Program factsheet

ACADEMIC COOPERATION
The Master in Public Health Data Science is delivered along with the Bordeaux School of Public Health (ISPED) and the Bordeaux Population Health Research Center (BPH).

ADMISSION REQUIREMENTS
Candidates must fulfill the following:
Hold at least a Master (year 1) degree with honors (minimum 240 ECTS or equivalent in terms of knowledge) in one (or more) of the following disciplines: statistics, informatics or epidemiology.

LEVEL
Master (year 2) of Science in Public Health Data Science.

LANGUAGE REQUIREMENTS
This program is taught entirely in English. Excellent proficiency in English is therefore required.
Students whose native language is not English are strongly recommended to provide a TOEFL, TOEIC or IELTS certification:
› TOEFL score of 550/213/80, TOEIC score of 900-990 or IELTS score of 6.0.

PROGRAM DURATION
1 year (60 ECTS), including an internship.

FEES AND SCHOLARSHIPS
› Annual registration fees for all selected applicants are calculated according to the rules and regulations of the University of Bordeaux
› Financial aid and housing grants may be awarded to selected applicants according to criteria of excellence

The Master in Public Health Data Science provides a year of international research in public health data science, from project design to real life health data analysis and the communication of results.
Selected within the French “Investments for the Future” program as an “Initiative of Excellence”, the program covers multidisciplinary skills in epidemiology, informatics and statistics, and ensures that students gain strong knowledge about the strengths and limits of digital technologies and their use in public health research.

Strengths

Epidemiology
› Translation of a public health / clinical problem into a research question, including the design of research plans for surveillance systems, observational and experimental studies (i.e. clinical trials), evaluation of validity and causality of an association.

Statistics
› Methods for supervised and unsupervised statistical analysis and modelling of biomedical data (including high-dimensional and time-to-event data), statistical learning, data mining, data integration, advanced computational statistics.

Informatics
› Architecture of data integration (i2b2, Transmart), interoperability, knowledge representation (terminologies, ontologies), natural language processing, data visualization, programming, cloud computing and Hadoop, linked open data, security, confidentiality and integrity of data.

College of Health Sciences
Program structure

MASTER (YEAR 2):

Semester 3

**Basics** (6 ECTS)
› Focus on basic knowledge and the functional capabilities of the tools used in health data analytics.

**Electronic health data** (6 ECTS)
› Focus on the skills required to conceptualize, manage, analyze and communicate via health research carried out by Electronic Health Records (HER) and medico-administrative databases (MA-DBs).

**Digital cohorts** (6 ECTS)
› Focus on the skills required to conceptualize, manage, analyze and communicate via cohort studies that integrate digital tools.

**Web-based data** (6 ECTS)
› Focus on the abilities needed to prepare public health studies which integrate data from social networks and web forums, linked open data and mobile data. Practice is carried out via a dedicated case study that involves the processing of large mobile dataset (call details records).

**Omics data** (6 ECTS)
› Focus on the abilities needed to conceptualize, manage, analyze and communicate using clinical studies that integrate high dimensional data.

→ **And after?**

Upon completion of this Master in Public Health Data Science, students may continue with further studies and research via a PhD in Digital Public Health or they may enter the working world with strong qualifications for a career in public health.

Graduates not only have a global vision of data science issues in relation to epidemiology and public health, they also master the research and leadership skills that are necessary for chief data officer jobs. They are thus well prepared to become future leaders of the digital public health domain within the public and / or private sector.

**Contacts**

COORDINATOR: Prof. Rodolphe Thiebaut
› www.facebook.com/DPHgraduateprogram/
› https://college-doctoral.u-bordeaux.fr/Le-college/Les-ecoles-universitaires-de-recherche/EUR-Digital-Public-Health

Semester 4

**Value creation** (6 ECTS)
› This final e-learning course prepares students so that as graduates, they are capable of becoming immediate contributors in the workplace whether it be in the academic or the industrial sector. Students learn to develop their entrepreneurial skills and also acquire an understanding of the societal and economic value created by digital public health data research.

**Internship** (24 ECTS)
› Students complete their internship either with the research team that generated a project case study during the Public Health Data Science Master program or else with a team from the extensive research network of the Graduate Program.

→ **How to apply?**

Please contact: dph@u-bordeaux.fr

Documents necessary for the selection procedure:
› Application form
› Copies of all graduate diplomas (BSc and MSc)
› All previous transcripts
› Syllabus and study plan
› CV in English (2 pages maximum)
› Cover letter in English (2 pages maximum)
› Recent English certificate (IELTS 6.0; TOEFL (550/213/80); TOEIC 900 – 990) or any document certifying a C1 level of English upon review.
› Whenever possible (optional), one recommendation letter from an academic or professional body (2 pages maximum), including the referee’s signature, presented on institutional headed paper and bearing an institutional stamp/seal.

Please note:
› Maximum number of students: 21
› Selection: based on documents and an interview

This Master program is supported within the framework of the PIA 3 (Investments for the Future).
Project reference: 17-EURE-0019

www.u-bordeaux.com
@univbordeaux univbordeaux