SMART CITY SOLUTIONS
CURRICULUM PART-TIME: 5 SEMESTERS

SMARTCITYSOLUTIONS

SEMESTER 1 (€ 2,000)
BASICS, URBANISM

18 CP / 18 w.p.s.

MODULE 1 BS
BASICS OF SMART SOLUTIONS
ML: Prof. Dr. Belle
6 CP / 6 w.p.s.

1.1 CDD
Global Climatic & Demogr. Development Challenges
DI Ghazal Etminan
1.5 CP / 1.5 w.p.s.

1.2 SME
Sustainable Macroeconomics
Prof. Dr. Katharina Gapp-Schmeling
1.5 CP / 1.5 w.p.s.

1.3 SDC
Societal Developments & Challenges
Prof. Dr. Iris Belle
1.5 CP / 1.5 w.p.s.

1.4 SPM
Smart City Parameters & Measuring
Dr. Hans-Martin Neumann
1.5 CP / 1.5 w.p.s.

MODULE 2 SU
SMART URBANISM
ML: Prof. Dr. Belle
6 CP / 6 w.p.s.

2.1 SCC
Smart City & Smart Region
Johannes Schwegler, MBA
1.5 CP / 1.5 w.p.s.

2.2 STP
Smart Town Planning & Land Policy
Prof. Dr. Iris Belle
1.5 CP / 1.5 w.p.s.

2.3 SSI
Smart Social Infrastructure & Housing
Prof. Dr. Iris Belle
1.5 CP / 1.5 w.p.s.

2.4 SUD
Smart Urban Development Principles & Concepts
Dr. Haris Piplas
1.5 CP / 1.5 w.p.s.

SEMESTER 2 (€ 2,000)
INFRASTRUCTURE, RESILIENCE

18 CP / 18 w.p.s.

MODULE 5 EM
SMART ENERGY & MOBILITY
ML: Prof. Dr. Schmidt
6 CP / 6 w.p.s.

5.1 SEG IPM
Smart Energy Generation
Prof. Dr.-Ing. Benjamin Reuter
1.5 CP / 1.5 w.p.s.

5.2 SGS IPM
Smart Grid Solutions
Dr.-Ing. Tobias Weißbach
1.5 CP / 1.5 w.p.s.

5.3 SMM IPM
Smart Mobility Strategies & Management
Dipl.-Ing. Rebecca Heckmann
1.5 CP / 1.5 w.p.s.

5.4 SOM
Smart Operations & Maintenance
Dipl.-Ing. Axel Kühn
Dipl.-Ing. Johannes Winter
1.5 CP / 1.5 w.p.s.

MODULE 6 RR
SMART RESOURCES & RESILIENCE
ML: Prof. Dr. Schmidt
6 CP / 6 w.p.s.

6.1 SWW IPM
Smart Water & Waste Management
Jürnjakob Dugge, M. Sc.
Dipl.-Ing. M. Eng. Markus Bleier
1.5 CP / 1.5 w.p.s.

6.2 PPR
Pollution Prevention & Recovery Strategies
Prof. Dr. Jürgen Breuste
1.5 CP / 1.5 w.p.s.

6.3 SUB
Smart Urban Biosphere & Habitat (incl. Nutrition)
Prof. Dr. Jürgen Breuste
1.5 CP / 1.5 w.p.s.

6.4 RSM
Resilience Strategies & Measures
Dr.-Ing. Nicole Baron
1.5 CP / 1.5 w.p.s.

SEMESTER 3 (€ 2,000)
BUILDINGS, INFORMATION

12 CP / 12 w.p.s.

MODULE 3 SB
SMART BUILDINGS
ML: Prof. Binder
6 CP / 6 w.p.s.

3.1 SAC
Smart Architecture Concepts
Prof. Roland Dieterle
1.5 CP / 1.5 w.p.s.

3.2 SEC
Smart Energy Concepts
Dipl.-Ing. Cathrin Krumrey
1.5 CP / 1.5 w.p.s.

3.3 SET
Smart Engineering & Technologies
Christine von Raven, M.A.
1.5 CP / 1.5 w.p.s.

3.4 BIM
Planning & Building Processes, BIM, Certific.
Dipl.-Ing. Peter Scheibstock
Maroun Aad, M.Eng.
1.5 CP / 1.5 w.p.s.

MODULE 4 IM
SMART INFORMATION MODELLING & AI
ML: Ostadabbas, M.Sc.
6 CP / 6 w.p.s.

