MINOR IN HUMAN RIGHTS IN ENGINEERING (HRE)

The Human Rights in Engineering academic minor is designed to create a human rights focused pathway through existing engineering major and CAP requirements, providing a foundation and framework that will enable engineering students to explore, discuss, and apply human rights frameworks in their personal and professional life as a globally responsible engineer. The skills, knowledge, and abilities gained from this minor prepares engineering students for careers that incorporate global development, social and corporate responsibility, sustainability, stakeholder engagement, full participation of marginalized communities, cross-cultural work environments, and equity-centered design. The Human Rights in Engineering minor features a unique interdisciplinary curriculum and a blend of coursework and experiential learning opportunities. The minor is a result of a partnership between the School of Engineering's Ethos Center, UD's Human Rights Center, and the Human Rights Studies Program that serves the dual purpose of applying engineering and technology to advance, promote, and increase access to Human Rights, as well as infusing human rights principle, practices and approaches into engineering research and design.

Students minoring in "Human Rights in Engineering" must complete 15 credit hours, including a foundational course in human rights studies (HRS 200 - it is recommended that this is taken the second half of freshman year or during the sophomore year); 1 to 2 approved academic courses outside of engineering; 1 to 2 approved course in engineering or a closely related field (computer science, GIS); and 1 approved course that supplements and/or is connected with an intensive experiential learning opportunity integrating human rights and engineering design methods, systems-thinking, applied research, and or data analysis and validation. Courses for this minor may double count with courses for other minors and majors and Common Academic Program requirements.   Students desiring to minor in Human Rights in Engineering should notify their advisors and the Director of the Ethos Center in the School of Engineering.

Required Foundational Course [1]		3
HRS 200	Introduction to Human Rights	

Examining Social Issues With Human Rights Frameworks - choose one course from the following [2]		3
VAR 315	Visual Ethics	
VAH 382	History of Photography I	
REL 261	Faith Traditions: Human Rights	
POL 340	Gender, Women's Rights and Global Politics	
GLC 347	Latin/x America and Performing Human Rights	
PHL 371	Philosophy & Human Rights	
ENG 311	Literature for the Common Good	
ENG 346	Literature & Human Rights	
VAH 482	History of Photography II	
ANT 325	Anthropology of Human Rights	
HST 390	History of Human Rights	
DST 100	Foundations of Disability Studies	
SOC 371	Sociology of Human Rights	
VAR 350	Art and Social Practice	
SOC 350	Art and Social Practice	
POL 333	Politics of Human Rights	
SEE 325	Sustainable Development Goals	
HRS 392	Human Rights and Development in Africa	
HRS 329	Genocide, Mass Atrocity and Transitional Justice	
SOC 384	Food Justice	
HRS 360	Anti-Human Trafficking Advocacy	
HST 309	Dangerous Work and Disaster Capitalism	
HST 358	Social & Cultural History of Latin America	
HST 366	History of Religion in Latin America	

Connecting engineering knowledge generation and human rights - take one course from the following [3]		3
EGR 419	Engineering Systems for the Common Good	
EGR 351	By Design	
MEE 474	Sustainable Energy Systems in Developing Countries	
ECE 549	Engineering Systems for the Common Good	
MEE 473	Renewable Energy Systems	
EGR 374	Sustainable Energy Analysis and Economics	
CEE 467	Sustainable Water and Waste Infrastructure	
RCL 573	Renewable Energy Systems	
CEE 562	Physical & Chemical Water & Wastewater Treatment Processes	
EGR 498	Honors Thesis [4]	
EGR 499	Engineering Systems Design [5]	
CME 562	Physical & Chemical Wastewater Treatment Processes	
EGR 330	Engineering Design & Appropriate Technology	
MFG 438	Sustainable Manufacturing & Product Design	
MEE 205	Mechatronics	
MEE 474	Sustainable Energy Systems in Developing Countries	

