

MECHANICAL ENGINEERING PROGRAM
ABET COURSE SYLLABUS

ME 453 Trends and Opportunities in HVAC&R. (1 Activity) Elective

Course Description: (2019-20 Catalog)	Overview of the roles of the Heating, Ventilating, Air-Conditioning and Refrigeration (HVAC&R) industry. Presentation of state-of-the-art HVAC&R systems, components and design solutions. Includes guest speakers from HVAC&R industry. 1 activity.
Prerequisite Courses:	ME 302 or ENVE 304.
Prerequisites by Topic:	Thermodynamics.
Textbook: (and/or other required material)	None
References:	None
Course Coordinator/Instructor:	Steffen Peuker, Assistant Professor of ME
Course Learning Outcomes:	Student will be able to: <ol style="list-style-type: none">1. Explain the scope and purpose of the HVAC&R industry.2. Examine environmental challenges and how HVAC&R design solutions address those challenges.3. Differentiate between different HVAC&R design solutions.4. Describe advantages and disadvantages for each of the design solutions/systems presented in class.5. Formulate a personal plan to land a job in the HVAC&R industry.
Relationship of Course to Mechanical Engineering Student Outcomes:	SO 1: SO 2: Mastered (M) SO 3: SO 4: Mastered (M) SO 5: SO 6: SO 7:
Topics Covered:	<ol style="list-style-type: none">1. What is the HVAC&R industry?2. How to land a job in the HVAC&R industry?3. Design Challenges for achieving Sustainable Buildings4. Specific design solutions for different applications, e.g. hospital, data centers, office buildings etc.

5. Building Automation Systems
6. Working for a Design-Build company
7. The future of HVAC&R – Opportunities and challenges

Laboratory Projects: N/A

Class/Lab Schedule: One 110-minute activity per week.

Contribution of Course to Meeting the Professional Component:

(a) College-level mathematics and basic sciences:	0 credits
(b) Engineering Topics:	1 credits
Design:	0 credit
(c) General Education:	0 credits
(d) Other:	0 credits

Prepared by:
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Date:
6/12/19
