LAW, POLICY, AND ENGINEERING (LPE)

LPE 853: Engineering, Law, and Policy Systems

3 Credits

This course provides a broad exploration of the relationship between engineering, policy, and law. From driverless cars to AI-powered systems, engineering is transforming public and private spaces. As these new technologies leave the lab and operate in new spaces, each new technology represents a system within that larger, higher-order system. The transformation of these spaces and the interaction of these once-separate systems will be shaped by, and in turn will shape, the public policies of local, state, national, and global policymaking systems. This interdisciplinary course has two objectives. First, it considers the classic engineering problem of integrating subsystems into a larger, higher-order system. In this class, the larger system includes not only other physical systems in the operating space, but also social, legal, and political systems. Second, it considers traditional legal and policymaking institutions as constrained optimization problems. This course identifies the legal and political constraints engineering solutions must satisfy in order to come online.

Cross-listed with: INTAF 853

LPE 854: Engineering, Law, and Technology Policy Practicum

3 Credits

In this class, we bridge technology theory with technology policy practice. We begin the semester by asking the “big” normative questions of innovation: what kinds of technology are we building? What engineering and ethical principles are we applying? Is this “progress”? How is law helping (or not helping)? Next, using case studies of “hot topics” in technology policy, we apply these ideas to current debates. Finally, through the development of an interdisciplinary team project, the lessons from the first two parts of the class are applied, and as the culminating experience of the Master of Engineering program in Engineering, Law and Policy (MELP), engineering students will apply and integrate their knowledge on strategic science and technology policy, regulatory concepts, and systems thinking to the real world policy issue chosen for the team project. The projects are tailored to meet the current research needs of particular federal and state lawmakers and agencies based on their legislative and regulatory agendas for the year. Students will analyze technology and policy options and conceive, design, and execute a technology and policy research project, taking into consideration the political, social, and institutional context of technological systems. The deliverables of the course will be a formal oral presentation of the team project, a public-facing technology tool, and a policy research paper written for relevant policymakers, seeking to assist them in their policy decision-making process. This will require students to reconcile the engineering and technical realities and constraints of the projects as well as the legal implications, stepping into the shoes of a policymaker. Possible policy coverage and project areas include connected health; consumer/investor protection in security and privacy; disinformation, governance, and tech literacy; internet availability and net neutrality; sustainability and ethics in computing design; the Internet of Things and the right to repair; machine learning/ AI suitability; tech competition; computing history; and tech workforce development.