

Science Technology and Development  
(HPSC0157) Course Syllabus  
2023-24 session (T2) Convenor: Dr. Michel Wahome

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Course website:	See Moodle
Moodle Web site:	Search "HPSC0157"
Assessment:	1000 word essay plan (35%) 3000 word essay (65%)
Timetable:	Monday 0900-1100

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Date	Topics
8/1	Introduction to an STS understanding of development
15/1	National development and international governance
22/1	The politics of knowledge production and expertise
29/1	Decolonising Development
5/2	Science and Tects.n /Span aa70.464 585gBT/F1 11.04 Tf1 0 0 1 113.06 585.6

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The aims of the modules are to introduce students to the theories and concepts of science, technology and development, and to reflect on the global dimension of science and technology policy and its impacts. It is to equip them with a conceptual toolbox which that can enable them to become reflexive science policy analysts.

By the end of the module you will:

- Understand a selection of concepts and theories of development and how they encompass and relate to scientific and technological progress.
- Analyse interactions between technoscientific knowledge and actors at multiple scales.
- Understand the conceptual and practical difficulties in defining and implementing the universalisms and determinisms associated with current notions of progress.
- Knowledge of the recent ideological and implementation history of international development and international policy regimes.
- Understanding of some of the sociological issues associated with the enactment of global development policy.
- Develop familiarity with interpretive methodologies.

## Teaching and Learning

Teaching for this course takes the form of weekly, two-hour, face-to-face sessions. The sessions will consist of a lecture and interactive, open discussion. The first half of the module will set up the various STS and critical social science perspectives that critique the practice of international development.

The second half of the term will focus on a single topic, examined from different positions and scales. The topic for this year is Climate Change Adaptation. We will also focus our reading on two books. Students will be prepared for class if they have read the essential reading. Additional readings will inform the lecture, will supplement students understanding and can be used in the assessment.

In later weeks we will narrow our discussion to the focus topic and discuss how the issue operates at different scales. Thereby, students will become of common policymaking stakeholder and interests that are involved in international development regimes.

## Assessment

Students will be invited to indicate a preference for the scale at which they would like to analyse the topic, after which they will be divided into groups associated with each scale. Group members will evaluate the topic together and lead the discussion during second hour of class during their designated

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As part of the assessment for this course, students will submit and present a 1000-word individual student essay outline that is a first step towards a final individual essay that will synthesize the issues discussed in the group case study, present the student's argument that integrates an STS perspective/lens.

Assessment 1 Criteria (please also refer to those given in the Departmental Handbook)

- 1.1 Choice of a framing that is rooted in science and technology studies
2. The assessment is structured in a logical manner
3. The essay plan is clear and well argued1.

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The main piece of assessment for this module is a 3000 word essay, on the topic of the student's group case study. The essay can represent the perspective of the development actor that the student represented

of AI is not in itself a learning outcome and it should not be used to generate your analysis.

If you do use AI include a few words at the end of your essay indicating how you made use of it. This





<https://doi.org/10.1080/01436597.2018.1549940>

Meera Sabaratnam. (2017). "Conclusions: Decolonising Intervention. Decolonising International Relations. *Decolonising Intervention: International Statebuilding in Mozambique*. Rowman & Littlefield International.

Ouedraogo, Negzaoui, S., & Dabo-Niang, S. (2021). Gender gap in science in Africa: experience of African women in mathematics association. *Pure and Applied Chemistry*, 93(11), 1343–1350.

Wield, D., & Barker, C. (1978). Science, Technology and Development: Part of a Course in Development Studies for First and Second Year Engineering and Medical Students at the University of Dar Es Salaam, Tanzania. *Social Studies of Science*, 8(3), 385-395.

## 5. Science and Technology at the Margins

Having discussed knowledge and expertise we will take a look at how local know how is incorporated into notions of development. Aside from the potential for commercial or economic development outcomes, there others ways of thinking about science and technology that supports local use cases.

Essential Readings:

Katz, C. (2004) Chapter 8: The strange familiar. *Growing up Global: Economic Restructuring and Children's Everyday Lives*. 1st edition. Minneapolis: University of Minnesota Press. p 225 - 238

Tsing, A. L. (2005) Let a new Asia and new Africa be born. *Friction: an ethnography of global connection*. Princeton, New Jersey: Princeton University Press. p. 81 - 87

Additional Readings:

Odumosu, T. Making Mobiles African Mavhunga, C.C. (Ed.), (2017)., in: *What Do Science, Technology, and Innovation Mean from Africa?*, The MIT Press, p. 137 – 150

Holland, D. (2009). Between the Practical and the Academic: The Relation of Mode 1 and Mode 2 Knowledge Production in a Developing Country. *Science, Technology, & Human Values*, 34(5), 551-572.

