

Courses in English Course Description

Department	03 Mechanical, Automotive and Aeronautical Engineering
Course title	Aerospace Propulsion
Course number	L3090
Hours per week (SWS)	4
Number of ECTS credits	5
Course objective	Mastering of following subjects: system, functioning as well as rough design of components and entire engine, thermodynamics of ideal gases, isentropic nozzle flow, characteristic curves of components, cycle optimization, functioning of turbomachines, basics of combustion, formation of pollutants and measures for reduction
Prerequisites	mathematics, thermodynamics, fluid mechanics
Recommended reading	<ul style="list-style-type: none">• W. Bräunling, Flugzeugtriebwerke, Springer, 2004.• H. Rick, „Gasturbinen und Flugantriebe“, Springer-Verlag, 2013
Teaching methods	Course lecture
Assessment methods	Written final exam
Language of instruction	English
Name of lecturer	Prof. Dr. Dianne DeTurris
Email	ddeturri@calpoly.edu
Link	
Course content	<ul style="list-style-type: none">• engine requirements and types• thermodynamics (ideal gas)• gas dynamics, turbomachines, combustion• real engine cycles• turbojet/turbofan/turboprop engines• engines with afterburner• ramjet/scramjet• rocket engines
Remarks	