

„Aurel Vlaicu“ University of Arad

Faculty of Engineering

Department: Automation, Industrial Engineering, Textile and Transportation

Study area: Automotive Engineering

Bachelor Study Programme: Automotive Engineering

Form of education: Full-time learning - 4 years

**STUDY COURSES WITH RESPECT TO THE ACADEMIC YEARS**  
**valid throughout the academic year 2018-2019**  
**1<sup>st</sup> YEAR**

Course code	Course	Course type	Indiv. study/ Sem (h)	Weekly learning hours and evaluation type													
				1 <sup>st</sup> Semester 14 weeks						2 <sup>nd</sup> Semester 14 weeks							
				C	S	L	Pr	Ev	K	C	S	L	Pr	Ev	K		
<b>OFFICIALLY COMPULSORY</b>																	
CIEF1O01	Linear Algebra and Analytical and Differential Geometry	DF	44	2	2			E	4								
CIEF1O02	Descriptive Geometry	DF	80	3	2			C	6								
CIEF1O03	Chemistry	DF	69	2		2		E	5								
CIEF1O04	Physics	DF	33	2	1			E	3								
CIEF1O05	Technical Drawing and Infographics 1	DF	47	1		1		C	3								
CIED1O06	Materials Science and Engineering	DD	69	2		2		E	5								
CIEC1O07	Physical training and sport 1	DC	11		1			C A/R	1								
CIEF2O08	Mathematical analysis	DF	94							3	1			E	6		
CIEF2O09	Technical Drawing and Infographics 2	DF	91							2		4		E	7		
CIED2O10	Mechanics 1	DD	102							3	2	2		E	8		
CIED2O11	Materials technology	DD	69							2		2		E	5		
CIEF2O12	Computers programming and Programming Languages	DF	22							1		1		C	2		
CIEC2O13	Physical training and sport 2	DC	11								1			C A/R	1		
<b>TOTAL OFFICIALLY COMPULSORY</b>				<b>12</b>	<b>6</b>	<b>5</b>			<b>26+1</b>	<b>11</b>	<b>4</b>	<b>9</b>				<b>28+1</b>	
<b>OPTIONAL COMPULSORY</b>				<b>C</b>	<b>S</b>	<b>L</b>	<b>Pr</b>	<b>Ev</b>	<b>K</b>								
CIEC1A14	Communication	DC	36	1				C	2								
CIEC1A15	Philosophy																
CIEC1A16	Academical Ethics and Integrity	DC	22		2			C	2								
CIEC1A17	Foreign Language 1 (English)																
CIEC1A18	Foreign Language 1 (French)																
CIEC2A19	Foreign Language 1 (German)	DC	22							<b>C</b>	<b>S</b>	<b>L</b>	<b>Pr</b>	<b>Ev</b>	<b>K</b>		
CIEC2A20	Foreign Language 2 (English)											2			C	2	
CIEC2A21	Foreign Language 2 (French)																
CIEC2A22	Foreign Language 2 (German)																
<b>TOTAL S1/S2 (Opt. Compulsory)</b>				<b>1</b>	<b>2</b>				<b>4</b>	<b>2</b>					<b>2</b>		
<b>TOTAL An I (Opt. Compulsory)</b>				<b>1C + 4S</b>					<b>3C</b>			<b>K6</b>					
<b>TOTAL COMPULSORY S1/S2</b>				<b>13</b>	<b>8</b>	<b>5</b>			<b>K30+1</b>	<b>11</b>	<b>6</b>	<b>9</b>			<b>K30+1</b>		
<b>TOTAL COMPULSORY DISCIPLINES 1<sup>st</sup> year</b>				<b>26</b>					<b>26</b>					<b>K60+2</b>			
<b>FACULTATIVE</b>				<b>C</b>	<b>S</b>	<b>L</b>	<b>Pr</b>	<b>Ev</b>	<b>K</b>								
CIEC1F23	Sport 1	DC	22		2			C	2								
CIEC1F24	Educational psychology	DC	69	2	2			E	5								
CIEC1F25	Foreign Language IV 1	DC	22		2			C	2								
CIEF1F26	Numerical methods	DF	8	1	2			C	2	<b>C</b>	<b>S</b>	<b>L</b>	<b>Pr</b>	<b>Ev</b>	<b>K</b>		
CIEC2F27	Science and religion history	DC	22							2				C	2		
CIEC2F28	Sport 2	DC	22								2			C	2		
CIEC2F29	Foreign Language IV 1	DC	22								2			C	2		
CIEC2F30	Pedagogy I: - Pedagogy fundaments - Curriculum theory and method	DC	69							2	2			E	5		
CIEF2F31	Numerical methods	DF	8							1	2			C	2		
<b>TOTAL FACULTATIVE</b>				<b>3</b>	<b>8</b>				<b>11</b>	<b>5</b>	<b>8</b>				<b>13</b>		
<b>TOTAL FACULTATIVE DISCIPLINES 1<sup>st</sup> year</b>				<b>8C + 16S</b>					<b>2E + 7C</b>					<b>K24</b>			

