

List of Courses which satisfy the School of Engineering's Professional Development II (PDII) requirement.

The list of courses which follows provides alternative courses which will satisfy the School of Engineering's Professional Development II (PDII) requirement. In the past the PDII requirement could only be fulfilled by taking the 2-credit PDII course STSS-496# PD2 Tech Issues & Solutions.

This two 2-credit course will continue to be offered and will still satisfy the School's PDII requirement. However, the School of Engineering feels that it is beneficial to offer its students more choice in this regard. The list which follows offers ~30 alternative 4-credit courses which may be used to satisfy the School of Engineering's PD II requirement. These alternative HASS courses satisfy the goals of PDII, but are courses which were nominally developed with the intent of offering the Rensselaer student material for a diverse education, as opposed to focusing on aspects of professional development.

Because this course will be used as part of the ABET accreditation process, 2-credit PD II or one of **the listed 4-credit substitute courses must be taken for a letter grade**. Additionally, **transfer credit transfer credit will not be accepted for PD II or any of its 4-credit substitutes**. Further note that if the student chooses to use one of the listed 4-credit HASS courses as a substitute for PD II, then **the course is only to be used as a substitute for PD II. This substitution cannot be double counted for use with the HASS core requirement (e.g. the PD II substitute course cannot also be used to satisfy the HASS depth requirement, and/or 4-credit 4000 level requirement)**. These courses can further be used as communications intensive non-major courses, if the class in question also appears on the registrar's list of approved communications intensive courses.

As such, students who choose to take one of these 4-credit alternative courses, instead of the 2-credit PDII course, must understand that in so doing they will ultimately be taking 24 HASS credits, instead of the 22 HASS required for graduation in engineering.

If a student wishes to take one of these listed 4-credit courses, but not use it as a PD II substitute/alternative, then the course may be used as any other HASS course, and the above PD II related restrictions are lifted.

July 9, 2019

List of Courses that Will Satisfy ABET Professional Development II Outcome Goals

COURSE #	NAME	DESCRIPTION
		These courses will satisfy SoE's Professional Development II (PDII) requirement, in addition to the current 2-credit course:
		STSS-496# PD2 Tech Issues & Solutions
ECON-4190	International Economics and Globalization	This course investigates the significance of economic globalization, covering the following topics: international trade and financial flows, technological innovation and intellectual property, technology transfer, national government and transnational corporations, natural resources, health and the environment, impacts on selected industries and countries, and roles of the world trade organization and international monetary fund. The major controversies surrounding globalization are identified, and alternative arguments are evaluated based on available evidence. Prerequisites/Corequisites: ECON -1200 or permission of instructor.
ECON-4230	Environmental Economics	Develops a critical understanding of environmental issues and policy from an interdisciplinary economics perspective. Covers the economics of environmental quality including the links between the economy and the environment, the causes of environmental problems, evaluation of environmental projects and policies, and policies to address environmental issues with an emphasis on efficiency, equity, and sustainability, and the international dimensions of environmental issues Prerequisites/Corequisites: Prerequisites: ECON 1200 or permission of instructor.
ECON-4240	Natural Resource Economics	Addresses the allocation of natural resources through applied study of fisheries, forestry, oil, minerals, water, and biodiversity resources. Mathematical analysis will be done using Microsoft Excel with Solver. Social and policy dynamics of allocation decisions will be explored through case studies. Field trips will address ecological and physical aspects of resource management. The intent is to develop a balanced perspective and tools to address resource management decisions across their diverse economic, social, and environmental dimensions. This is a communication-intensive course. Prerequisites/Corequisites: Prerequisites: ECON 1200 or permission of instructor.
ECON-4250	Economy, Technology, & Sustainability	This course explores the relationships between the economy and the material world. It identifies the most critical challenges to sustainable economic development on local to global scales and ways of addressing them. The course examines options surrounding material and energy flows, technological alternatives, livelihoods, consumption behavior, public policy, civil society institutions and social movements as avenues for meeting the major challenges to sustainability. Prerequisites/Corequisites: Prerequisites: ECON 1200 or permission of instructor.
ECON-4260	Environmental and Resource Economics	Introduces students to the basic analytical approaches to environmental issues and natural resource use. Emphasis is on economic valuation and public policy. Covers traditional approaches based on assumptions of economic rationality and market efficiency as well as current approaches from the fields of environmental science behavioral economics. Emphasis is on active student participation and examination of current environmental controversies. Prerequisites/Corequisites: Prerequisites: ECON 2010 or permission of instructor.

