

BIOTERRA UNIVERSITY OF BUCHAREST
 FACULTY OF COMPUTER SCIENCES
 DOMAINE: INFORMATICS
 SPECIALIZATION: **APPLERD COMPUTER SCIENCES**
 Study period: 3 years
 Full time BA
 Year: 2018– 2019

APPROVED,

RECTOR
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CURRICULUM
FIRST YEAR (2018-2019)

No.	Course Name	Course code	Training Categ.	Semester I (14 weeks)						Semester II (14 weeks)						Total Hours per Years				Self study
				No. hours / week				VF	UC	No. hours / week				VF	UC	C	S	L/P	Total	
				C	S	L/P	Total			C	S	L/P	Total							
Fundamental Disciplines																				
1	Fundamentals of programming	ACSF.01.01	DF	3	-	2	5	E	5	-	-	-	-	-	-	42	-	28	70	55
3	Computer architecture	ACSF.02.01	DF	2	-	2	4	E	5	-	-	-	-	-	-	28	-	28	56	69
3	Algorithm and data structure	ACSF.03.02	DF	-	-	-	-	-	-	2	-	2	4	E	5	28	-	28	56	69
4	The algebraic fundamentals of computer sciences	ACSF.04.02	DF	-	-	-	-	-	-	2	1	-	3	V	4	28	14	-	42	58
5	Differential and integral calculus	ACSF.05.02	DF	-	-	-	-	-	-	2	1	-	3	E	4	28	14	-	42	58
6	Mathematical and computational logic	ACSF.06.01	DF	2	1	-	3	V	4	-	-	-	-	-	-	28	14	-	42	58
7	Operating systems	ACSF.07.02	DF	-	-	-	-	-	-	2	-	2	4	E	4	28	-	28	56	44
Specialize disciplines																				
8	Birotics	ACSS.08.01	DS	2	-	2	4	V	4	-	-	-	-	-	-	28	-	28	56	44
9	Procedural programming	ACSS.09.02	DS	-	-	-	-	-	-	2	-	2	4	E	4	28	-	28	56	44
10	Logic and functional programming	ACSS.10.02	DS	-	-	-	-	-	-	2	-	2	4	V	4	28	-	28	56	44
Complementary disciplines																				
11	Mathematical analysis	ACSC.11.01	DC	2	2	-	4	E	5	-	-	-	-	-	-	28	28	-	56	69
12	Linear algebra, analytical and differential geometry	ACSC.12.01	DC	2	2	-	4	E	5	-	-	-	-	-	-	28	28	-	56	69
13	Advanced foreign language 1	ACSC.13.01	DC	1	1	-	2	V	2	-	-	-	-	-	-	14	14	-	28	22
14	Advanced foreign language 2	ACSC.14.02	DC	-	-	-	-	-	-	1	1	-	2	V	2	14	14	-	28	22
15	Physical Education 1	ACSC.15.01	DC	-	1	-	1	V	2	-	-	-	-	-	-	-	14	-	14	36
16	Chemoinformatics	ACSC.16.02	DC	-	-	-	-	-	-	2	-	1	3	E	3	28	-	14	42	33
17	Computer techniques in design	ACSC.17.02	OP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Physical Education 2	ACSC.18.02	DC	-	-	-	-	-	-	-	1	-	1	V	2	-	14	-	14	26
Facultative disciplines																				
19	Electronic Archiver	ACSFAC.19.01	FA	2	-	1	3	V	2	-	-	-	-	-	-	28	-	14	42	8
20	IT volunteering	ACSFAC.20.01	FA	-	2	-	2	V	2	-	-	-	-	-	-	-	-	-	-	-
21	Philosophy of sciences and technical cult.	ACSFAC.21.02	FA	-	-	-	-	-	-	2	1	-	3	V	3	28	14	-	42	33
22	Romanian language 1	ACSFAC.22.01	FA	2	2	-	4	V	4	-	-	-	-	-	-	28	28	-	56	44
23	Romanian language 2	ACSFAC.23.02	FA	-	-	-	-	-	-	2	2	-	4	V	4	28	28	-	56	44
TOTAL				14	7	6	27	4E/ 3V/1P /F	30	15	4	9	28	5E /3V/ 1P/F	30	406	154	210	770	820

