„GHEORGHE ASACHI" TECHNICAL UNIVERSITY OF IASI

FACULTY OF AUTOMATIC CONTROL AND COMPUTER ENGINEERING

Major: *Systems Engineering*
Specialization: *Automatic Control and Applied Informatics*
Conferred title: *Engineer*
Study duration: 8 *semesters*
Form of education: *full-time*

CURRICULUM

YEAR 1   **2018/2019**

	No.	Course name	Course code	Type	Cond.	Semester 1							Semester 2						
						No of hours / week / course					Eval.	K	No of hours / week / course					Eval.	K
						C	S	L	P	SI*			C	S	L	P	SI*		
DI	101	Linear Algebra and Analytic Geometry	AIA101	DF		3	2	0	0	4	E	5							
	102	Calculus	AIA102	DF		3	2	0	0	4	E	5							
	103	Introduction to Applied Informatics	AIA103	DF		2	0	2	0	5	E	5							
	104	Physics	AIA104	DF		3	0	2	0	5	E	6							
	105	Computational Logic	AIA105	DID		2	0	2	0	5	C	5							
	106	Technical Drawing and Computer Aided Graphics	AIA106	DF		1	0	2	0	2	C	3							
	107	Economic, Scientific and Cultural Politics of the European Union	AIA107	DC									1	0	0	0	2	C	2
	108	Differential Equations and Operational Calculus	AIA108	DF									2	3	0	0	4	E	5
	109	Electronic Circuits I	AIA109	DID									2	0	2	0	5	E	5
	110	Computer Programming I	AIA110	DF									2	0	3	0	4	E	5
	111	Fundamentals of Electrical Engineering	AIA111	DID									3	0	2	0	4	E	5
	112	Mechanics	AIA112	DID									2	0	1	0	4	C	4
	113	Economics	AIA113	DC									2	0	0	0	3	C	3
	114	Physical Training	AIA114	DC		0	1	0	0	1	VP (A/R)	1	0	1	0	0	1	VP (A/R)	1
DL	115	Chemistry	AIA115	DF		2	0	1	0		C	2							
	116	European Integration	AIA116	DC		0	1	0	0		VP	2							
	117	History of Europe and the European Union	AIA117	DC									2	0	0	0		C	2
	118	Legislation in engineering	AIA118	DC									1	1	0	0		C	2
		Number of hours per week, number of evaluations and credits per semester for compulsory (DI) courses				**14**	**5**	**8**	**0**	**26**	**4E 2C 1VP**	**30**	**14**	**4**	**8**	**0**	**26**	**4E 3C 1VP**	**30**
						27							**26**						

* Hours of individual study (SI) are calculated as average/week/year, by the credit points of the subjects (24 hours per credit point); exam sessions are also considered.

„GHEORGHE ASACHI" TECHNICAL UNIVERSITY OF IASI

FACULTY OF AUTOMATIC CONTROL AND COMPUTER ENGINEERING

Major: *Systems Engineering*

Specialization: *Automatic Control and Applied Informatics*

Conferred title: *Engineer*

Study duration: 8 *semesters*

Form of education: *full-time*

CURRICULUM

YEAR 2 **2019/2020**

	No.	Course name	Course code	Type	Cond.	Semester 3 No of hours / week / course C	S	L	P	SI*	Eval.	K	Semester 4 No of hours / week / course C	S	L	P	SI*	Eval.	K
DI	201	Applied Numerical Calculus	AIA201	DF	AIA101, AIA102, AIA103	2	0	2	0	5	E	5							
	202	Analysis and Synthesis of Digital Devices	AIA202	DID		2	0	2	0	5	E	5							
	203	Advanced Mathematics	AIA203	DF		2	2	0	0	5	E	5							
	204	Electronic Circuits II	AIA204	DID		2	0	2	0	3	C	4							
	205	Computer Programming II	AIA205	DF		2	0	2	0	5	E	5							
	206	Modeling of Physical Systems	AIA206	DID		2	0	2	0	3	C	4							
	207	Fundamentals of Feedback Control	AIA207	DID	AIA108								3	0	2	0	4	E	5
	208	Data Structures and Algorithms	AIA208	DID									2	0	2	0	5	C	5
	209	Automata and Microprogramming	AIA209	DID	AIA202								2	0	1	1	5	E	5
	210	Optimization Techniques	AIA210	DID	AIA201								2	0	2	0	5	E	5
	211	Statistics and Data Processing	AIA211	DF	AIA203								2	0	2	0	3	C	4
	212	Database Systems	AIA212	DID	AIA103								2	0	2	0	5	E	5
	213	The English Language	AIA213	DC		0	1	0	0	1	VP	1	0	1	0	0	1	VP	1
	214	Physical Training	AIA214	DC		0	1	0	0	1	VP (A/R)	1							
DL	215	Physical Training	AIA215	DC									0	1	0	0		C	2
		Number of hours per week, number of evaluations and credits per semester for compulsory (DI) courses				12	4	10	0	28	4E 2C, 2VP	30	13	1	11	1	28	4E 2C, 1VP	30
						26							26						

