

# COURSE GUIDE – short form

Academic year 2017-2018

Course name <sup>1</sup>	<b>Modeling and Analysis by Finite Element</b>					Course code	4EPI04DS		
Course type <sup>2</sup>	DS	Category <sup>3</sup>	DI	Year of study	4	Semester	7	Number of credit points	4

Faculty	Materials Science and Engineering	Number of teaching and learning hours <sup>4</sup>					
Field	Mechanical Engineering	Total	L	T	LB	P	IS
Specialization	Equipments for industrial processes	96	28	-	14	-	54

Pre-requisites from the curriculum <sup>5</sup>	Compulsory	
	Recommended	

General objective <sup>6</sup>	Initial training in using the finite element method as a method for designing equipments for industrial processes.
Specific objectives <sup>7</sup>	<ul style="list-style-type: none"> <li>• The description of the basic concepts of modeling and analysis with the finite element.</li> <li>• The knowledge of principles and basic elements of modeling and analysis of mechanical and thermal processes using finite element method.</li> <li>• The presentation of modeling and finite element analysis examples.</li> </ul>
Course description <sup>8</sup>	The finite element method in engineering. The problem formulation and the discretization of the field of analysis. Finite nodal elements. Obtaining the finite element numerical model.

Assessment		Schedule <sup>9</sup>	Percentage of the final grade (minimum grade) <sup>10</sup>
Continuous assessment	Class tests along the semester		%
	Activity during tutorials/laboratory works/projects/practical work	Weeks 1-14	30 %
	Assignments		%
Final assessment	Final assessment form <sup>11</sup>	colloquium	Week 14
	Examination procedures and conditions: 1.Subject with open questions; tasks: answers to open questions;working conditions:oral;percent of the final grade 100 %		70 %

Course organizer	Prof. dr. eng. Romeu Chelariu	
Teaching assistants	Prof. dr. eng. Romeu Chelariu	

<sup>1</sup>Course name from the curriculum

<sup>2</sup> DF – fundamental, DID – in the field, DS – specialty, DC – complementary (from the curriculum)

<sup>3</sup> DI – imposed, DO –optional, DL – facultative (from the curriculum)

<sup>4</sup> Points 3.8, 3.5, 3.6a,b,c, 3.7 from the Course guide – extended form (L-lecture, T-tutorial, LB-laboratory works, P-project, IS-individual study)

<sup>5</sup> According to 4.1 – Pre-requisites - from the Course guide – extended form

<sup>6</sup> According to 7.1 from the Course guide – extended form

<sup>7</sup> According to 7.2 from the Course guide – extended form

<sup>8</sup> Short description of the course, according to point 8 from the Course guide – extended form

<sup>9</sup> For continuous assessment: weeks 1 – 14, for final assessment – colloquium: week 14, for final assessment-exam: exam period

<sup>10</sup> A minimum grade might be imposed for some assessment stages

<sup>11</sup> Exam or colloquium