College Turbomachinery

The course consists of the following parts: Introduction and recap of the required thermodynamics (1 class), Turbomachinery: basic theory and the application to the design of turbomachinery (5 classes), Application of compressor, pump and turbine maps. Limitations in the operation (stall, surge, NPSH etc) (1 class) Gas turbine: components (turbine, compressor, combustor), gas turbine cycles, performance calculation, applications mechanical and material aspects (5 classes)

Nummer	WB4420
Bedrijfsnaam	Technische Universiteit Delft
Contactpersoon	Prof. Dr. Ir. S.A. Klein
Adres	Mekelweg 2
Postcode/Plaats	2628 CD Delft
Telefoonnummer	06 15965844
E-mailadres	s.a.klein@tudelft.nl
Organisatie opleiding	TU Delft
Samenwerking met	
Soort opleiding	College
Doelgroep	Studenten in M.Sc fase
Totale duur	4 maanden
Intensiteit	2 collegeuren per week
Niveau	Academisch
Vereiste voorkennis	B.Sc (cq HTS) werktuigbouwkunde, vliegtuigbouwkunde
Kosten	? (nihil voor donateurs SGO)
Diploma en/of certificering	Certificaat na succesvolle deelname tentamen
Locatie	Delft, faculteit 3mE (werktuigbouwkunde)
Minimum aantal deelnemers	N.v.t.

College Gas Turbine Simulation / Application

Part 1: 4 lecture sessions on gas turbine off-design performance and simulation. Subjects include part load performance, operating envelope limitations, effects of ambient conditions, steady-state vs. transient operation, performance model types and methodologies and their applications.
Part 2: workshop sessions in a computer room including:
• A tutorial to the GSP Gas turbine Simulation Program.
• A manual (simple turbojet engine) design point and off-design point calculation exercise.
• A specific gas turbine performance analysis assignment to be carried out by the student using GSP. The assignment is selected by the student from a list of over 17 different problems on industrial gas turbines and aero engines. Problems include analysis of operating conditions effects, deterioration and installation loss effects, alternative fuel and steam/water injection effects and design modification effects. A report has to be written and discussed with the lecturer/instructors. A grade will be determined during the evaluation session to be scheduled during the last sessions

Nummer	AE4203
Bedrijfsnaam	Technische Universiteit Delft
Contactpersoon	Dr. Ir. W.P.J. Visser
Adres	Kluyverweg 1
Postcode/Plaats	2629 HS Delft
Telefoonnummer	Tel +31 620746562
E-mailadres	w.p.j.visser@tudelft.nl
Organisatie opleiding	TU Delft
Samenwerking met	
Soort opleiding	College + Workshop
Doelgroep	Studenten in M.Sc fase
Totale duur	5 maanden
Intensiteit	2 collegeuren per week
Niveau	Academisch
Vereiste voorkennis	MSc gas turbine knowledge (Aero engine technology AE4238 of Gas turbines WB4420)
Kosten	? (nihil voor donateurs SGO)
Diploma en/of certificering	Certificaat na succesvolle deelname tentamen
Locatie	Delft, faculteit AE (Lucht en Ruimtevaart)
Minimum aantal deelnemers	N.v.t.