* Hours of individual study (SI) are calculated as average/week/year, by the credit points of the subjects (24 hours per credit point); exam sessions are also considered.

„GHEORGHE ASACHI" TECHNICAL UNIVERSITY OF IASI
FACULTY OF AUTOMATIC CONTROL AND COMPUTER ENGINEERING

Major: *Systems Engineering*
Specialization: *Automatic Control and Applied Informatics*
Conferred title: *Engineer*
Study duration: 8 *semesters*
Form of education: *full-time*

CURRICULUM

YEAR 3   **2020/2021**

	No.	Course name	Course code	Type	Cond.	C	S	L	P	SI*	Eval.	K	C	S	L	P	SI*	Eval.	K
						Semester 5							Semester 6						
DI	301	Systems Theory	AIA301	DID	AIA207	2	0	2	0	3	E	4							
	302	Microprocessor Based Systems	AIA302	DID	AIA209	2	0	2	0	5	C	5							
	303	Sampled Data Control Systems	AIA303	DID	AIA207	2	0	2	0	3	C	4							
	304	Measurements and instrumentation	AIA304	DID	AIA104, AIA111	2	0	2	0	5	E	5							
	305	Robotics	AIA305	DID									2	0	2	0	3	E	4
	306	Discrete Event Systems	AIA306	DID									2	0	2	0	3	C	4
	307	Systems Identification	AIA307	DID	AIA303								2	0	2	0	3	E	4
	308	Computer Architectures	AIA308	DID									2	0	2	0	1	E	3
	309	The English Language	AIA309	DC		0	2	0	0	1	C	2							
	310	Practical Training in Systems Engineering**	AIA310	DID														C	4
	311	Practical Training in Automatic Control and Applied Informatics***	AIA311	DS														C	4
DO	312	Equipments and Control System Architectures	A312	DS	AIA207	2	0	2	0	5	E	5							
	313	Hydraulic and Pneumatic Control Systems	A313	DS		2	0	2	0	5	E	5							
	314	Software Engineering	IA314	DID		2	0	2	0	5	E	5							
	315	Platform Independent Programming	IA315	DS		2	0	2	0	5	E	5							
	316	Sensors and Transducers	A316	DID	AIA304								2	0	2	0	1	E	3
	317	Electrical Machines and Drive Systems	A317	DID	AIA109, AIA111, AIA204								2	0	2	0	1	E	3
	318	Digital Signal Processors	IA318	DS	AIA302								2	0	2	0	1	E	3
	319	Design with microcontrollers and FPGA	IA319	DS	AIA302								2	0	1	1	1	E	3
	320	Sampled Data Control Systems – project work	AIA320	DID	AIA303								0	0	0	2	1	C	2
	321	Equipments and Control System Architectures – project work	A321	DID	A312								0	0	0	2	1	C	2
	322	Platform Independent Programming – project work	IA322	DS	IA315								0	0	0	2	1	C	2
DL	323	Switching Equipment	A323	DS		2	0	1	0		C	2							
	324	Windows Programming	IA324	DS									2	0	2	0		C	2
	325	Communicatrion Skills	AIA325	DC									1	2	0	0		C	3
		Number of hours per week, number of evaluations and credits per semester for compulsory (DI) and elective (DO) courses				12	2	12	0	27	4E 3C	30	11	0	11	2	25	4E 5C	30
								26							26				

* Hours of individual study (SI) are calculated as average/week/year, by the credit points of the subjects (24 hours per credit point); exam sessions are also considered.

