Syllabus Module 216 Minor A. The control of environmental infectious diseases

Module : 208	**Evaluation of public health programs**
UE coordinator	Michèle Legeas, PhD, Professor, Environmental and Occupational Health Department, EHESP
Dates	November 12 to Nov 16 2018
Credits/ECTS	3 (1 ECTS = 30 h student's work)
Duration	Number of days: 5
UE description	This course is designed to introduce students to major issues related to global health and epidemics. The course is recommended for students of whom interest consists of getting knowledge and tools of the global prevention and the control of wide epidemics/pandemics and of their two complementary approaches 1) epidemiology and dynamic of transmission of agents modeling and 2) definition of policies adapted to the prevention and control. The course will introduce students to some basis about the different plans, organizations and policies internationally adopted. This course will also provide students the opportunity to analyze the potential contribution of research to support decision makers in such issues. This minor is designed in relationship to the Major A of ISB track (modeling of infectious diseases) and to the Major B of EHOS track (Advanced planetary health)
Prerequisites	Core curriculum in Environmental and Occupational Health Sciences of MPH1
Course learning objectives	At the completion of the module, the students should be able to: - Understand the importance of fighting against epidemics and the differences between all infectious diseases and those having wide potential to spread inside a population and coming from human or animal or vegetal reservoirs; - Describe international bodies involved against epidemics: WHO, FAO, OIE, ECDC, CDC etc., and their interactions, plans, programs, directives, guidelines … - Explain the different models used to fight against epidemics: defining vaccine programs, predicting the spread of cases, understanding links between environmental factors and the epidemic dynamics etc. - Discuss country preparedness to tackle epidemics, accounting their level of risks and the state of their health system.
UE Structure (details of sessions title/spaeker/date/duration)	Session 1: introduction to environmental infectious diseases, Michèle Legeas, Nov 12, 4Hrs Session 2: WHO strategy and tools : presentation of the GOARN and the IHR(2005), Nov 12 and 13, 6Hrs Session 3: International foodborne infectious epidemics: FAO'part, Nov 14, 3Hrs Session 4 : Zoonotic diseases and their increasing importance, OIE, Nov 15, 3H Hours Session 5: Working group restitutions, Nov 16, 5 Hours Days 1, 3 and 4, students will have to work on a study case, serving to grade the Minor.
Course requirement	Students are expected to attend all lectures and make individual & group works. Students will be expected to participate actively and discuss some issues related to methods studies and their application.
Grading and assessment	**Working group grading**: at the end of the week. Details assignments: groups of students will be required to prepare a communication for

