

Course title: Engineering Thermodynamics

Course Basic Information			
Academic Unit:	Civil Engineering Faculty		
Course title:	Engineering Thermodynamics		
Level:	BSc		
Course Status:	Mandatory		
Year of Study:	II		
Number of Classes per Week:	2+2		
ECTS Credits:	6 ECTS		
Time /Location:	8:15-10:00,lab. L 9		
Teacher:	Ali Muriqi		
Contact Details:	ali.muriqi@uni-pr.edu , alimuriqi@gmail.com , tel. 044 141 029		
Course Description:	The subject of Thermodynamics of Engineering studies the Law I of thermodynamics and the Law II of thermodynamics and deals with the way of determining the properties of homogeneous substances. Also the subject matter is the determination of the balance of mass, energy and entropy in solving various engineering problems.		
Course Goals:	<p>The emphasis of the course will be on developing the ability of student for:</p> <ol style="list-style-type: none"> 1. Application of the principle of mass and energy conservation for the evaluation of the performance of simple engineering systems 2. Analysis of thermodynamic properties of simple homogeneous substances 3. Analysis of processes and cycles using the Law II of thermodynamics to determine the maximum efficiency 4. Evaluation of wet air properties 5. Analysis of air conditioning processes 6. Analyzing the regularities of heat transfer to solve simple energy conversion problems 		
Expected Learning Outcomes:	After completing this course (subject) the student will be able to: 1. Know the subject 2. Receive assistance from the course for drafting elaborations (conceptual projects) and professional projects		
Student Workload (should be in compliance with student's Learnign Outcomes)			
Activity	Hours	Day/ Week	Total
Lectures	2	15	30
Theory/ Lab Work/Exercises	2	15	30
Practical Work			
Consultations with the teaher			

Field Work	2	15	20
Test, seminar paper	-		
Homework			5
Self-study (library or home)	1	15	15
Preparation for final exam			15
Assessment time (test, quiz, final exam)			30
Projects, presentations, etc.	1	5	5
Total	-		150

Teaching Methods: Lectures, exercises during class using different materials, one project work in group of 2-3 students (independent work), individual homework

Assessment Methods: Individual assignments completed in class 30%;
Individual assignments completed at home 30%;
Exam 40%.

Primary Literature:

1. Termodinamika e inxhinierisemligjëratat e përgatitur nga Prof. Dr.Ali Muriqi,2020
2. Permbledhje detyrash nga Termodinamika, Krasniqi, F. dhe Muriqi, A., UP, Prishtinë 1996

Additional Literature:

1. Demneri I .etj. Termodinamika , UPT, Tirane,2005
2. Çengel, Y.; Boles, D.: Thermodynamics- an Engineering Approach, McGraw Hill, 2011

Designed teaching plan

Week	Title of the Lecture
Week 1:	Introduction to the basic concept of the course
Week 2:	Basic state parameters
Week 3:	Equation of state of gases
Week 4:	Outdoor work, Heat, Specific Thermocapacity
Week 5:	Law I of thermodynamics
Week 6:	Internal energy, Entalpia
Week 7:	Law II of thermodynamics. Reversible and irreversible processes
Week 8:	Carno Cycle
Week 9:	The polytropic process of state change.
Week 10:	Chemical thermodynamics and combustion processes. Stehiometric equations
Week 11:	The required amount of combustion air and the amount of combustion gases
Week 12:	Moliere's diagram and special cases
Week 13:	Humid air
Week 14:	Heat and mass transmission
Week 15:	Heat losses

Academic Policies and Code of Conduct

We start and finish class on time.
Tools used during class must be cleaned and stored away at the end of class.
Mobile/smart phones, and other electronic devices (e.g. iPods) must be turned off (or on vibrate) and hidden from view during class time.
Laptop and tablet computers are allowed for quiet use only; other activities such as checking personal e-mail or browsing the Internet are prohibited.

