COURSE ID SHEET

Course No.	5246	NTUA

Semester:	6	Core		Elective	X	Specialization	

Title: **COMPUTATIONAL TRANSPORT PHENOMENA**

Aim: The theoretical analysis and application of basic numerical methods of approximate solution of the differential equations of Transport Phenomena with computers, with the ultimate goal of investigating and revealing the physical content of the predictive mathematical models of the problems.

Content:

- Discretization of boundary value problems.
- The method of Galerkin weighted residuals.
- Finite element basis functions.
- Discretized equations.
- Nonlinear equations.
- Computer implementation of the finite element method.
- Application of Computational Fluid Dynamics methods and codes in solving complicated Transport Phenomena problems.

Hours per semester:

LECTURES	25	EXERCISES	-	LABORA-TORY	25	HOME-WORK	40	**TOTAL HOURS: 90**

Student performance/ evaluation: The Final Grade results as follows:

- 30% of the final grade comes from the delivered technical reports, and
- 70% of the final grade comes from the hands-on individual examination of the students in the PC-lab.