

TITLE :	PHYSICS OF MAGNETICALLY CONFINED PLASMAS			Course number :	PY-09
Instructor (s) :	Dr O. Sauter, Dr J.-M. Moret, Dr R. A. Pitts , Dr H. Weisen, Dr. A. Pochelon *			Credits :	4
Doctoral program (s) :	PHYSICS			Taught first time in	2004
Frequency of offer:	<input type="checkbox"/> This year only	<input type="checkbox"/> Every year	<input type="checkbox"/> Every 2 years	<input checked="" type="checkbox"/> Every 3 years	
Teaching period :	<input type="checkbox"/> Winter term	<input checked="" type="checkbox"/> Summer term	<input type="checkbox"/> During Winter or Summer Recess		
Pedagogical vehicles	<input checked="" type="checkbox"/> Ex-cathedra lectures		<input type="checkbox"/> Guided self-study		
	<input type="checkbox"/> Research or Take-home project		<input checked="" type="checkbox"/> Group discussion/debate		
	<input type="checkbox"/> Homework problem sets		<input checked="" type="checkbox"/> Classroom problem solving		
	<input type="checkbox"/> Other :				
Number of hours (total):	Lecture	28	Recitation	28	Practical work -
Examination procedure:	<input type="checkbox"/> Written exam	<input checked="" type="checkbox"/> Oral Exam	<input type="checkbox"/> Oral presentation	<input type="checkbox"/> Term paper	<input checked="" type="checkbox"/> Project report
Required prior knowledge :	Basic theoretical knowledge of plasma physics (2nd cycle EPFL or equivalent)				

OBJECTIVES :

To provide the physics basis of magnetic fusion

CONTENT :

1. Magnetic confinement
2. Transport in toroidal plasma confined by magnetic field
- ~~3. Edge plasma and interaction plasma-wall *~~
4. Kinetic theory of waves in a magnetized plasma
5. Heating and current drive by RF waves
6. Heating by neutral beam

* modifications dated 10.2.2004