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COURSE #	NAME	DESCRIPTION
PHIL-2500	Bioethics	<p>This course involves a philosophical analysis of some of the basic moral issues raised by recent and anticipated developments in the areas of biology and medicine. The general question "What are moral problems, and how does one resolve them?" is examined in the context of concrete cases involving issues such as abortion, euthanasia, organ transplants, experimentation on human patients, cloning, genetic engineering, behavior control and modification. This is a communication-intensive course.</p> <p>Cross Listed: Cross listed as STSH 4250. Students cannot obtain credit for both this course and STSH 4250.</p> <p>When Offered: Spring Semester</p>
PHIL-4240	Ethics	<p>A critical examination of traditional and contemporary works in ethical theory by considering what these theories have to say about how we should live, what rights and obligations we have, what things are intrinsically valuable. Typically this includes such topics as ethical and cultural relativism, egoism, freedom, and responsibility. Often the focus will be on contemporary issues such as war, abortion, equality, or punishment. This is a communication-intensive course.</p>
PHIL-4300	Environmental Philosophy	<p>While concepts such as quality of life, environment, nature, global ecology, and the like figure heavily in contemporary discussions, they are seldom integrated into an environmental philosophy. The course tries to achieve this integration by understanding some of the religious, mythic---poetic, and scientific dimensions of the man-nature matrix. Some specific environmental problems are examined in order to illustrate the system of values implied by various solutions.</p> <p>Prerequisite: junior or senior standing or permission of instructor.</p> <p>Cross Listed: Cross listed as STSH 4340. Students cannot obtain credit for both this course and STSH 4340.</p> <p>When Offered: Spring Semester Even Numbered Years</p>

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COURSE #	NAME	DESCRIPTION
PSYC-2220	Human Factors in Design	<p>This course provides a broad introduction to the theories and principles of human performance, man-machine interfaces, and systems designs. It also emphasizes the applications of these theories and principles to the design of controls, work space, data entry devices, training systems, and the human-computer interface.</p> <p>Prerequisites/Corequisites: Prerequisite: PSYC 1200 or permission of instructor. When Offered: Spring Semester</p>

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STSH-4210	Engineering Ethics	<p>This course explores the ethical issues that engineers encounter in their professional practice. It also examines social values and law and policy issues that shape engineering and technological decision making. Using case studies, professional codes of conduct, and scholarly literature, the course examines the responsibilities of engineers in relation to their employers, clients, co-professionals, and their responsibility for public safety and welfare. Topics include the history of engineering, professionalism vs. the demands of business, engineering vs. management decision making, whistle-blowing, proprietary rights and trade secrecy, and conflicts of interest.</p> <p>Prerequisite: STSH 1110/STSS 1110, STSS 2400, or permission of instructor.</p>
STSH-4250	Bioethics	<p>This course explores historical perspectives on bioethics through concrete cases and practical problems faced in the design and execution of some of the highest profile biomedical research and most consequential clinical decisions of the twentieth century. Topics include vaccine development; human radiation experiments; new genetic and reproductive technologies; right-to-die, death-with-dignity, and physician-assisted suicide; human experimentation, including prisoners, the sick, and the disabled; neuroethics; animal research; and emergent topics such as stem cell research, prenatal diagnostics, and genetic testing. This is a communication intensive course.</p> <p>Prerequisites: STSH/STSS 1110.</p> <p>When Offered: Spring Semester Even Numbered Years</p>
STSH-4340	Environmental Philosophy	<p>While concepts such as quality of life, environment, nature, global ecology, and the like figure heavily in contemporary discussions, they are seldom integrated into an environmental philosophy. The course tries to achieve this integration by understanding some of the religious, mythic-poetic, and scientific dimensions of the human-nature matrix. Some specific environmental problems are examined to illustrate the system of values implied by various solutions. Prerequisites/Corequisites: Prerequisite: junior or senior standing or permission of instructor.</p>
STSH-4510	History of American Technology	<p>Discusses the growth of American technology and its place within the framework of American history as well as the interrelationship of American and foreign technological developments. This course stresses the cultural contexts of technological change. Topics covered include the Erie Canal, the American system of manufacturing, railroads, emergence of engineering professions, corporate R&D, household technology, the technology of modern warfare, and the electronics revolution. Prerequisites/Corequisites: Prerequisite: one course in American history or permission of instructor.</p> <p>When Offered: Spring Semester</p>

