**INFRASTRUCTURE AND DEVELOPMENT**

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| Course title – Intitulé du cours | INFRASTRUCTURE AND DEVELOPMENT |
| Level / Semester – Niveau /semestre | M2 / S1 |
| School – Composante  | Ecole d'Economie de Toulouse |
| Teacher – Enseignant responsable | STRAUB Stéphane |
| Other teacher(s) – Autre(s) enseignant(s) |  |
| Other teacher(s) – Autre(s) enseignant(s) |  |
| Other teacher(s) – Autre(s) enseignant(s) |  |
| Other teacher(s) – Autre(s) enseignant(s) |  |
| Other teacher(s) – Autre(s) enseignant(s) |  |
| Lecture Hours – Volume Horaire CM | 30 |
| TA Hours – Volume horaire TD |  |
| TP Hours – Volume horaire TP |  |
| Course Language – Langue du cours | Anglais |
| TA and/or TP Language – Langue des TD et/ou TP | Anglais |

**Teaching staff contacts – Coordonnées de l’équipe pédagogique :**

Stéphane Straub, office T.355.

Meeting by appointment. Preferred mean of interaction: by email (stephane.straub@tse-fr.eu) or after the classes.

**Course’s Objectives – Objectifs du cours :**

The course will focus on infrastructure, defined here to encompass physical infrastructure in the four main sectors, energy, transport, water and sanitation, and information and communication technology (ICT). The objectives of the course are to introduce students to the main issues surrounding these topics, to familiarize them with the policy literature and discussion, and the analytical tools that applied researchers use to address these issues. At the end of the course, students should be able to understand and replicate good quality empirical research in this area, and to produce policy oriented synthesis on topics related to infrastructure.

**Prerequisites – Pré requis :**

Familiarity with basic econometrics, and especially panel data techniques, will be helpful.

A useful and accessible reference is:

Angrist, Joshua D, and Pischke, Jorn-Steffen*, Mostly Harmless Econometrics*, Princeton University Press

**Practical information about the sessions – Modalités pratiques de gestion du cours :**

Laptops are accepted in the class. Slides will be provided before the sessions.

**Grading system – Modalités d’évaluation :**

Grading will consist of an individual home assignment. Late home assignments will be discounted by 50% if they are less than a week late. No home assignment will be accepted more than 1 week after the due date.

**Session planning – Planification des séances :**

Classes will be a mix of lectures and group discussions, and will rely on a mix of research and policy work. Each week, from the second week (of September 13) one of the two sessions will be devoted mostly to the discussion of the paper or material assigned.

The material to be used each week (usually one policy report or one applied research paper) will be announced in advance the week before.

The course will follow the following sequence (some topics may take more or less than one week, so there is not necessary a direct correspondence between weeks and topics):

Part A: The state of affairs

1. Introduction: course organization, review of issues, definitions.
2. Historical overview: from the Bronze Age to the Digital Age.
3. The empirics of infrastructure: data and measurement challenges.
4. Access around the world: a world of inequality.
5. Panel data econometrics and impact evaluation: the benefits of infrastructure and the cost of unequal access.

Part B: Infrastructure policies

1. Funding and financing infrastructure.
2. The public vs. private debate: privatization and public-private partnerships (PPPs). Regulatory and governance issues.
3. The environmental impact of infrastructure, and its role in tackling climate change.
4. Infrastructure in the digital era, sectors overview (energy, water and sanitation, transport, information and communication technology–ICT ).

Finally, interventions by development practitioners (from the World Bank or similar type of organizations) will be organized if possible.

**Bibliography/references – Bibliographie/références :**

**Introduction**

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- Straub, S. (2011), "Infrastructure and Development: A Critical Appraisal of the Macro-Level Literature", The Journal of Development Studies, vol. 47, n°5, p. 683-708.

- Straub, S. (2008), "Infrastructure and Growth in Developing Countries: Recent Advances and Research Challenges", World Bank Policy Research Working Paper No.4460.

**Historical Overview**

- Smil, V. 2017. Energy and Civilization. A History. MIT Press.

- Hugh Goldsmith. 2014. “The Long-Run Evolution of Infrastructure Services.” CESifo Working Paper No. 5073

- Mithen, Steven. 2012. Thirst: For Water and Power in the Ancient World. Harvard University Press.