Legend: C – course; S – seminar; L – laboratory; P – project; SI – individual study; Ev – evaluation type; K – ECTS (credits); DF – fundamental discipline; DD – domain discipline; DS – speciality discipline; DC – complementar discipline.

**RECTOR**  
Prof. Univ. Dr. Ramona LILE

**DEAN**  
Conf. Dr. Ing. Dan Ovidiu GLĂVAN

**HEAD OF DEPARTMENT**  
Prof. Dr. Ing. Gheorghe SIMA

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**valid throughout the academic year 2018-2019**  
**2<sup>nd</sup> YEAR**

Course code	Course	Course type	Indiv. study/ Sem (h)	Weekly learning hours and evaluation type													
				1 <sup>st</sup> Semester 14 weeks						1 <sup>st</sup> Semester 14 weeks							
				C	S	L	Pr	Ev	K	C	S	L	Pr	Ev	K		
	<b>OFFICIALLY COMPULSORY</b>																
CIEF3O01	Special mathematics	DF	63	2	2			E	6								
CIEF3O07	Technical Drawing and Infographics 3	DF	30			3		C	3								
CIED3O05	Strenght of materials 1	DD	38	2	1	1		E	5								
CIED3O02	Mechanics 2	DD	21	3	2	1		E	6								
CIED3O03	Mechanisms	DD	27	2	1			E	4								
CIED3O04	Tolerances and Dimensional Control	DD	52	2		1		E	5								
CIEC3O14	Physical training and sport 3	DC	19		2			C A/R	2								
CIEF4O08	Technical Drawing and Infographics 4	DF	5									3			C		2
CIED4O06	Strenght of materials 2	DD	38							2	1	1			E		5
CIED4O09	Termotechnics	DD	0							3	1				E		4
CIED4O10	Fluid mechanics	DD	2							2		1			C		3
CIED4O11	Mechanical vibrations	DD	13							2		2			E		4
CIED4O12	Hydraulic and pneumatic actions	DD	27							2		1			E		4
CIED4O13	Electrotechnics	DD	0							2		2			E		3
CIED4O15	Domain practical placement	DD	97											90	C		4
	<b>TOTAL OFFICIALLY COMPULSORY</b>			<b>11</b>	<b>8</b>	<b>6</b>			<b>29+2</b>	<b>13</b>	<b>2</b>	<b>10</b>					<b>29</b>
	<b>OPTIONAL COMPULSORY</b>			<b>C</b>	<b>S</b>	<b>L</b>	<b>Pr</b>	<b>Ev</b>	<b>K</b>	<b>C</b>	<b>S</b>	<b>L</b>	<b>Pr</b>	<b>Ev</b>	<b>K</b>		
CIEC3A16	Foreign Language 3 (English)	DC	8		1			C	1								
CIEC3A17	Foreign Language 3 (French)	DC															
CIEC3A18	Foreign Language 3 (German)	DC															
CIEC4A19	Foreign Language 4 (English)	DC	8								1				C		1
CIEC4A20	Foreign Language 4 (French)	DC															
CIEC4A21	Foreign Language 4 (German)	DC															
	<b>TOTAL S1/S2 (Opt. Compulsory)</b>				<b>1</b>				<b>1</b>		<b>1</b>						<b>1</b>