	the last afternoon session. This communication will provide the students the opportunity to share the answers of the case study questions, with peers and experts. The committee of experts will consist of the UE coordinator and at least one external reviewer expert specialized in communicable diseases. Dedicated time slots are booked on the schedule for that work, under the coordinator's supervision. Students can also work from home.
Location	EHESP Building 20 Avenue George Sand, 93210 La PLaine Saint Denis (Greater Paris)
Course policy	**Attendance & punctuality** **Regular and punctual class attendance is a prerequisite for receiving credit in a course.** Students are expected to attend each class. Attendance will be taken at each class. The obligations of attendance and punctuality cover every aspect of the course: - lectures, conferences, group projects, assessments, examinations, as described in EHESP Academic Regulations http://mph.ehesp.fr EHESP Academic Regulation Article. 3). If students are not able to make it to class, they are required to send an email to the instructor and to the MPH program coordinating team explaining their absence prior to the scheduled class date. All supporting documents are provided to the end-of-year panel. . Students who miss class are responsible for content. Any student who misses a class has the responsibility for obtaining copies of notes, handouts and assignments. If additional assistance is still necessary, an appointment should be scheduled with the instructor. Class time is not to be used to go over material with students who have missed class. **Lateness**: Students who are more than 10 minutes late may be denied access to a class. Repeated late arrivals may be counted as absences (See http://mph.ehesp.fr EHESP Academic Regulation Article. 3 Attendance & Punctuality) **Maximum absences authorized & penalty otherwise** Above 20% of absences will be designated a fail for a given class. The students will be entitled to be reassessed in any failed component(s). If they undertake a reassessment or they retake a module this means that they cannot normally obtain more than the minimum pass mark (i.e. 10 out of 20) **Exceptional circumstances** Absence from any examination or test, or late submission of assignments due to illness, psychological problems, or exceptional personal reasons must be justified; otherwise, students will be penalized, as above mentioned. Students must directly notify their professor or the MPH academic secretariat before the exam or before the assignment deadline. Before accepting the student's justification, the professor or the MPH academic secretariat has the right to request either a certificate from the attending physician or from a psychologist, or from any other relevant person (See http://mph.ehesp.fr EHESP Academic Regulation Article 4 Examinations). **Courtesy**: All cell phones/pages MUST be turned off during class time. Students are required to conduct themselves according to professional standards, eating during class time is not permitted during class time, such as course or group work.
Valuing diversity	Diversity enriches learning. It requires an atmosphere of inclusion and tolerance, which oftentimes challenges our own closely-held ideas, as well as our personal comfort zones. The results, however, create a sense of community and promote excellence in the learning environment. This class will follow principles of inclusion, respect, tolerance, and acceptance that support the values of diversity. Diversity includes consideration of: (1) life experiences, including type, variety, uniqueness, duration, personal values, political viewpoints, and intensity; and (2) factors related to "diversity of presence," including, among others, age, economic circumstances, ethnic identification, family educational attainment, disability, gender, geographic origin, maturity, race, religion, sexual orientation and social position.

Course evaluation	EHESP requests that you complete a course evaluation at the end of the school year. Your responses will be anonymous, with feedback provided in the aggregate. Open-ended comments will be shared with instructors, but not identified with individual students. Your participation in course evaluation is an expectation, since providing constructive feedback is a professional obligation. Feedback is critical, moreover, to improving the quality of our courses, as well as for instructor assessment.

Sessions 1	**Introduction to environmental infectious diseases**
Speakers	Dr. Michèle Legeas, Professor, DSET&GS, EHESP michele.legeas@ehesp.fr
Session Outline	The session introduces students to basic principles of health risks related to micro-organisms transmitted via environment. The first part of the session introduces the differences between individual risks and epidemic ones. The importance of the relationship between the different environmental compartments, i.e. water, air, soil, food, animals, nature, will be illustrated with different current examples. During the second part, the estimation of the burden of such diseases, after been quickly presented, is discussed as a tool to give public health priorities. Last, major ways to manage such risks (prevention and reduction of impact) will be discussed during the last part of this session, to introduce the next ones.
Learning Objectives	At the end of the sessions, students will be able to: - Discuss the difference between different kinds of microorganisms in terms of public health impact - Identify the different ways of disease control among the risk - Be part of a simplified process to formulate priorities in different country context.
Duration	1 sessions of hours
Dates	Monday 12, 9:00 am – 12:00
Training methods	Lecture
Reading	http://www.who.int/topics/infectious_diseases/en/ https://wwwnc.cdc.gov/eid/ https://www.cdc.gov/onehealth/basics/zoonotic-diseases.html http://www.health.nsw.gov.au/Infectious/Pages/a-to-z-infectious-diseases.aspx

Session 2	**WHO strategy and tools**
Speakers	X, OMS
Session Outline	During this session, WHO politic to prevent pandemics occurrence or spread is described to the students. The International Health Regulation (IHR2005) and the Global Outbreak alert and response network (GOARN) are presented: objectives, organization, tools, implication for countries.
Learning Objectives	At the end of the sessions, students will be able to: - Describe the content of the IHR(2005) and its implications for state members (countries capacities) - Use the decision instrument for the assessment and notification of Annexe2 of IHR - Identify the role of GOARN and its links with IHR - Analyze the crucial part of scientific knowledge about diseases, their survey and the detection of emergency, to limit extend of infectious epidemics.
Duration	3 hours
Dates	13 November, 9:00 am – 12:00
Training methods	Lectures
Reading	http://www.who.int/ihr/publications/9789241580496/en/ http://www.who.int/ihr/publications/annex_2_guidance/en/ http://www.who.int/ihr/alert_and_response/outbreak-network/en/
Validation	Global validation of all sessions of the Minor; working groups on case study