4.1 SDC
Smart Data Components
Hamidreza Ostadabbas, M.Sc.
1.5 CP / 1.5 w.p.s.

4.2 GIS
Geographic Information Systems
Prof. Dr.-Ing. Angela Blanco-Vogt
1.5 CP / 1.5 w.p.s.

4.3 CIM
City Information Models
Dipl.-Ing. Carsten Rönsdorf
1.5 CP / 1.5 w.p.s.

4.4 DPS
Digital Platforms & Services
Jonas Merbeth, M. Sc.
1.5 CP / 1.5 w.p.s.

SEMESTER 4 (€ 2,000)
FINANCE, MANAGEMENT

12 CP / 12 w.p.s.

MODULE 7 SF
SMART SUSTAINABLE FINANCE
ML: Prof. Dr. Popovic
6 CP / 6 w.p.s.

7.1 FMI
Financial Markets & Institutions
Andy Yarahmadi, MBA
1.5 CP / 1.5 w.p.s.

7.2 SFI
Sustainable Finance
Prof. Dr. Tobias Popovic
1.5 CP / 1.5 w.p.s.

7.3 IPF
Infrastructure & Project Finance
Prof. Dr. Tobias Popovic
1.5 CP / 1.5 w.p.s.

7.4 DFI
Digitalization, Financial Innovation & Technology
Svenja Gillé, B.Sc.
1.5 CP / 1.5 w.p.s.

MODULE 8 GM
SM. GOVERNANCE, CITIZENS & MANAGEM.
ML: Prof. Dr. Belle
6 CP / 6 w.p.s.

8.1 PPG
Principles of Public Policy & Governance
Felix Bossner, MA
1.5 CP / 1.5 w.p.s.

8.2 PSS
Public Services & Public Sector Management
Felix Bossner, MA
1.5 CP / 1.5 w.p.s.

8.3 LAM
Lean & Agile Management Approaches
Prof. Dr.-Ing. Jakob von Heyl
1.5 CP / 1.5 w.p.s.

8.4 LSM
Leadership & Stakeholder Management
Prof. Dr. Iris Belle
1.5 CP / 1.5 w.p.s.

SEMESTER 5 (€ 2,000)
MASTER TESIS

30 CP / 7 w.p.s.

MODULE 10 MT
MASTER THESIS
ML: Prof. Dr. Belle
30 CP / 7 w.p.s.

10.1 ACW
Academic Writing & Smart City Literature
Prof. Dr. Iris Belle
1.5 CP / 1.5 w.p.s.

10.2 MTP
Master Thesis Proposal
Prof. Dr. Iris Belle
1.5 CP / 1.5 w.p.s.

10.3 MTR
Master Thesis Research
Prof. Dr. Iris Belle
2 CP / 2 w.p.s.

10.4 MTSC
Master Thesis Project in Smart City Solutions
Various supervisors
23 CP / 0 w.p.s.

10.5 MTPA
Master Thesis Presentation & Abstract
Prof. Dr. Iris Belle
2 CP / 2 w.p.s.

9.1 CS1
CASE STUDY 1
Focus: Urbanism, Building & Information
Prof. Dr. Iris Belle, Dr. Hans-Martin Neumann, Mag. Maximilian Hackl
6 CP / 6 w.p.s.

9.2 CS2
CASE STUDY 2
Focus: Infrastructure, Management & Finance
Prof. Dr. Iris Belle, Dr. Hans-Martin Neumann, Mag. Maximilian Hackl
6 CP / 6 w.p.s.

MODULE 9 CS
CASE STUDY
FOCUS: INTEGRATION OF ALL MODULES
ML: Prof. Dr. Belle
12 CP / 12 w.p.s.

Note: In addition lecturers of modules 1-8 contribute to supervision of respective case study chapters (0.5 out of 1.5 w.p.s. per learning unit)

ELECTIVES

Students can attend lectures of the Master Programme International Project Management (IPM) to specialize in individual subject. Attendance is extracurricular and does not replace of smart city solutions lectures. Credit points and grades earned in IPM do not count towards the SCS grade. Attendance is subject to availability. This does not apply to the mandatory joint courses of Modules 5 and 6.

Status SoSe 2025 (24.01.2025)

REMARKS

> **CP**
Credit Points (for students)

> **w.p.s.**
Weekly semester hours (for lecturers)

> **SUPERVISION MASTER THESIS PROJECT (MTSC)**
0.6 w.p.s. per student split among supervisors

> IPM
Mandatory joint course with the Master Programme International Project Management (International Infrastructure and Technology Management IITM)