Interdisciplinary systems analysis course - choose one from the following [2]		3
SEE 325	Sustainable Development Goals	
HRS 451	Geographic Information Systems (GIS) for Human Rights	
SOC 350	Art and Social Practice	
VAR 350	Art and Social Practice	
SOC 384	Food Justice	
SEE 402	Sustainability Research II	
GEO 450	Applied Geographic Information Systems	
VAH 482	History of Photography II	
EGR 351	By Design	
EGR 330	Engineering Design & Appropriate Technology	
EGR 430	Appropriate Technology and Design II	
EGR 374	Sustainable Energy Analysis and Economics	
MEE 460	Engineering Analysis	
EGR 331	Sociotechnical Engineering for the Common Good	
HRS 392	Human Rights and Development in Africa	
HRS 329	Genocide, Mass Atrocity and Transitional Justice	
HRS 360	Anti-Human Trafficking Advocacy	

Critical Reflection and Praxis at the Nexus of Engineering and Human Rights - must choose one course and the corresponding experiential learning opportunity [6]		3
EGR 330	Engineering Design & Appropriate Technology [7]	

EGR 331	Sociotechnical Engineering for the Common Good [8]	
EGR 430	Appropriate Technology and Design II [7]	
HRS 392	Human Rights and Development in Africa [9]	
HRS 329	Genocide, Mass Atrocity and Transitional Justice	
HRS 360	Anti-Human Trafficking Advocacy	
MEE 474	Sustainable Energy Systems in Developing Countries	
HRS 375	Moral Courage Project [10]	
CEE 450	Civil Engineering Design [11]	
MEE 432L	Multidisciplinary Design II [12]	
ECE 432L	Multidisciplinary Design II [12]	
EGR 499	Engineering Systems Design [13]	
SEE 390	Special Topics in Sustainability, Energy and the Environment [14]	
ECT 490	Senior Project [12]	
IET 490	Senior Project [12]	
MCT 490	Senior Project [12]	
Engineering community-based global learning experience (through Ethos Center) [15]		**0-.5**
EXP 212	Intro to Engineering Design and Technology [16]	
UDI 290	Introduction to Engineering Design and Appropriate Technology [16]	
EXP 317	ETHOS International Immersion	
Total Hours		**15-15.5**

[1] Encouraged to take 2nd semester 1st year or during 2nd year.

[2] Students may not double count a course in this category with other categories within the Human Rights in Engineering minor.

[3] Requests to have other engineering courses approved will be reviewed on a case by case basis by the Ethos Center and the Academic Department overseeing the course of interest. Students may not double count a course in this category with other categories within the Human Rights in Engineering minor.

[4] By permission only. Must be an engineering topic that incorporates human rights.

[5] By permission only. Must be an engineering topic that incorporates sustainability and human rights.

[6] Students will take a 3 credit hour course for this category and the course must include or must be tied to an intensive experiential learning opportunity that the student must participate in - choose one from the list (other courses can be approved with permission from the Ethos Center AND the Human Rights Center).

[7] Must also be accepted and enrolled into the Ethos Center's International Immersion program.

[8] Must also be accepted and enrolled into the Ethos Center's Dayton or Domestic Immersion program (full time or part time immersion).

[9] Must also be accepted and enrolled in the Human Rights Center's Malawi HR Practicum program.

[10] Must also be accepted and enrolled to participate in the Human Rights Center's Moral Courage Project Experience.

[11] Must get approval from faculty member for assignment to a human rights focused senior design project. Student must also be attending Human Rights Design Seminar.

[12] Must get permission from Innovation Center and Ethos Center to ensure working with an Ethos Center or Human Rights-based design project; student must also be attending Human Rights Design Seminar.

[13] Students must get permission from the Ethos Center to get credit for this course as they work on an Ethos Center VIPER (research) project. student must also be attending UDI 290 seminar experience (0.5 credits).

[14] Students participating in River Stewards can take the "River Leadership" section of this course.

[15] Students are required to participate in one of the Ethos Center's student programs, which could be an immersion, a breakout, VIPER research, part-time immersion, remote immersion, student leader intern, human rights and vocational pathway seminars, or other as approved by Center Director. This can be double counted with other categories above.

[16] Students are enrolled in this to transcript their Ethos experiences.