AR-507

Urban demography

Lerch Mathias

Cursus	Sem.	Type
Architecture	MA2, MA4	Opt.
Territories in transformation and climate minor	E	Opt.
Urban Planning and Territorial Development minor	E	Opt.

Language of teaching	English
Credits	3
Session	Summer
Semester	Spring
Exam	During the semester
Workload	90h
Weeks	12
Hours	**2 weekly**
Courses	2 weekly
Number of positions	

Summary

This course introduces theoretical developments and empirical evidence on city population change worldwide, as well as on its interactions with sustainable development. Students will learn how to identify sociodemographic profiles of cities to better serve them.

Content

Alongside fast socioeconomic and technological developments, the human population has grown significantly since 1980, from 4.4 to 8 billion in 2022, and its structure or composition has changed, thereby increasing its ecological footprint. The world population got older, better educated, and more than half is concentrated in cities since 2015. This course focuses on the human actors of the resulting change in the built and natural environments. It introduces aspects of population change in cities that are relevant to architects, urban planners, civil and environmental engineers, as well as social scientists.

Students will learn how to identify and draw sociodemographic profiles of urban populations to better serve them. The course puts the people at the heart of the urbanisation process: for how many, where and for whom to build housing and infrastructure and provide public services? Adopting a multiscale spatial perspective, the course offers an overview of theoretical developments and empirical evidence on the demographic dimensions of city growth, the transformation of city hierarchies, the processes of urban concentration, urban sprawl and re-urbanisation, and urban exclusion (segregation/slums). Various questions will be addressed, such as: Why is the majority of future world population growth expected to be concentrated in low- and middle-income countries' cities, despite low levels of fertility? Will cities in high-income countries be at the forefront of the expected world demographic decline? How do people respond in terms of demographic behaviors (i.e. mortality, fertility and migration) to the changes in human development and the environment in cities, and how does population urbanization in turn shape trajectories of sustainable development? The aim is to introduce students to the quantitative data used to characterize city populations and identify human risks and societal capacities of adaptation with respect to changes in the built and natural environments. Opportunities to explore these data are offered in the form of applied research during lab sessions and the writing of a final term paper.

Topics addressed:
Overview of the international trends in urbanisation and population growth in urban areas
Evaluation of theoretical models and the societal determinants of the components of demographic change (mortality, fertility and migration) in cities
Examination of the inequalities in population numbers, trends and socioeconomic composition between and within cities
Discussion of the interactions between population urbanisation, human development and environmental change
Introduction to data sources used to define urban areas and measure changes in population numbers and composition

Keywords

Population change
Mortality
Fertility
Migration

Urbanisation
City hierarchies
Human development
Climate change

Learning Prerequisites

Required courses

None

Learning Outcomes

By the end of the course, the student must be able to:

- Define the demographic concepts of urbanization and urban growth
- Examine how urban populations change by quantitatively measuring those changes
- Recognize international diversity in urban demography
- Explain the socioeconomic determinants of change in mortality, fertility and migration in urban areas
- List the channels through which urban population growth, human development and environmental change are related to each and another in a system
- Assess / Evaluate the urbanisation-development interlinkages in two countries of interest

Transversal skills

- Take account of the social and human dimensions of the engineering profession.
- Demonstrate the capacity for critical thinking
- Demonstrate a capacity for creativity.
- Access and evaluate appropriate sources of information.
- Make an oral presentation.
- Plan and carry out activities in a way which makes optimal use of available time and other resources.

Teaching methods

Lectures, lab sessions, invited talks (external specialists), interaction among students, group work

Expected student activities

Weekly compulsory reading
Active participation in the course
Participation in lab sessions and completion of lab assignments
Writing (and oral presentation) of a short research report
The course requires weekly compulsory reading to grasp the key concepts and controversies in the populationâ##urbanisation-development debate, as well as to participate actively in class. The suggested reading provides breadth and depth of the subject matter, and a basis for the conceptual developments and interpretation of the data analysis undertaken in the lab sessions. Students report, discuss and contextualize the results from the lab sessions in a final term paper. Plagiat will lead to the exclusion from EPFL.

Assessment methods

Active participation in class (reading list)
Completion of the lab-session assignments,## 10% of grade
Oral presentation in class of a quantitative analysis (building on the lab-assignments) of demographic change in cities and its interactions with sustainable development in one or two chosen countries, 30% of grade
Writing of a report of the quantitative analysis presented in class (3000 to 4500 words if single-authorship, 5000 to 8000 words if dual authorship)#, 60% of grade

Supervision

Assistants	Yes

Resources

Moodle Link

- https://go.epfl.ch/AR-507