**CURRICULUM
SECOND YEAR (2019-2020)**

No.	Course Name	Course code	Training Categ.	Semester III (14 weeks)						Semester IV (14 weeks)						Total Hours per Years				Self study
				No. Hours / week				VF	UC	No. Hours / week				VF	UC	C	S	L/P	Total	
				C	S	L/P	Total			C	S	L/P	Total							
Fundamental Disciplines																				
1	Databases	ACSF.23.03	DF	3	-	2	5	E	5	-	-	-	-	-	-	42	-	28	70	55
2	Probabilities and statistics	ACSF.24.03	DF	2	1	-	3	V	4	-	-	-	-	-	-	28	14	-	42	58
3	Graph algorithms	ACSF.25.03	DF	2	2	-	4	E	4	-	-	-	-	-	-	28	28	-	56	44
4	Formale and compilative languages	ACSF.25.03	DF	2	2	-	4	E	4	-	-	-	-	-	-	28	28	-	56	44
5	Computer Networks	ACSF.26.04	DF	-	-	-	-	-	-	2	-	2	4	E	3	28	-	28	56	19
6	Security of computer systems	ACSF.27.04	OP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Computational geometry	ACSF.28.03	DF	2	1	-	3	V	4	-	-	-	-	-	-	28	14	-	42	58
Specialize disciplines																				
8	Web technologies	ACSS.29.04	DS	-	-	-	-	-	-	2	-	2	4	E	4	28	-	28	56	44
9	Object oriented programming	ACSS.30.03	DS	2	-	2	4	E	5	-	-	-	-	-	-	28	-	28	56	69
10	Environments and programming tools	ACSS.31.04	DS	-	-	-	-	-	-	2	-	2	4	E	4	28	-	28	56	44
11	Visual programming environments	ACSS.32.04	OP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	IT Project Management	ACSS.33.03	DS	2	-	1	3	V	4	-	-	-	-	-	-	28	-	14	42	58
13	Designing graphical interfaces	ACSS.34.04	DS	-	-	-	-	-	-	2	-	2	4	E	4	28	-	28	56	44
14	Database Management Systems	ACSS.35.04	DS	-	-	-	-	-	-	2	-	2	4	E	5	28	-	28	56	69
15	Pratice	ACSS.36.04	DS	4hours x28 days = 112 hours										V	5	-	-	-	112	13
Complementary disciplines																				
16	Differential equations and partial derivatives	ACSC.37.04	DC	-	-	-	-	-	-	2	1	-	3	V	3	28	14	-	42	33
17	Physical Education 3	ACSC.38.03	DC	-	1	-	1	V	3	-	-	-	-	-	-	-	14	-	14	61
18	Physical Education 4	ACSC.39.04	DC	-	-	-	-	-	-	-	1	-	1	V	3	-	14	-	14	61
19	Computer Science in product expertise	ACSC.40.04	DC	-	-	-	-	-	-	2	-	1	3	V	2	28	-	14	42	8
20	Biostatistics and Informatics	ACSC.41.04	OP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Facultative disciplines																				
21	Professional Ethics and Intellectual Property (Legal Informatics)	ACSFAC.42.03	FA	2	1	-	3	V	3	-	-	-	-	-	-	28	14	-	42	3
22	Romanian language 3	ACSFAC.43.03	FA	1	1	-	2	V	2	-	-	-	-	-	-	14	14	-	28	2
23	Romanian language 4	ACSFAC.44.04	FA	-	-	-	-	-	-	2	1	-	3	V	3	28	14	-	42	3
TOTAL				15	7	5	27	4E/ 3V/ 1P/ F	30	14	2	11	27	5E / 3V+1P/F	30	406	126	224	868	782

**CURRICULUM
THIRD YEAR (2020-2021)**

No.	Course Name	Course code	Training Categ.	Semester V (14 weeks)						Semester VI (12 weeks)						Total Hours per Years				Self study
				No. Hours / week				VF	UC	No. Hours / week				VF	UC	C	S	L/P	Total	
				C	S	L/P	Total			C	S	L/P	Total							
Fundamental Disciplines																				
1	Artificial Intelligence	ACSF.45.05	DF	3	-	2	5	E	6	-	-	-	-	-	-	42	-	28	70	80
2	Automated, computability and complexity	ACSF.46.05	DF	3	-	2	5	E	6	-	-	-	-	-	-	42	-	28	70	80
Specialize disciplines																				
3	Cryptography	ACSS.47.05	DS	2	-	2	4	E	5	-	-	-	-	-	-	28	-	28	56	69
4	Parallelism and competing	ACSS.48.06	DS	-	-	-	-	-	-	2	-	2	4	E	3	24	-	24	48	27
5	Cloud computing	ACSS.49.06	OP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Verification and validation of software systems	ACSS.50.06	DS	-	-	-	-	-	-	2	-	2	4	V	3	24	-	24	48	27
7	Fundamentals of routing	ACSS.51.06	OP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	Mining data techniques	ACSS.52.06	DS	-	-	-	-	-	-	2	-	2	4	E	5	24	-	24	48	77
9	Practice for diploma project development 1	ACSS.53.05	DS	-	-	-	-	V	4	-	-	-	-	-	-	-	-	-	28	72
10	Practice for diploma project development 2	ACSS.54.06	DS	-	-	-	-	-	-	-	-	-	-	V	4	-	-	-	24	76
11	Operational research	ACSS.55.06	DS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	Programming techniques for graphical applications	ACSS.56.06	OP	-	-	-	-	-	-	2	-	2	4	E	3	24	-	24	48	27
13	Developing computer games	ACSS.57.06	DS	-	-	-	-	-	-	2	-	2	4	E	6	24	-	24	48	102
14	Mobile application development	ACSS.58.06	DS	-	-	-	-	-	-	2	-	2	4	E	6	24	-	24	48	102
15	Computer Graphics	ACSS.59.05	DS	2	-	2	4	V	3	-	-	-	-	-	-	28	-	28	56	19
16	Human-computer interfaces	ACSS.60.05	OP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Complementary disciplines																				
17	Bioinformatics	ACSC.61.05	DC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Computational methods used in the natural sciences	ACSC.62.05	OP	2	-	1	3	E	3	-	-	-	-	-	-	28	-	14	42	33
19	Business concepts in IT	ACSC.63.05	DC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	Computational methods in the economy	ACSC.64.05	OP	2	1	-	3	V	3	-	-	-	-	-	-	28	14	-	42	33
Facultative disciplines																				
21	Virtual reality	ACSFAC.65.05	FA	2	-	2	4	V	3	-	-	-	-	-	-	28	-	28	56	19
22	Elements of general economy	ACSFAC.66.05	FA	2	1	-	3	V	2	-	-	-	-	-	-	28	14	-	42	8
23	Management of the organization	ACSFAC.67.06	FA	-	-	-	-	-	-	2	1	-	3	V	2	24	12	-	36	14
24	Business Intelligence	ACSFAC.68.06	FA	-	-	-	-	-	-	2	1	1	4	V	3	24	12	12	48	27
TOTAL				14	1	9	24	4E 3V	30	12	0	12	24	5E 2V	30	340	14	270	676	824

