

SINGULAR COURSE UNITS

Name	Programme	Coordinator	Overview	Eligibility	Number of Students (Max./Min.)	Application Deadline	Registration Deadline	Starting Date	Fee	ECTS	Language
Introduction to Health Informatics	PhD in Health Intelligent Data	Ricardo Correia /Tiago Taveira Gomes	This unit aims to explore issues related to data collection. In this sense, it is hoped that competencies will be acquired in the selection of the best forms of data collection with the objective of optimizing data quality and adherence to the systems by users.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	Máx 25 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	6	English / Portuguese
Introduction to Health Interventions, Policy and Services	PhD in Health Intelligent Data	Bernardo Sousa Pinto / Luis Filipe Azevedo	This curricular unit aims to present the basic and introductory topics in Health Interventions, Policy and Services and to foster basic knowledge and skills necessary to plan, develop, critically appraise, interpret and discuss the main scientific topics and research findings in these fields.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	Máx 5 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	6	English / Portuguese
Introduction to Intelligent Data Analysis	PhD in Health Intelligent Data	Cristina Santos / Cláudia Dias	This unit aims at empowering the students with theoretical foundations and practical approach to basic statistical methods used in clinical research, assessment of technologies and health service research. After this course unit the students should be able to apply the correct statistical methodology for data analysis using statistical software and interpret the results.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	Máx 5 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	6	English / Portuguese
Principles of Health Research Methodology	PhD in Health Intelligent Data	Matilde Monteiro Soares / Luis Filipe Azevedo	Health Research aims to respond to issues in clinical medicine and health of populations, contributing to the knowledge and decision making. The issues addressed in this area concern the study of diagnosis, treatment, prognosis, etiology and prevention of the disease and to study the frequency of phenomena and associated entities. Understanding the fundamentals of scientific methodology and the development of a set of basic skills becomes in this context essential to the achievement of quality research work.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	Máx 5 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	3	English / Portuguese
Principles of Health Data	PhD in Health Intelligent Data	Alberto Freitas / Rui Guimarães	This curricular unit aims to provide students with the knowledge, skills and attitudes that allow them to understand the processes of collecting, organizing and managing health data, and in particular potential data quality problems.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	Máx 3 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	3	English / Portuguese
Principles of Health Data Science	PhD in Health Intelligent Data	Ana Luísa Neves / Pedro Rodrigues	This curricular unit aims to endow the students with the knowledge, skills and behaviors that enable them to identify, interpret and try out modern methods of health data science.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	Máx 5 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	3	English / Portuguese

Bioethics and Legislation	PhD in Health Intelligent Data	Rui Nunes	This curricular unit aims to make known the fundamental principles of ethics in clinical research and health services, debate the fundamental ethical issues of health research, submit protocols to Ethics Committees, discuss the relationship between ethics and health care costs, analyze the fundamental issues of Biodight, meet the legal and ethical requirements for the development of a health research project.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	Máx 3 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	3	English / Portuguese
Bayesian Statistical Modeling	PhD in Health Intelligent Data	Claúdia Dias / Luís Filipe Azevedo	This curricular unit aims to foster the necessary knowledge and skills that may allow students to understand, interpret and apply Bayesian inference methods, as a complement or alternative to the classical frequentist statistics, and classification and prediction methods using Bayesian Networks, to explore associations between factors and outcomes and for medical decision support.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	Máx 5 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	6	English / Portuguese
Machine Learning and Data Mining	PhD in Health Intelligent Data	Tiago Taveira Gomes / Pedro Rodrigues	This unit aims to empower students with the necessary knowledge and skills to apply machine learning methods for data mining.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	Máx 3 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	6	English / Portuguese
Lab Project on Intelligent Data Analysis	PhD in Health Intelligent Data	Cristina Santos / Maria Luísa Guedes	This unit intends to place the students in a problem-oriented learning scenario, developing a laboratory project in health intelligent data analysis, preparing their skills in carrying out research in this area, applying the knowledge acquired in the other units	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	0 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	3	English / Portuguese
Advanced Topics on Intelligent Data Analysis	PhD in Health Intelligent Data	Rute Almeida / Hernâni Gonçalves	The objective of this curricular unit is to place the students in contact with advanced topics in health intelligent data analysis, allowing them to have an up-to-date and wide knowledge of the theme, which will be useful to them both in the use and/or in development of this type of methodologies.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	Máx 5 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	3	English / Portuguese
Statistical Modeling	PhD in Health Intelligent Data	Andreia Teixeira / Cristina Santos	This curricular unit aims explain the theoretical and practical foundations to the application of advanced statistical methods applied to clinical, health services and health technologies assessment research, perform logistic regression, survival analysis (Cox regression) and longitudinal data analysis, interpret results of logistic regression, survival analysis and longitudinal studies.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	Máx 5 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	6	English / Portuguese
Health Data Collectio	PhD in Health Intelligent Data	Ana Luísa Neves / Ricardo Correia	This unit aims to explore issues related to data collection. In this sense, it is hoped that competences will be acquired in the selection of the best forms of data collection with the objective of optimizing data quality and adherence to the systems by users.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	Máx 25 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	6	English / Portuguese

