**Theory of Transportation & Basics of Urban Planing**

**Code:** MK3KOZ1S6SX17EN

**ECTS Credit Points:** 6

**Evaluation:** mid-semester grade

**Year, Semester:** 2nd year, 3rd semester

**Its prerequisite(s):** Geoinformatics I.

**Further courses are built on it:** Yes/No

**Number of teaching hours/week**

Lecture: 4

Practice: 0

**Topics**:

*Delivering Public Goods.* Collective Action: Balancing Public and Particularistic Interests. Urban Planning and Regulation: The Challenge of the Market. The Evolution of the Institutional Approach in Planning. Varieties of Planning Experience. *Principle and Goals:* beauty, sustainability, justice, access, preservation, cultural diversity, resilience. *Plan Making.* Making Plans. Planning Case Studies. Visualizing Information. Modeling Urban Systems. Codes and Standards. *Frontiers of Persistent and Emergent Questions.* Urban Planning and Public Health. Suburban Sprawl and Smart Growth. Air Quality and Environmental Health. The Local Regulation of Climate Change. Housing: Planning and Policy Challenges. The Public Finance of Urban Forum. *Planning Agents.* The Civics of Urban Planning. Urban Informality. Citizen Planners. The Real Estate Development Industry. The Policy of Planning. Planning and Citizenship.

Transportation system. Tasks, characteristics and development of transportation systems. Main goals of transportation development. The process of road design. Alignment of roads. Views of alignment. Travel need, reasons and consequences of mobility. Travel modes. Modal split. Traffic surveys. Sustainable transport modes. Definition, energy consumption. Capacity, capacity usage. Definition and criteria of Level of Service. Determination of traffic demand. Traffic operation. Relationships among basic traffic parameters. Design and operational analysis.

**Literature:**

*Compulsory:*

* Weber, R. & Crane, R. (Eds.), 2012: The Oxford Handbook of Urban Planning. Oxford University Press, Oxford. ISBN 978-0-19-023526-0
* Bayer, M., Frank, N. & Valerious, J., 2010: Becoming an Urban Planner. John Wiley and Sons, Hoboken, NJ. ISBN 978-0-470-27863-5
* Knoflacher, H., Ebru, V.: Engineering Tools and Solutions for Sustainable Transportation Planning, IGI global, Hershey, 2017, ISBN 9781522521574
* Rogers M.: Highway Engineering, Blackwell, Oxford, 2003, ISBN 0-632-05993-1

**Schedule**

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| **1st week Registration week** |
| **2nd week:** **Lecture:** *Delivering Public Goods.* Collective Action: Balancing Public and Particularistic Interests. Urban Planning and Regulation: The Challenge of the Market. The Evolution of the Institutional Approach in Planning. Varieties of Planning Experience. | **3rd week:** **Lecture:** *Principle and Goals:* beauty, sustainability, justice, access, preservation, cultural diversity, resilience. |
| **4th week:** **Lecture:** *Plan Making.* Making Plans. Planning Case Studies. Visualizing Information. Modeling Urban Systems. Codes and Standards. | **5th week:** **Lecture:** *Frontiers of Persistent and Emergent Questions.* Urban Planning and Public Health. Suburban Sprawl and Smart Growth. Air Quality and Environmental Health. |
| **6th week:****Lecture:** *Frontiers of Persistent and Emergent Questions.* Air Quality and Environmental Health. The Local Regulation of Climate Change. Housing: Planning and Policy Challenges. The Public Finance of Urban Forum. | **7th week:** **Lecture:** *Planning Agents.* The Civics of Urban Planning. Urban Informality. Citizen Planners. The Real Estate Development Industry. The Policy of Planning. Planning and Citizenship. |
| **8th week: 1st drawing week** |  |
| **9th week:** **Lecture:** Transportation system. Tasks, characteristics and development of transportation systems. The effect on exploration and development of regions. Main goals of transportation development. | **10th week:** **Lecture:** The process of road design. Alignment of roads. Requirements of alignment. Views of alignment. Elements of horizontal and vertical alignment. |
| **11th week:** **Lecture:** Travel need, reasons and consequences of mobility. Travel modes. Modal split. Traffic surveys.Semester project work discussion. | **12th week:** **Lecture:** Sustainable transport modes. Definition, energy consumption.Consultation of semester project work. |
| **13th week:** **Lecture:** Capacity, capacity usage. Definition and criteria of Level of Service. Determination of traffic demand. Composition of traffic flow. Flow speed and density.Handling of project works. | **14th week:** **Lecture:** Traffic operation. Relationships among basic traffic parameters. Design and operational analysis. |
| **15th week: 2nd drawing week** |

**Requirements**

Semester project work in the topic of transportation.

Homework: Maximum: **50 points** Minimum**: 26 points**

Requirements in the topic of urban planning

Mid-term test: Maximum: **50 points** Minimum**: 26 points**

The course ends with **mid-semester grade**. Based on the summa points of the tests and the summa points of the homeworks, the mid-semester grade is defined according to the following calculation:

 **Score Grade**

 0 – 50 points: fail (no sign)

 51 – 62 points: pass (2)

 63 – 74 points: satisfactory (3)

 75 – 86 points: good (4)

 87 – 100 points: excellent (5)