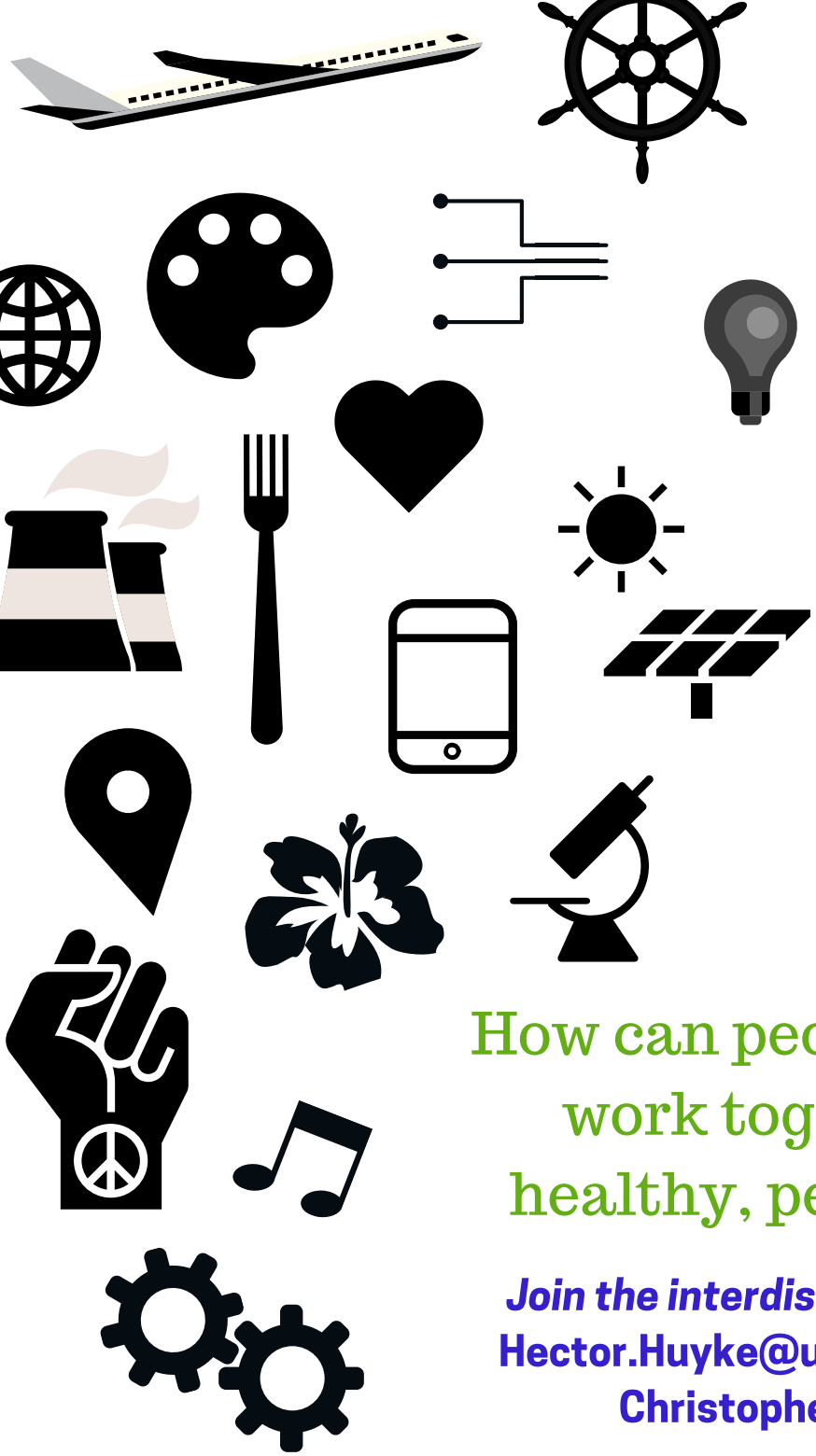


Does technology satisfy our true needs and wellbeing?

Does technology serve all members of society equitably?

Do we control technology, or does it control us?

How can people from all disciplines work together for a sustainable, healthy, peaceful, and just world?

***Join the interdisciplinary experiment* with Profs.**
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alternative & appropriate
TECHNOLOGIES

INTD 3990, Secs. 066/067/068, MJ 12:30PM - 1:45PM, Fall 2016
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TECNOLOGÍAS ALTERNATIVAS Y TECNOLOGÍAS APROPIADAS
INTD 3990, Secs. 066/067/068: Curso para ofrecerse Agosto 2016

Diseño del curso*:* Se agruparán las tres secciones en una y se ofrecerá por un equipo de profesores que incluye Héctor José Huyke Souffront (FILO), Marcel J. Castro Sitiriche (INEL) y Christopher Papadopoulos (CIYM/INGE).

Clasificación del curso: Este curso cuenta como una **electiva socio-humanística** o **electiva libre** para los estudiantes de Ingeniería, Administración de Empresas o Ciencias Agrícolas y como una **electiva libre** para los estudiantes de Artes y Ciencias.