Lab Project on Health Informatics	PhD in Health Intelligent Data	Ricardo Correia/ Pedro Marques	This unit intends to place the students in a problem-oriented learning scenario, developing a laboratory project in health informatics, preparing their skills in carrying out research in this area, applying the knowledge acquired in the other units.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	Máx 30 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	3	English / Portuguese
Health Data Visualization and Communication	PhD in Health Intelligent Data	Ana Margarida Ferreira / Alberto Freitas	This curricular unit focuses on understanding communication, visualization, interaction, usability and user experience in IT healthcare – impacts on security, privacy, quality and safety.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	Máx 5 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	6	English / Portuguese
Advanced Topics on Health Informatics	PhD in Health Intelligent Data	Tiago Taveira Gomes / Alberto Freitas	The objective of this curricular unit is to place the students in contact with advanced topics in health informatics, allowing them to have an up-to-date and wide knowledge of the theme, which will be useful to them both in the use and/or in development of this type of methodologies.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	Máx 3 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	3	English / Portuguese
Health Data Management	PhD in Health Intelligent Data	Pedro Marques / Priscila Maranhão	This curricular unit aims to explore the various dimensions of health data management from storage to its analysis and its impact on the development of interoperable health information systems. In this sense, it is hoped that competences will be acquired in the knowledge and domain of relevant norms and standards for the storage and communication of health information, promoting the importance of including measures guaranteeing data quality that allow not only traditional use, but also the strengthening of the role of the user in access to data and its secondary use.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	Máx 5 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	6	English / Portuguese
Evidence Synthesis and Decision Analysis in Health and Medicine	PhD in Health Intelligent Data	Bernardo Sousa Pinto / Luis Filipe Azedo	This curricular unit aims to teach and capacitate the students for the fundamental theoretical and practical aspects of evidence synthesis studies, formalization and modelling of the decision making and economical evaluation in Health. By the end of this unit the student should understand: the theoretical basis of evidence synthesis studies - systematic reviews and meta-analysis, concept and framework of decision making assessment in health, the theoretical basis of economic evaluation in health.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	Máx 5 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	6	English / Portuguese
Lab Project on Health Interventions, Policy and Services	PhD in Health Intelligent Data	João Fonseca / Tiago Jacinto	This curricular unit uses problem-oriented learning approach by challenging the student to develop a laboratorial project within the scope of one of the core curricular units of this speciality area [(1) Evidence based practice and health technology assessment; (2) Evidence synthesis and decision analysis in health and medicine; (3) Health economics, policy and management], in order to develop the research skills for this specific field using the knowledge acquired in the other curricular units.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	0 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	3	English / Portuguese

Evidence Based Practice and Health Technology Assessment	PhD in Health Intelligent Data	Cristina Jácome / João Fonseca	This curricular unit aims to teach and explain the concept and framework of health technologies assessment (HTA), describe different methods for health technologies assessment, assess technologies for treatment, prevention and diagnosis of diseases, recognize the role of randomized controlled trials, comparative effectiveness research and reviews and meta-analysis in HTA, know the fundamentals of economical assessment of health technologies, take decisions on technology assessment, taking into account social and ethical issues, analyse the role of health technologies assessment in technologies dissemination, application to clinical practice, costs evaluation and prioritizing and biomedical research and also to healthcare access.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	Máx 2 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	6	English / Portuguese
Health Economics, Policy and Management	PhD in Health Intelligent Data	Francisco Rocha Gonçalves / Gulhermina Rego	This curricular unit aims to provide students with notions of Economics and the importance of Health Economics, Health Systems, markets and related industries in health care, efficiency, effectiveness and equity in Health, economic evaluation techniques.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	0 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	6	English / Portuguese
Advanced Topics on Health Interventions, Policy and Services	PhD in Health Intelligent Data	Luís Azevedo / Bernardo Sousa Pinto	This curricular unit aims to show and expose the students to the most innovative topics and most current and advanced methods in Health Interventions, Policy and Services, in order to establish solid grounds for the state-of-the-art in this speciality areas and to expand the contents of other curricular units.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	Máx 5 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	3	English / Portuguese
Computational Statistics	PhD in Health Intelligent Data	Pedro Rodrigues / Teresa Henriques	This unit aims at providing students with knowledge, abilities and behaviors which may allow the use of intensive computational methods in statistical analysis.	General conditions of access to the study cycle leading to the doctor's degree: a) Holders of a master's degree or legal equivalent; b) Holders of a graduation degree, holders of a particularly relevant academic or scientific curriculum that is recognized as attesting ability to carry out the study cycle and can demonstrate that they have at least one of the basic scientific areas of the SC (or similar): Computer Science, Computer Engineering, Mathematics, Statistics, Medicine, Health Sciences and Technologies, Psychology, Economics and Management.	Máx 5 singular course units students	Not applicable	Two weeks before the start of UC	The schedule will be available at http://heads.med.up.pt	550 €	3	English / Portuguese