**Practical Training in Systems Engineering is performed after the summer examination session, for 3 weeks x 30 hours = 90 hours. (Evaluation by Colloquium - 4 credit points)

***Practical Training in Automatic Control and Applied Informatics is performed after the summer examination session, for 3 weeks x 30 hours = 90 hours. (Evaluation by Colloquium - 4 credit points)

Students will choose one of the two types of group options: Automatic (A), Applied Informatics (IA).
Students will choose one optional subject of type A and one subject of type IA in semester 5.
Group type A students will choose one optional subject of type A, one optional subject of type IA and a project work of type A in semester 6.
Group type IA students will choose one optional subject of type IA, one optional subject of type A and a project work of type IA in semester 6.

„GHEORGHE ASACHI" TECHNICAL UNIVERSITY OF IASI

FACULTY OF AUTOMATIC CONTROL AND COMPUTER ENGINEERING
Major: *Systems Engineering*
Specialization: *Automatic Control and Applied Informatics*
Conferred title: *Engineer*
Study duration: 8 *semesters*
Form of education: *full-time*

CURRICULUM

YEAR 4   **2021/2022**

	No.	Course name	Course code	Type	Cond.	S7 C	S7 S	S7 L	S7 P	S7 SI*	S7 Eval.	S7 K	S8 C	S8 S	S8 L	S8 P	S8 SI*	S8 Eval.	S8 K
DI	401	Control Engineering	AIA401	DID		2	0	2	0	3	E	4							
	402	Data Transmission – Process Remote Control	AIA402	DID	AIA 201, AIA 301	2	0	2	0	3	E	4							
	403	Real-Time Application Programming	AIA403	DS	AIA 110, AIA 205	3	0	2	0	4	E	5							
	404	Writing technical reports and scientific papers	AIA404	DC		1	0	0	0	2	C	2							
	405	Communications for Control Systems	AIA405	DS	AIA302, AIA402								2	0	2	1	4	C	5
	406	Management	AIA406	DC									2	0	1	0	2	C	3
	407	Research and Development for Diploma Project	AIA407	DS												4	3	C	4
	408	Practical Training for Diploma Project**	AIA408	DS							C	3							
DO	409	Robot Control Systems	A409	DS	AIA301	2	0	2	0	3	C	4							
	410	Computer Vision	A4010	DS		2	0	2	0	3	C	4							
	411	Technological Process Control	A411	DS		2	0	2	0	3	C	4							
	412	Computer Networks	IA411	DID	AIA 103, AIA 212	2	0	2	0	3	C	4							
	413	Knowledge Based Systems	IA413	DS		2	0	2	0	3	C	4							
	414	Queuing Systems and Applications	IA413	DS		2	0	2	0	3	C	4							
	415	Computer Aided Manufacturing	A415	DS	AIA 306								2	0	2	0	5	E	5
	416	Adaptive and Robust Control	A416	DS									2	0	2	0	5	E	5
	417	Strategies for planning and control of mobile robots	A417	DS									2	0	2	0	5	E	5
	418	Neural Networks and Fuzzy Logic	IA418	DS									2	0	2	0	5	E	5
	419	Distributed Artificial Intelligence Systems	IA419	DS									2	0	2	0	5	E	5
	420	Internet Applications	IA420	DID									2	0	2	0	5	E	5
	421	Control Engineering – project work	AIA421	DID									0	0	0	2	3	C	3
	422	Real-Time Application Programming – project work	AIA422	DS									0	0	0	2	3	C	3
	423	Knowledge Based Systems – project work	AIA423	DS	IA413								0	0	0	2	3	C	3
DL	424	Foreign Language	AIA424	DC		0	0	2	0		C	2							
	425	Protection and management of intellectual property	AIA425	DC		0	2	0	0		C	2							
		Number of hours per week, number of evaluations and credits per semester for compulsory (DI) and elective (DO) courses				14	0	12	0	19	3E 5C	30	10	0	9	7	23	3E 4C	30
						26							26						

* Hours of individual study (SI) are calculated as average/week/year, by the credit points of the subjects (24 hours per credit point); exam sessions are also considered.

**Practical training for diploma project is performed during the semester 7, for 60 hours (equivalent to 2 weeks x 30 hours = 30 hours.
(Evaluation by Colloquium - 3 credit points)

Group type A students will choose two optional subjects of type A and one subject of type IA in semester 7.
Group type IA students will choose two optional subjects of type IA and one subject of type A in semester 7.
Group type A students will choose two optional subjects of type A, one optional subject of type IA and a project work in semester 7.
Group type IA students will choose two optional subjects of type IA, one optional subject of type A and a project work in semester 7.