Breve Descripción:

Study of contemporary technological culture and comparison with alternative and appropriate technological options that are oriented to achieving sustainability, improving the conditions of life on earth and satisfying the needs of the community.

Estudio de la cultura tecnológica contemporánea y comparación con opciones tecnológicas alternativas y apropiadas orientadas a la sustentabilidad, a mejorar las condiciones de vida en la tierra, y a satisfacer las necesidades de la comunidad.

Descripción del curso:

Following the appropriate technology tradition and philosophy of technology as theoretical frameworks, this course examines practices of technology innovation and engineering design, and conceptions of human progress. The student develops skills in scientific reasoning and philosophy to be able to critique contemporary technological culture and compare alternative technological options that are oriented to achieving sustainability and fostering human wellbeing in communities and globally.

A partir de la tradición en tecnología apropiada y la filosofía de la tecnología como marcos teóricos, este curso examina prácticas de innovación en tecnología y de diseño ingenieril, y conceptos de progreso humano. El estudiante desarrolla habilidades en razonamiento científico y en filosofía para poder hacer un análisis crítico de la cultura tecnológica contemporánea y poder comparar opciones tecnológicas alternas que están orientadas a lograr sustentabilidad y a promover el bienestar humano en las comunidades y globalmente.

Objetivos:

1. Students will be able to **describe the mutual interplay between technology and society**: how consumer choices, professional practices, economic and other powerful forces inform and determine technology innovation and engineering design, and they will be able to describe how technology in turn influences social structures.
2. Using the appropriate technology and the humanitarian engineering traditions as theoretical frameworks along with other philosophic forms of theory, students will be able **to critique various practices** of technology innovation, engineering design, and poorly analyzed conceptions of human progress.
3. Students will develop basic **scientific and engineering knowledge and skills** that will edify them as informed and literate citizens in a technologically oriented world.
4. Students will be able **to conceptualize alternative approaches** to pursue innovation and design appropriately, considering broad developmental, cultural, political, economic and environmental concerns.

5. Students will be encouraged to **develop a shared sense of responsibility for choosing and for collaborating in bringing about the technologies** that go with achieving sustainability and fostering human wellbeing in communities and globally.

Temas del curso:

- Technologies and context
- Critique of the principle of technological neutrality
- Appropriate technology and humanitarian engineering as general theoretical frameworks
- Critique of the current global development narrative and notions of progress
- Evaluation of contemporary technological culture: The Device Paradigm and Focal Things and Practices
- The theory of Primary and Secondary Instrumentalization
- The Principle of Nearness
- The theory of Wellbeing
- Engineering with community
- Fundamentals of energy, power, thermodynamics, structures, and materials
- Technology and social justice

The course will also feature interactive discussions, a field trip, and a mini workshop on writing critical essays.

Bibliografía:

1. Achterhuis, Hans, ed. *American Philosophy of Technology: The Empirical Turn*. Trans. Robert P. Crease. Bloomington: Indiana University Press, 2001.
2. Huyke-Souffront, Héctor. *Tras otro progreso: Filosofía de la tecnología desde la periferia*, Cabo Rojo, PR: Editorial Educación Emergente, 2013
3. Lucena, Juan, Jan Schneider and Jon A. Leydens. *Engineering and Sustainable Community Development*. Morgan & Claypool, 2010
4. Mitcham, Carl and David Muñoz. *Humanitarian Engineering*. Morgan & Claypool, 2010
5. Riley, Donna. *Engineering and Social Justice*. Morgan & Claypool, 2008
6. Riley, Donna. *Engineering Thermodynamics and 21st Century Energy Problems: A Textbook Companion for Student Engagement.* Morgan & Claypool, 2011 http://www.morganclaypool.com/doi/abs/10.2200/S00387ED1V01Y201110ENG016
7. Schumacher, E. F. *Small is Beautiful: Economics as if People Mattered*. New York: Harper and Row, 1973.
8. White, Sarah C. "Bringing Wellbeing into Development Practice." Wellbeing in Developing Countries Research Group, University of Bath, Bath, UK, 2009 (unpublished)
9. Willoughby, Kelvin W. *Technology Choice: A Critique to the Appropriate Technology Movement*. Boulder, Colorado: Westview Press, 1990

Algunos websites de interés:

1. Practical Action Organization is dedicated to working alongside communities across the world to develop practical solutions to poverty focusing on appropriate technologies: http://practicalaction.org/
2. New Economics Foundation is an organization dedicated to the promotion of social, economic and environmental justice: http://www.neweconomics.org/issues/entry/well-being
3. Singularity Hub "chronicles technological progress by highlighting the breakthroughs, players, and issues shaping the future as well as supporting a global community of smart, passionate, action-oriented people who want to change the world": http://singularityhub.com/
4. Engineer, inventor, and MacArthur Fellow Saul Griffith meticulously analyzes his energy usage: video, http://www.oreilly.com/pub/e/1411
5. Low Tech Magazine: Doubts on progress and technology, http://www.lowtechmagazine.com/
6. Jason Silva, technology as evolution, http://thisisjasonsilva.com/
7. MIT Technology Review, https://www.technologyreview.com/