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STSH-4610	Product Design & Innovation Studio 5	PDI Studio 5 focuses on an enriched sense of program and end user needs defined through methodologies of the humanities and social sciences. Studio projects, presentations and readings explore the relation of race, class, and gender to technology, and the potential of design to address societal problems. The course has often focused on incorporating information technology in educational tools for low-income primary school students. Prerequisites/corequisites: ENGR-2020, IHSS-2500 and ENGR-2050. When Offered: Fall Semester Even Numbered Years
STSH/S-2310	Century of Environmental Thought	This course examines the emergence of environmental consciousness in the United States throughout the 20th century. Students in this course will study the original writings of some of the most important thinkers and activists in the history of environmentalism, examine the social contexts in which their ideas formed, and consider their relevance to contemporary sustainability issues. Prerequisites: STSS 1110 or IHSS 1240 (Environment & Politics) or IHSS 196x (Politics of Global Environment) or IHSS 1110 (Nature/Society) or permission of instructor.
STSH/S-4720	Consumer Culture	This course explores consumption through the lens of culture. Is there such a thing as consumer culture? If so, what is it? What are its roots? Its consequences? Alternatives? In viewing documentaries and reading the work of anthropologists, historians, and religious scholars, we will focus on consumer culture in the US and UK including recognition of the global locations in which our consumer goods are made. Topics include buying and selling, shopping, retail, manufacture, material culture, pricing, consumer goods, disposal, kinship, identity, exchange, and advertising, with attention paid to differences in race, class, and gender. Prerequisites: any 1000- or 2000-level STS course or permission of instructor. When Offered: Spring Semester

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STSS-2200	Engineering, Design, and Society	What is engineering? How should engineering fit into society? What is engineering design? What role should engineering designers play in society? How do the social and technical aspects of design relate to each other? This course will explore answers to these questions through a variety of perspectives and case studies.
STSS-2210	Design, Culture, and Society	This course allows students to develop a critical understanding of the relationships between design, culture, and society. We define 'design' broadly, touching on product/industrial design, urban design, and so-called alternative design approaches such as ecological and feminist design. We focus on the role of design in contemporary culture with the goal of training students' emerging appreciation of design as cultural practice on their professional work as engineers, architects, or business managers. This is a communication-intensive course.
STSS-2300	Environment and Society	The course's main theme is ecological sustainability: what it is, how it might be achieved, how it can be maintained. The theory and practice of sustainability is explored in three parts: through an examination of the concepts, actors, and processes of society-environment interactions; through an analysis of environmental philosophies and models for action; and by addressing the problems and prospects for building sustainable societies. This course prepares students for advanced environmental humanities and social sciences courses. Prerequisites/Corequisites: Prerequisite: STSH-1110/STSS-1110 or permission of instructor.
STSS-2350	Law, Values, and Public Policy	This course examines the interconnections between values and law, seeking to understand how these affect and are affected by science and technology by examining such topics as computers and privacy, medical malpractice, abortion, and other legal conflicts surrounding new reproductive technologies, problems of expert witnesses, sexual harassment, patent infringement, auto safety litigation, and siting of hazardous facilities, among others. This is a communication-intensive course.
STSS-4230	Social Dimensions of Nanotechnology	Students will have a basic understanding of the current state of nanotechnology development and its future projections. They will understand the social and environmental issues at stake in nanotechnology and will have the conceptual tools to engage in analyzing these issues and creating an informed perspective on the choices that could lead to a more just and sustainable world.
STSS-4260	Foods, Farms and Famine	This course provides students with a wide-ranging understanding of the environmental and social context of food, agriculture, and hunger. Drawing primarily on sociological concepts and research, the class will take a "food systems" approach, analyzing food as it travels from farm to table as part of an interconnected process. Students will examine why we eat the way we do and how our food choices affect other people and the environment.

