

## Additional Topics for Integration into the Core Curriculum Courses

### *Life and Physical Sciences*

**Human Enhancements:** Issues related to pharmaceutical, surgical, mechanical and neurological enhancements available for therapeutic purposes. Where do we draw the line between therapy and enhancement? How do we justify enhancing human bodies when so many individuals still lack access to basic therapeutic medicine?

**Genetic Modification:** Issues related to human-animal hybrids on the cellular level. Is interspecies research the next frontier in understanding humanity and curing disease, or a slippery slope, rife with ethical dilemmas, toward creating new species?

**Low-Quality and Counterfeit Pharmaceuticals:** Issues related to the enormous amount of trade in pharmaceutical intermediaries and active ingredients--from the technical (improvement in manufacturing practices and analytical capabilities) to the ethical and legal (for example, India ruled in favor of manufacturing life-saving drugs, even if it violates U.S. patent law).

**Adaptation to Climate Change:** Issues related to the effective and safe ways to help people deal with the effects of climate change, as well as learn to manage and manipulate wild species and nature in order to preserve biodiversity. Some of these adaptation strategies might be highly technical (e.g. building sea walls to stem off sea level rise), but others are social and cultural (e.g., changing agricultural practices), but also ethical (do we have obligations to control populations?).

**Personalized genetic tests/personalized medicine:** Issues related to the creation of fast, low-cost genetic sequencing and public direct access to genome sequencing and analysis, with little or no guidance from physicians or genetic counselors on how to process the information. What are the potential privacy issues, and how do we protect this very personal and private information? Are we headed toward a new era of therapeutic intervention to increase quality of life, or a new era of eugenics?

**End of Life Care:** Issues related to assisted suicide, cost of treatment in decision-making, organ transplantation, legal concerns.

**Sustainability Principles:** Issues related to ecosystems, nonhuman animals, future generations, obligation to animals, and public policies.



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