Suchman, L., Bishop, L., (2000). Problematizing "Innovation" as a Critical Project.



social change, how it has taken place in the past, the current avenues available to various actors and allows us to imagine alternatives.

Essential Readings:

Tsing, A. L. (2005) Chapter 3: Natural Universals and the Global Scale. *Friction: an ethnography of global connection / Anna Lowenhaupt Tsing*. Princeton, New Jersey: Princeton University Press. p 88 - 112

Additional Reading:

Campos, I., Alves, F., Dinis, J., Truninger, M., Vizinho, A., & Penha-Lopes, G. (2016). Climate adaptation, transitions, and socially innovative action-research approaches. *Ecology and Society*, 21(1).

Hickel, J. & Slamersak, A. (2022) Existing climate mitigation scenarios perpetuate colonial inequalities. *The Lancet. Planetary health*. [Online] 6 (7), e628–e631.

Campos, I., Alves, F., Dinis, J., Truninger, M., Vizinho, A., & Penha-Lopes, G. (2016). Climate adaptation, transitions, and socially innovative action-research approaches. *Ecology and Society*, 21(1).

Hickel, J. & Slamersak, A. (2022) Existing climate mitigation scenarios perpetuate colonial inequalities. *The Lancet. Planetary health*. [Online] 6 (7), e628–e631.

## 7. Systems Scale: Interaction with Nature

How we view our relationship to nature has long influenced our conception of progress and subsequently, decision making about managing resources and economies. Scholarship in STS challenges the tendency to separate ourselves from non-human actors, demonstrating the inherent relationality and interdependence of humans with the non-human world.

Essential Reading

Tsing, A. L. (2005) Chapter 4: Nature Loving. *Friction: an ethnography of global connection / Anna Lowenhaupt Tsing*. Princeton, New Jersey: Princeton University Press. p 121 - 154

Tsing, A. L. (2005) Chapter 5: A history of weediness. *Friction: an ethnography of global connection / Anna Lowenhaupt Tsing*. Princeton, New Jersey: Princeton University Press. p 171 - 204

Additional Readings:

Ransom, E., Grady, C., Trepanier, L., & Bain, C. (2023). Situated Ethics in Development: STS Insights for a Pragmatic Approach to Development Policy and Practice. *Science, Technology, & Human Values*, 48(1), 190-211. <https://doi.org/10.1177/01622439211052685>

Lyons, K., (2022), How to move a country: Fiji's radical plan to escape rising sea levels, *The Guardian*, (Online), November 8, 2022. [https://www.theguardian.com/environment/2022/nov/08/how-to-move-a-country-fiji-radical-plan-escape-rising-seas-climate-crisis?utm\\_source=pocket-newtab-global-en-GB](https://www.theguardian.com/environment/2022/nov/08/how-to-move-a-country-fiji-radical-plan-escape-rising-seas-climate-crisis?utm_source=pocket-newtab-global-en-GB)

Moloo, Z., (2021), Bill Gates and his technofix dream for the planet, *Africa Is A Country*, (Online), March

9, 2021. <https://africasacountry.com/2021/03/bill-gates-and-his-technofix-dream-for-the-planet>

## 8. Global Scale: Governance and Consensus

This week we will discuss global governance the opportunities and challenges that have emerged from the advent of the global and multistakeholder policy era. We consider a number of regulatory environments and what they may be able to teach us about rulemaking for climate change adaptation.

Essential Reading:

Tsing, A. L. (2005) This earth, this island Borneo. *Friction : an ethnography of global connection / Anna Lowenhaupt Tsing*. Princeton, New Jersey: Princeton University Press. p 155 - 170

Lundgren, M., Squatrito, T. & Tallberg, J. Stability and change in international policy-making: A punctuated equilibrium approach. *Rev Int Organ* 13, 547–572 (2018). <https://doi.org/10.1007/s11558-017-9288-x>

Readings and Resources:

Hofmann, J. (2016). Multi-stakeholderism in internet governance: putting a fiction into practice. *J. Cyber Policy* 1(1), 29–49

Silke B., Forsyth, T., Kohler, P.M., Lahsen, M., and Mahony, M., (2016) The making of global science and politics in *The Handbook of Science and Technology Studies*, Fourth Edition, edited by Ulrike Felt, et al., MIT Press, 2016. p. 1059 - 1086

## 9. National Scale: Coordination

The lack of agreement global government agreement on mitigating Climate Change is sometimes blamed on climate denialism. The observable reality is that most actors pick and choose what science to believe and action is not always connected to 'belief'.

<https://consilienceproject.org/the-case-against-naive-technocapitalist-optimism/>

MIT Technology Review's Series on AI Colonialism: <https://www.technologyreview.com/supertopic/ai-colonialism-supertopic>

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