

5.0 credits	25.0 h + 15.0 h	1q
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Teacher(s) :	
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	<p>PART I Introduction to modelization and to different types of models. Models of relations between population movement and structure (stable and quasi-stable populations) Modelization of age structure of demographic phenomena: mortality (model life tables, laws of mortality), nuptiality and fertility (Coale-Trussell), migration (Castro-Rogers).</p> <p>PART II Introduction to population forecasts, their use and limits. Mathematical methods (exponential function, logistic function, Gompertz) Component methods: basic principles (calculation of survivors, births, migrants) Mortality projection methods: extrapolation of probabilities, use of model life-tables, Lee Carter methods,  Methods of fertility projections: probabilities, fertility diagrams, period versus cohort approach,  Methods of international migration projections: projections of net migration, of migration rates,  Urban and regional projections: DTCUR methods, introduction to multi-regional models Uncertainty in forecasts: comparison of scenarios, comparison of forecasts from various sources, ex-post fore-cast analysis,  Introduction to multi-state models (household forecasts, education forecasts) and to micro-simulation models (kinship networks, )  Introduction to several models of indirect estimates or of correction of deficient or incomplete data.</p>
Aims :	<p>Part I of this course consists in an introduction to the most commonly used models in demography. On the basis of this course, students must be able to</p> <ul style="list-style-type: none"> <li>- understand the general problematics of modelization</li> <li>- understand the relations between population's movements and structures</li> <li>- proceed to concrete applications of some models (estimation of demographic phenomena or correction of deficient data).</li> </ul> <p>Part II of this course consists in a thorough introduction to methods of population projections. After completing the course, the students must be able to :</p> <ul style="list-style-type: none"> <li>- master the main tools used to make population forecasts</li> <li>- to carry out population forecasts using the appropriate software (Excel, projections and simulation softwa-res)</li> <li>- to understand the impact of changes in fertility, mortality and migration on population trends (numbers and structure) at various geographical levels and over time.</li> </ul> <p><i>The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".</i></p>
Other infos :	<p>DEMO 2150 : Demographic analysis</p> <p>Individual or group work</p> <p>Course text and portfolio of readings.</p>
Cycle and year of study :	<p>&gt; <a href="#">Master [120] in Population and Development Studies</a></p> <p>&gt; <a href="#">Master [120] in Statistics: General</a></p>

Faculty or entity in charge:	PSAD
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