MECHANICAL ENGINEERING PROGRAM

ABET COURSE SYLLABUS

ME 459/ME 460 HVAC Senior Design Project I and II (3 Units/2 Units)
Required for HVAC Concentration

Course Description: (2019-20 Catalog)	ME459: First quarter of a two quarter sequence. Team project work in designing heating, ventilating and air-conditioning (HVAC) systems. New developments, policies and practices in the HVAC industry. Professional ethics relevant for practicing engineers. 1 lecture, 2 laboratories. ME 460: Continuation of work begun in ME 459. Team project designing heating, ventilating and air-conditioning (HVAC) systems. 2 laboratories.
Prerequisite Courses:	ME 456
Prerequisites by Topic:	HVAC Air and Water Distribution System Design, Building Heating and Cooling Loads
Textbook: (and/or other required material)	None required
References:	ASHRAE Handbook—Fundamentals, ASHRAE, 2017.
Course Coordinator/Instructor:	Steffen Peuker, Assistant Professor of ME
Course Learning Outcomes:	1. Develop, analyze and maintain an engineering project schedule. 2. Work effectively on an engineering team. 3. Evaluate potential design solutions through the use of engineering and physical science analysis techniques and tools. 4. Communicate and present engineering design project results. 5. Students will improve their ability to discuss and take a stand on open-ended topics involving engineering ethics. 6. Understand the codes of ethics and their implications in engineering practice.
Relationship of Course to Mechanical Engineering Student Outcomes:	SO 1: Mastered (M) SO 2: Mastered (M) SO 3: Mastered (M) SO 4: Mastered (M) SO 5: Mastered (M) SO 6: SO 7:

Topics Covered:	ME459 Lecture: 1. Introduction (1 lecture) 2. Microsoft Project overview (1 lecture) 3. Video: "Incident at Morales", ethics discussion (2 lectures) 4. Student ethics presentations (4 lectures)	
Laboratory Projects:	The primarily laboratory activity is the design of a system related to the HVAC field. The project scope varies. The deliverables could be a set of plans and specifications or a built and tested device or system. The scope of the project is determined by the instructor.	
Class/Lab Schedule:	ME 459: One 50-minute lecture per week, two 170-minute labs per week. ME 460: Two 170-minute labs per week.	
Contribution of Course to Meeting the Professional Component:	(a) College-level mathematics and basic sciences:	0 credits
	(b) Engineering Topics:	5 credits
	Design:	4 credit
	(c) General Education:	0 credits
	(d) Other:	0 credits
Prepared by: Steffen Peuker	**Date:** 7/3/19	