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STSS-4270	Sustainability Problems	Environmental sustainability is difficult to achieve for a wide array of reasons, many of which are not obviously "environmental problems": Electoral cycles and campaign financing. Corporate trade secrets and bottom-line thinking. Slick and compelling advertising. Dumbed-down news coverage. The complexity of environmental science. Debates among environmentalists about the best pathways to sustainability. In this course, we will map the matrix of problems like these that make sustainability difficult. We will also map indicators that environmental sustainability should be a priority, and possible sustainability solutions. Throughout, we will both analyze and try to produce effective environmental communication.
STSS-4300	Social Entrepreneurs and Sustainable Communities	This course has three main goals: 1) to introduce students to community-level thinking about solutions to the twinned global problems of sustainability and injustice; 2) to introduce students to the literature on social innovation/social entrepreneurship and to provide a basis for additional research, work, and entrepreneurship in the field; and 3) to help students explore how they might integrate work in the social innovation/NGO sector into their careers or into voluntary activities so that their future lives and careers are more meaningful. Prerequisites/Corequisites: Prerequisites: Any course with an STSS, STSH, MGMT, or ECON designation.
STSS/H-4310	Energy Politics	Through lectures and in-class discussions, this course explores the history, domestic and international politics, policy, philosophy, economics, environmental consequences, media coverage of, and alternatives to, the US addiction to fossil fuels. Students, who may earn either humanities or social science credit, maintain analytical blogs with twice-weekly posts or write and present semester-length research papers, take a midterm exam and a comprehensive final exam. Communication Intensive Prerequisites/Corequisites: Prerequisite: STSH/S-1110 or STSS-2300 or permission of instructor.
STSS-4330	21st Century Risks	This course covers two main types of technological risk: (1) innovating in ways that endanger health, quality of life, environment, or other goals; and (2) failing to pursue innovations that people need. Some understanding of the technical details is a prerequisite for making sense of emerging technologies, but the course focuses more on media, public opinion, political decision making, technologists' incentives, and other social issues. This is a communication-intensive course. Prerequisites/Corequisites: Prerequisite: STSH/STSS-1110 or permission of instructor.
STSS-4350	Politics of Design	A research seminar exploring the meaning of design in engineering, architecture, political theory, and other fields. How do social ideals and motives inspire design choices? To what extent does the design of human-made things shape the quality of public life? We study a variety of objects: buildings, machines, artifacts in everyday use, computer programs, political constitutions, etc. Prerequisites/Corequisites: Prerequisites: any 2000-level course in STS or permission of instructor.

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STSS-4370	Environmental Politics & Policy	A highly interactive introduction to environmental politics and policy in the United States. Major themes include the background and context of environmental politics and policy, the policy-making process, environmental issues selected and reported on by students, the varieties of environmentalism, and environmental ethics. Prerequisites/Corequisites: Prerequisite: any 2000-level STS course or permission of instructor.
STSS-4500	Globalization and Development	This course surveys the actors, processes, and proposed solutions to the problems of environment and development. The theory and practice of three main themes are explored: the background and context of environment in North and South; politics and economic development in the south; and the problems and prospects for sustainable societies in North and South. Prerequisites/Corequisites: Prerequisite: STSS 2300 or permission of instructor When Offered: Spring Semester Odd Numbered Years
STSS-4540	Inequality in America	Modern societies are characterized by varying degrees of social inequality or differences in education, income, wealth, status, and power. How large are these differences in the U.S.? What are their consequences? How are they created, and why do they persist? We examine such issues using social statistics, ethnographic accounts of people's lives, international comparative data, and theoretical writings on social class. Prerequisites/Corequisites: Prerequisite: STSS-1210 or STSS-1110.
STSS-4560	Gender, Science and Technology	"Sex" is the biological distinction between being male and female. "Gender" is the social construction of masculinity and femininity. The purpose of this course is to explore if, and if so, how, science and technology reciprocally contribute to and are shaped by gender ideals and images. We use gender as a tool for critical thinking about such topics as studies of sex differences, women in science and engineering, the environment, and war and peace. Prerequisites/Corequisites: Prerequisite: STSH-1110/STSS-1110 or permission of instructor.