GENERAL BALANCE SHEET

I. NUMBER OF HOURS PER WEEK:

YEAR OF STUDY	Semester I				Semester II			
	C	S	L/P	TOTAL	C	S	L/P	TOTAL
I	14	7	6	27	15	4	9	28
II	15	7	5	27	14	2	11	27
III	14	1	9	24	12	0	12	24

II. NUMBER OF HOURS FOR THE CYCLING OF LICENSE STUDIES:

Year	Semester	Number of weeks	Number of hours / week	Number of hours for specialized practice	Practice for diploma project development	TOTAL HOURS
I	1	14	27	-	-	27x14=378
I	2	14	28	-	-	28x14=392
II	3	14	27	-	-	27x14=378
II	4	14	27	112 hours	-	27x14+112=378+112
III	5	14	24	-	28 hours	24x14+28=336+28
III	6	12	24	-	24 hours	24x12+24=288+24
TOTAL	-	-	Average = 157/6 = 26,16	112 hours	52 hours	2150 + 112+ 52= 2314

III. STRUCTURE OF TEACHING HOURS BY THE STUDY DISCIPLINE CONTENT:

COMPULSORY AND OPTIONAL COURSES	Year I Sem 1	Year I Sem 2	Year II Sem 3	Year Sem 4	Year III Sem 5	Year III Sem 6	Total	Percent
Fundamental Disciplines (DF)	12x14=168	14x14=196	19x14=266	4x14=56	10x14=140	0x12=0	826	35.70 %
Specialize disciplines (DS)	4x14=56	8x14=112	7x14=98	16x14=224+112 hours of specialized practice	8x14 = 112 + 28 hours for practice for diploma project development	24x12=288 + 24 hours for practice for diploma project development	890+112+52	45.55 %
Complementary disciplines (DC)	11x14=154	6 x14= 84	1x14=14	7x14 =98	6x14=84	0*12=0	434	18.75 %
Total hours	378	392	378	378+112	336+28	288+24	2150 +112+52	100 %

IV. THE STRUCTURE OF THE TEACHING HOURS BY THE CHARACTER OF THE COURSES REQUIRED TO ENSURE TRAINING:

COURSES	Year I Sem 1	Year I Sem 2	Year II Sem 3	Year Sem 4	Year III Sem 5	Year III Sem 6	Total	Percent
COMPULSORY COURSES	27x14=378	25x14=350	27 x14 = 378	16x14=224+ 112 hours of specialized practice	14x14 = 196+ 28 hours for practice for diploma project development	12 x12 = 144+ 24 hours for practice for diploma project development	1670+112+52	79.26%
OPTIONAL COURSES	-	3x14=42	-	11x14=154	10x14=140	12 x 12 = 144	480	20.74%
TOTAL COMPULSORY AND OPTIONAL COURSES	378	392	378	378 + 112	336+28	288+24	2150+112+ 52	100%

HOURS BY DISCIPLINE	LEGAL LIMITS	FIRST YEAR	SECOND YEAR	THIRD YEAR	TOTAL
FUNDAMENTAL	35-45%	364	322	140	826 (35.70%)
SPECIALIZED	35-50%	168	322+112	400+52	890+112+52 (45.55%)
COMPLEMENTARY	10-20%	238	112	84	434 (18.75%)

DEAN,
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