Session 3	**International food borne infectious epidemics: FAO'part**
Speakers	X, FAO
Session Outline	Specific objectives, organization and tools and its partnerships with WHO and OIE will be presented by a FAO representative. Importance of food related epidemics will be demonstrated with a panel of recent events around the world. The part of infectious epidemic or micro-organisms related ones vs the part of chemical epidemics will be discussed. The influence of international food trade will be highlighted as well as the level of controls of this trade in countries accounting their socio-political context. Part of the session is intended to introduce the Early Warning and INFOSAN systems.
Learning Objectives	At the end of the session, students will be able to: - Precise the role of FAO for the prevention and control of food borne infectious risks - Identify the needs for survey and detection of risks - Take into account specific country context to discuss the implementation of food safety measures.
Duration	3:00 hours
Dates	14 November, 9:00 am – 12:00
Training methods	Lectures
Reading	
Validation	Global validation of all sessions of the Minor; working groups on case study

Session 4	**Zoonotic diseases and their increasing importance**
Speakers	X, OIE
Session Outline	The session introduces students with the growing importance of infectious diseases crossed between human and animals. Emergent infectious diseases and factors affecting the crossing between species: together biological, behavioral, environmental will be presented. The contribution of OIE as a symmetric international organization of WHO, for animal health and its organization to guarantee global health will be discussed and clarified.
Learning Objectives	At the end of the sessions, students will be able to: - Understand the barriers between human and animals for infectious diseases, but also the recent proofs that this barriers are not total; - Illustrate some of major current concern for zoonotic diseases, according to the context (geographical, behavioral, cultural…); - Use data base and documentation portal of OIE when necessary to be part of prevention of human epidemic
Duration	1 sessions of 3 hours
Dates	Thursday 15 9:00 -12:00 pm
Training methods	Lectures alternate with in class applications/reading
Reading	http://www.oie.int/en/
Validation	Global validation of all sessions of the Minor; working groups on case study

Session 5	**Case study**
Speakers	Dr. Michèle Legeas, Professor, DSET&GS, EHESP michele.legeas@ehesp.fr + X (lecturer involved in planetary health classes) (to confirm)
Session Outline	The case study is given the first day of the week and the groups are defined. 12 Nov, 1:30 pm – 2:30 : introduction to the case study 12 Nov, 2:30 pm – 5:00 : beginning of the work on case study 13 Nov, 14 Nov, 15 Nov: 1:30 pm – 5:00 : work on case study 16 Nov, 9:00 am- 12h : preparation of oral communication of the conclusions of the group 16 Nov, 1:00 pm – 4:00 : oral defense by group (used for final grading)
Learning Objectives	At the end of the case study, students will be able to: - Clarify the features of the agent involved in a given epidemic, - Discuss the potential wide spread of this epidemic - Propose some ways to limit the spread of the epidemic and its impact on population - Taking clearly into account the context of the start of this epidemic - Discuss some needs in terms of research to prevent or reduce such epidemic in the future
Duration	16.5 Hrs
Dates	All over the week, 12 to 15th of November

Training methods	Students are free for organizing their work inside each group. The coordinator of the module is present during all these periods of working group to monitor students and give them additional resources if necessary.
Reading	Initial documentary file given first day.
Validation	Oral defenses are grading: 100% of the final grade Each defense lasts between 0:30 to 1:00 Hr (accounting for the number of groups). Judgment criteria include : contents on which presentations will be evaluated - Understanding of the disease and the epidemic (such as agent, way of contamination, morbidity, mortality ,clinical solutions …) - Understanding of the specific context of the spread of this epidemic (geographical, economic, sanitarian, cultural …) - Presenting some proposals to reduce the impact of this epidemic - Discussing research needs to tackle this problem in the future