SYLLABUS[1]

1. Information about the program

1.1 Higher education institution	University Politehnica Timisoara
1.2 Faculty[2] / Department[3]	Electronics and Telecommunications/ Measurements and Optical Electronics
1.3 Chair	–
1.4 Field of study (name/code[4])	
1.5 Study cycle	Bachelor
1.6 Study program (name/code)/Qualification	

2. Information about the discipline

2.1 Name of discipline			Electromagnetic Compatibility				
2.2 Coordinator (holder) of course activities			□.l.dr.ing. Iftode Cora				
2.3 Coordinator (holder) of applied activities [5]			□.l.dr.ing. Iftode Cora				
2.4 Year of study[6]	3	**2.5** Semester	6	**2.6** Type of evaluation	E	**2.7** Type of discipline	optional

3. Total estimated time (hours / semester of didactic activities)

3.1 No. of hrs. / week	4 , of which:	**3.2** course	2	**3.3** seminar/laboratory/ project/training	2
3.4 Total no. of hrs. in the education curricula	56 , of which:	**3.5** course	28	**3.6** applied activities	28
3.7 Distribution of time for individual activities related to the discipline					hrs.
Study using a manual, course materials, bibliography and lecture notes					7
Additional documentation in the library, on specialized electronic platforms and on the field					3.5
Preparation for seminars / laboratories, homeworks, assignments, portfolios, and essays					3.5
Tutoring					7
Examinations					4
Other activities					
Total hrs. of individual activities					25
3.8 Total hrs. / semester[7]	81				
3.9 No. of credits	4				

4. Prerequisites (where applicable)

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1 The form corresponds to the Syllabus promoted by OMECTS 5703/18.12.2011 (Annex3).

2 The name of the faculty which manages the educational curriculum to which the discipline belongs.

3 The name of the department entrusted with the discipline, and to which the course coordinator / holder belongs.

4 Fill in the code provided in GD no. 493/17.07.2013.

5 The applied activities refer to: seminar (S) / laboratory (L) / project (P) / practice/training (Pr).

6 The year of study to which the discipline is provided in the curriculum.

7 It is obtained by summing up the number of hrs. from 3.4 and 3.7.

4.1 Curriculum	•
4.2 Competencies	•

5. Conditions (where applicable)

5.1 of the course	•
5.2 to conduct practical activities	•

6. Specific competencies acquired

Professional competencies[8]	• Knowledge on the electromagnetic coupling phenomena and shielding possibilities
Transversal competencies	•

7. Objectives of the discipline (based on the grid of specific competencies acquired)

7.1 General objective of the discipline	• The course acquaints the students with specific problems concerning compliance with electromagnetic compatibility regulations, measurement and testing standards. Regulations concerning the emissive perturbations level and immunity tests for electronic equipments are presented. The discipline assures competence in electromagnetic compatibility regulations implementation, necessary to every electronic engineer for designing, building and using electronic equipment.
7.2 Specific objectives	•

8. Content

8.1 Course	No. of hours	Teaching methods
1. Introduction. Electromagnetic compatibility directives and regulations.	4	ppt
2. Radiation and conduction transmitted perturbations measurement.	4	
3. Characteristic signals for immunity tests: burst, energetic pulses, ESD.	4	
4. Immunity determination for radiated and conducted	4	

8 The professional competencies and the transversal competencies will be treated according to the Methodology of OMECTS 5703/18.12.2011. The competencies listed in the National Register of Qualifications in Higher Education [Registrul Naţional al Calificărilor din Învăţământul Superior RNCIS] (http://www.rncis.ro/portal/page?_pageid=117,70218&_dad=portal&_schema=PORTAL) will be used for the field of study from 1.4 and the program of study from 1.6 of this form, involving the discipline.

perturbations.		
5. Immunity tests specific for power supply: power supply variations, dips and interruptions, overvoltage etc.	4	
6. EMC regulations in medicine.	4	
7. EMC regulations in the automotive domain.	4	

Bibliography[9] 1. A. Ignea, *Electromagnetic compatibility,* West Publishing House, Timişoara, 2007.

2. Henry Ott, *Electromagnetic compatibility engineering*, Wiley Publiching House, 2009

8.2 Applied activities[10]	No. of hours	Teaching methods
Introduction to EMC	2	
Measurement receiver	2	
Spectrum analyzer	2	
EMC signals in Matlab	2	
Magnetic field probe calibration	2	
Magnetic field measurements	2	
Shielding of transmission lines	2	
Visit to Continental Automotive Timisoara	2	
Exercises and test	12	

Bibliography [11]

9. Corroboration of the content of the discipline with the expectations of the main representatives of the epistemic community, professional associations and employers in the field afferent to the program

[9] At least one title must belong to the department staff teaching the discipline, and at least 3 titles must refer to national and international works relevant for the discipline, and which can be found in the Politehnica University Library.

[10] The types of applied activities are those specified in footnote 5. If the discipline contains several types of applied activities, then these will be written consecutively in the lines of the table below. The type of activity will be written in a distinct line, as „Seminar:", „Laboratory:", „Project:" and/or „Practice/Training:".

[11] At least one title must belong to the staff teaching the discipline.

- It is a large demanding everywhere for engineers capable of understanding, detecting and finding solutions for a wide range of EMC problems in different industry areas. In the western part of the country there is a powerful automotive industry which also has a lot of EMC testing and debugging

10. Evaluation

Type of activity	**10.1** Evaluation criteria	**10.2** Evaluation methods	**10.3** Share of the final grade
10.4 Course		Written exam	0.5
10.5 Applied activities	**S:**		
	L:	Written tests and results presentation for the measurements	0.5
	P:		
	Pr:		
10.6 Minimum performance standard (minimum amount of knowledge necessary to pass the discipline and the way in which this knowledge is verified)			
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Date of completion	**Course coordinator (signature)**	**Coordinator of applied activities (signature)**
16.12.2016	.....	.....
Head of Department (signature)	**Date of approval in the Faculty Council**[12]	**Dean (signature)**
.....		.....

[12] Avizarea este precedată de discutarea punctului de vedere al board-ului de care aparţine programul de studiu cu privire la fişa disciplinei.