FMJ3385 Smart City Concepts - exploring systems interface for sustainability 6.0 credits

Smarta koncept för städer - systemsamspel för hållbarhet

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Course syllabus for FMJ3385 valid from Autumn 2017

Grading scale

G

Education cycle

Third cycle

Specific prerequisites

Doctoral student who is admitted to postgraduate education

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

Course contents

Course literature

Cavalcante, E., Cacho, N., Lopes, F., Batista, T., Oquendo, F. Thinking smart cities as systems-of-systems – a perspective study. In Smart Cities´16, 12-16 Dec, Trento, Italy. 2016.

Max-Neef, M.A. Foundations of transdisciplinarity. Ecological Economics vol 53, pp 5-16. 2005.

Sauvé, S., Bernard, S., Sloan, P. Environmental sciences, sustainable development and cicular economy: alternative concepts for trans-disciplinary research. Environmental Development vol 17, pp. 48-56, 2016.

L. da F. Costa , F. A. Rodrigues , G. Travieso & P. R. Villas Boas (2007): Characterization of complex networks: A survey of measurements, Advances in Physics, 56:1, 167-242.

L. da F. Costa , O. N. Oliveira Jr., G. Travieso, F.A. Rodrigues, P. R. Villas Boas, L. Antiqueira, M. P. Viana & L. E. C. Rocha (2011): Analyzing and modeling real-world phenomena with complex networks: a survey of applications, Advances in Physics, 60:3, 329-412.

M. Seredynski & F. Viti, A survey of cooperative ITS for next generation public transport systems, In: IEEE 19th Int. Conf. on Intelligent Transportation Systems, Rio de Janeiro, pp. 1229-1234, 2016.

Iaconesi, S. and Persico, O. An emotional compass – emotions on social networks and a new experience of cities. In Geroimenko, V. (ed.), Augmented Reality Art: from an emerging technology in a novel creative medium, Springer. 2014.

Breckon, J. and Dodson, J. (2016): Using Evidence - What works? A discussion paper, The Alliance for Useful Evidence, available at http://www.alliance4usefulevidence.org/assets/Alliance-Policy-Using-evidence-v4.pdf

Tim Allen, Clive Grace and Steve Martin (2015). Making the most of Research, Final report of the ESRC Local Government Knowledge Navigator, available at http://www.solace.org.uk/knowledge/reports_guides/Making%20the%20Most%20of%20Research%2020150531.pdf

Elwood, Sarah. Geographic Information Science: emerging research on the societal implications of the geospatial web.

Zwitter, A. Big Data Ethics. Big Data & Society. Sage. July-Dec 2014

Prendeville, S., Cherim, E., Bocken, N. Circular cities: mapping six cities. Environmental Innovation and Societal Transitions. In press. 2017

Understanding mobile wireless backhaul. Fujitsu. [http://www.fujitsu.com/downloads/TEL/fnc/whitepapers/Fujitsu_Wireless_Backhaul.pdf]

The Evolution of Cellular Backhaul Technologies: Current Issues and Future Trends, O. Tipmongkolsilp et al. [https://www.tu-braunschweig.de/Medien-DB/ida-kn/jukan1_2010/backhaul-tutorial.pdf]

Examination

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.