

# COURSE GUIDE – short form

Academic year 2014-2015

Course name <sup>1</sup>	<b>Numerical Calculus in Engineering- FEM, NCE-FEM</b>					Course code	MTC.314. DO. DID-1		
Course type <sup>2</sup>	DID	Category <sup>3</sup>	DO	Year of study	3	Semester	1	Number of credit points	3

Faculty	Mechanical Engineering	Number of teaching and learning hours <sup>4</sup>						
Field	IA + IM + MR	Total	L	T	LB	P	IS	
Specialization	AR, ISPA, SET, MAIA, MCT, ROB	122	28	-	14	-	80	

Pre-requisites from the curriculum <sup>5</sup>	Compulsory	-
	Recommended	Strength of Materials I + II

General objective <sup>6</sup>	NCE-FEM is to develop general or professional skills using the Finite Element Analysis, FEA, in Mechanical Engineering, undergraduate studies appropriate level.
Specific objectives <sup>7</sup>	<ul style="list-style-type: none"> <li>Knowledge of the information sources, the work stages, the practice of using a professional software package for FEA.</li> </ul>
Course description <sup>8</sup>	I. Introductory elements. II. Basics of Deformable body mechanics used FEA. Elasticity. Plasticity. Nonlinearity. III. Basics of FEA. Evaluation of strains and stresses.

Assessment			Schedule <sup>9</sup>	Percentage of the final grade (minimum grade) <sup>10</sup>
Continuous assessment	Class test along the semester		Week 11-12	50%
	Activity during tutorials/laboratory works/projects/practical work		Week 1-10	25%
	Assignments		-	-
Final assessment	Final assessment form <sup>11</sup>	Colloquium	Week 13-14	25%
	Examination procedures and conditions: 1 Oral answer ;                      percent of the final grade: 10% 2 Practical demonstration :       percent of the final grade: 15%			

Course organizer	Assoc. Prof. Dr. Eng. Mihail Aignatoaie	
Teaching assistants	Assoc. Prof. Dr. Eng. Mihail Aignatoaie	

<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