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**Data, and Measurement**

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**Funding and Financing**

- Blair, Henry Peter and Camille Gardner. 2019. Global Infrastructure: Potential, Perils, and a Framework for Distinction. Working Paper.

- Eichengreen, B. 1995. Financing infrastructure in developing countries: lessons from the railway age. The World Bank Research Observer, 10 (1), 75-91.

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**Public-Private Partnerships, Regulation and Governance,**

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- Anaïs Fabre and Stéphane Straub. 2021. “The Impact of public private partnerships (PPPs) in Infrastructure, Health and Education: A Review.” Conditionaly accepted, Journal of Economic Literature.

- Marin, P. 2009. Public-private partnerships for urban water utilities: a review of experiences in developing countries. The World Bank.

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Latin America: evidence from the water and transport sectors. International Journal of Industrial Organization 26, 421–442.

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- Martimort, D., and S. Straub. 2009. “Infrastructure Privatization and Changes in Corruption Patterns: The Roots of Public Discontent”. Journal of Development Economics 90: 69–84.

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- Kosec, K. 2014. The child health implications of privatizing Africa's urban water supply. Journal of health economics, 35, 1-19.

**Access and Inequality**

- Rozenberg J. and Fay M. 2019. Beyond the Gap: How Countries Can Afford the Infrastructure They Need while Protecting the Planet. Sustainable Infrastructure. Washington, DC: World Bank.

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- Robin Burgess, Remi Jedwab, Edward Miguel, Ameet Morjaria and Gerard Padro-i-Miguel. “The Value of Democracy: Evidence from Road Building in Kenya”, NBER Working Paper No. 19398, , American Economic Review, June 2015.

**Environmental challenges**

- Hallegatte, Stephane, Adrien Vogt-Schilb, Mook Bangalore, and Julie Rozenberg. 2017. Unbreakable: Building the Resilience of the Poor in the Face of Natural Disasters. Climate Change and Development Series. Washington, DC: World Bank.

- Kahn, Matthew. 2021. Adapting to climate change. Markets and the management of an uncertain future. Yale University Press.

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- David Martimort and Stéphane Straub, “How to Design Infrastructure Contracts in a Warming World? A Critical Appraisal of Public-Private Partnerships”, International Economic Review, vol. 57, n° 1, février 2016, p. 61–88.

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- Gates, B. 2021. How to avoid a climate disaster. Allen Lane.

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**Transport**

- World Development Report 2009, Reshaping Economic Geography.

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- Storeygard, A., 2016, “Farther on down the road: transport costs, trade and urban growth in sub-Saharan Africa”, Review of Economic Studies 83(3): 1263-1295.

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- Rema Hanna, Gabriel Kreindler and Ben Olken, “Citywide effects of high-occupancy vehicle restrictions: Evidence from “three-in-one” in Jakarta”, Science, Vol. 357 (6346), 2017.

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**Energy**

- Foster, V., & Rana, A. (2019). Rethinking power sector reform in the developing world. World Bank Publications.

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**ICT**

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- Daniel Björkegren, “The Adoption of Network Goods: Evidence from the Spread of Mobile Phones in Rwanda,” The Review of Economic Studies, Volume 86, Issue 3, May 2019, Pages 1033–1060.

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- Bossuroy, Thomas, Clara Delavallade, and Vincent Pons. "Can Biometric Tracking Improve Healthcare Provision and Data Quality? Experimental Evidence from Tuberculosis Control in India." Harvard Business School Working Paper, No. 19-077, March 2019.

**Water and Sanitation**

- World Health Organization (WHO). 2016. WASH POST-2015: proposed targets and indicators for drinking-water, sanitation and hygiene. <https://www.wssinfo.org/fileadmin/user_upload/resources/post-2015-WASH-targets-factsheet-12pp.pdf>

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- Graham, J.P. Hirai, M., Kim S-S. 2016. An Analysis of Water Collection Labor among Women and Children in 24 Sub-Saharan African Countries, PLoS One. 11(6): e0155981.

**Session planning – Planification des séances**

At this stage, it is planned that all sessions will be held in physical presence. Hybrid mode will be used in case of necessity.

**Distance learning – *Enseignement à distance :***

*Distance learning will be provided by implementing:*

* *Interactive virtual classrooms: Tuesday 1.5h (see above), and if necessary on Monday as well.*
* *Online exercises / assignments from each Tuesday to the next Monday.*
* *Online office hours at fixed time (connection by request).*