Science 283	Business Intelligence and Data Analytics
Data Science 285	Geospatial Analytics
	Introduction to Health Informatics
HI 210	Systems Analysis and Design in Health
Epi 201	Principles of Epidemiology
BNF 240	Representations & Algorithms in Bioinformatics
App Phy 287	Medical Imaging Fundamentals
MC 211	Computer-Aided Drug Discovery
MC 212	Cheminformatics

PROGRAM DESCRIPTION

The Master of Science in Data Science program is a two-year program which offers qualified students, particularly those with backgrounds in multivariate calculus up to linear algebra and probability theory, the opportunity to do graduate coursework and research in the applications of the concepts and methods to provide solutions to analyze and evaluate health care interventions and outcomes.

The graduates of the Master of Science in Data Science shall receive training that will make them capable of understanding the healthcare sector and medicine, being proficient in health data collection and quantitative analysis and being able to communicate results to the relevant stakeholders amidst the growing number of large and complex datasets.

PROGRAM OBJECTIVES

At the end of the program, graduates should be able to perform the following roles in data science:

Researcher:
- Develop scientific conclusions using data science methods on biomedical data in clinical research and translational medicine;
- Evaluate massive biomedical data sets to reveal patterns, trends, and associations using statistical models and machine learning;

Problem-solver:
- Recommend decisions in healthcare delivery processes using machine learning and optimization techniques
- Formulate statistical models from biomedical data for meaningful analyses relevant to healthcare

Team player:
- Collaborate with a health professions team on a biomedical data-driven research project

Effective communicator:
- Design visualizations that effectively communicate results and findings to users
- Interpret biomedical data for exploration and analysis

Filipino Professional:
- Organize data science activities according to policy, privacy, security, and ethical considerations

ACADEMIC INFORMATION

Schedule of Semesters:
1st Semester: August to December
2nd Semester: January to May
Midyear: June and July (6 weeks)
***English is generally used as the medium of instruction.*

Number of Units:
Full-time: 9-12 units/semester
Part-time: 1-8 units/semester
Midyear: 6 units

Fees:
Tuition Fee: P3,000.00/unit
Laboratory Fee: P3,000.00/unit
Library Fee: P1,050.00
Other Fees: P350.00/semester
Processing Fee: P300.00

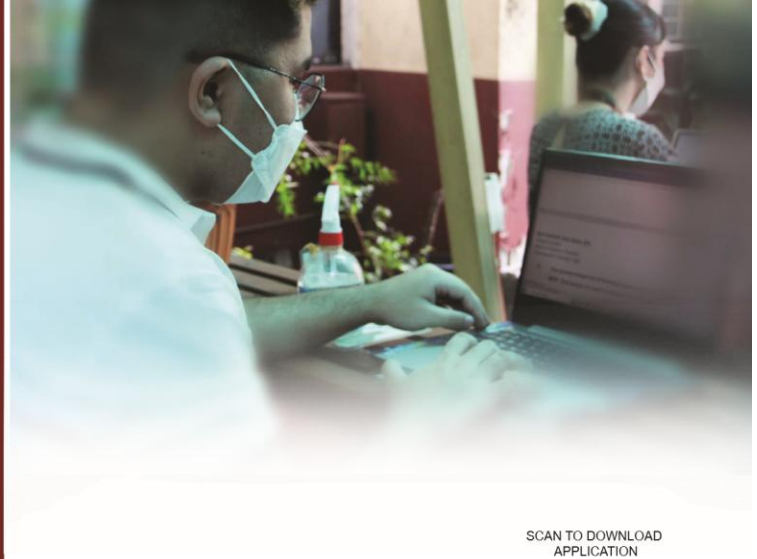
Additional Fees for Foreign Applicants:
Processing Fee: US$ 30.00
Educational Development Fund: US$ 500.00
(US$100.00 for residency only)/semester

Submission of Applications:
1st Semester: February until the last working day of April
2nd Semester: September until the last working day of October

The following are the grade requirements for each student to be of good standing in the program:
1) General weighted average of 2.00 or better;
2) Weighted average of 2.00 or better for the major/required courses; and
3) No grade of 5.00 in any academic course.

***A maximum of 5 years is given to a student to finish the program.*

Living accommodations for students may be provided in privately-owned housing units/dorms/apartment hotels. Dorms offer lodging and/or board. There are privately-owned eateries around the school.



SCAN TO DOWNLOAD APPLICATION

ADMISSION REQUIREMENTS CHECKLIST

The following are the minimum NGOHS requirements:

1. Graduates of BS Data Science, Computer Science, BS Statistics, BS Applied Mathematics or Engineering programs and other allied undergraduate courses who have basic training in multivariate calculus up to linear algebra and probability theory are eligible for admission into the program.

   Otherwise, prospective students may opt to take the undergraduate equivalent (Math 85, Math 120, Stat 121) in the BS Computer Science program of UP Manila or the proposed preparatory course DS 21.
2. Duly accomplished Application Form (downloadable through the NGOHS website: ngohs.upm.edu.ph)
3. Comply with the General requirements found on the 2nd page of the Application Form (UPM-NGS-OP-01F1)

Graduation Requirements:

- ☐ Residency of at least one full academic year prior to granting of degree
- ☐ Completion of 31 units (23 units of core courses, and 8 units of electives)
- ☐ A general weighted average of 2.00 or better.
- ☐ Certificate of submission of paper for Publication.