

## MENG 548 – Power Generation Systems

<b>Department:</b> Mechanical Engineering		
<b>Program Name:</b> Mechanical Engineering		<b>Program Code:</b> 23
<b>Course Code:</b> MENG548	<b>Credits:</b> 3 Cr	<b>Year/Semester:</b> 2017-2018/Spring
<input type="checkbox"/> Required Course <input type="checkbox"/> Service Course <input checked="" type="checkbox"/> Elective Course		
<b>Prerequisite(s):</b> -		
<b>Catalog Description:</b> Application of basic principles of thermodynamics, ideal power cycles, steam power cycles; steam generating units; Fuels and combustion; gas turbines, combined heat and power systems, power from renewables, economic analysis of power plants,		
<b>Course Web Page:</b> <a href="http://staff.emu.edu.tr/devrimaydin/en/meng548">staff.emu.edu.tr/devrimaydin/en/meng548</a>		
<b>Textbook(s):</b> Dipak K. Sarkar, Thermal Power Plant Design and Operation, Elsevier 2015. M.M. El Wakil, Power Plant Technology, McGraw Hill Cengel, Boles, Thermodynamics, 5 <sup>th</sup> Edition, McGraw Hill.		
<b>Indicative Basic Reading List :</b> There are many books in the library		
<b>Topics Covered and Class Schedule:</b> <b>(4 hours of lectures + 1 hour of lab or tutorial per week)</b>		
Week 1-2:	Fundamentals of thermodynamics, heat transfer and thermal power technologies	
Week 3-4:	Steam generators	
Weeks 5-6:	Fuels and combustion	
Weeks 7-8:	Midterm examination	
Week 9-10:	Gas Power Cycles: Bryton Cycle, Bryton Cycle with Regeneration,	
Week 11-12:	Vapor and Combined Power cycles	
Week 13:	Power from Renewable Energy	
Week 14:	Economic analysis of power plants	
Week 15:	Final Examination	

### Assessment Criteria

Midterm	30%
Report Writing	20%
Presentation	10%
Final	40%

### Important Dates:

NG Policy:

Students who do not attend both mid-term and final exams will be given NG.