	<b>TOTAL An I (Opt. Compulsory)</b>																
	<b>TOTAL COMPULSORY S1/S2</b>			<b>11</b>	<b>9</b>	<b>6</b>			<b>30+2</b>	<b>13</b>	<b>3</b>	<b>10</b>					<b>30</b>
	<b>TOTAL COMPULSORY</b>								<b>30+2</b>								<b>30</b>
	<b>TOTAL COMPULSORY DISCIPLINES 1<sup>st</sup> year</b>								<b>26</b>								<b>26</b>
	<b>TOTAL COMPULSORY DISCIPLINES 1<sup>st</sup> year</b>								<b>24C + 12S + 16L</b>								<b>10E + 6C + 1A/R</b>
	<b>TOTAL COMPULSORY DISCIPLINES 1<sup>st</sup> year</b>																<b>K60+2</b>
	<b>FACULTATIVE</b>			<b>C</b>	<b>S</b>	<b>L</b>	<b>Pr</b>	<b>Ev</b>	<b>K</b>	<b>C</b>	<b>S</b>	<b>L</b>	<b>Pr</b>	<b>Ev</b>	<b>K</b>		
CIEC3F23	Foreign Language	DC	19		2			C	2								
CIEC3F24	Pedagogy II	DC	66	2	2			E	5								
CIEC3F25	Sport	DC	19		2			C	2								
CIEF3F22	Numerical methods	DF	5	1	2			C	2								
CIEC4F27	Legislation and certification	DC	19							2					C		2
CIEC4F28	Foreign Language	DC	19								2				C		2
CIEC4F29	Speciality didactics	DC	66							2	2				E		5
CIEC3F30	Sport	DC	19		2			C	2								
CIEF4F26	Numerical methods	DF	5							1	2				C		2
	<b>TOTAL Facultative</b>			<b>3</b>	<b>10</b>				<b>13</b>	<b>5</b>	<b>6</b>						<b>11</b>

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 Form of education: **Full-time learning - 4 years**

**STUDY COURSES WITH RESPECT TO THE ACADEMIC YEARS**  
**valid throughout the academic year 2018-2019**  
**3<sup>rd</sup> YEAR**

Course code	Course	Course type	Indiv. study/ Sem (h)	Weekly learning hours and evaluation type													
				1 <sup>st</sup> Semester 14 weeks						1 <sup>st</sup> Semester 14 weeks							
				C	S	L	Pr	Ev	K	C	S	L	Pr	Ev	K		
	<b>OFFICIALLY COMPULSORY</b>																
CIED5O01	Machinery devices 1	DD	13	2		2		E	4								
CIED5O03	Applied electronics	DD	30	2		1		E	3								
CIED5O04	Basics of automated systems	DD	30	2		1		E	3								
CIED5O06	Machines and electrical actuations	DD	30	2		1		E	3								
CIED5O07	Finite element method	DD	30	1		1		C	3								
CIED5O08	Fundamentals of Vehicle Engineering	DD	83	2		1		E	5								
CIES5O11	Industrial automotive manufacturing	DS	30	2		1		E	3								
CIES5O13	Automotive reliability	DS	44	1		1		C	3								
CIED6O02	Machinery devices 2	DD	66							2			2	E		5	
CIES6O05	Transportation systems	DS	41							3		1		E		4	
CIED6O09	Vehicles dynamics 1	DD	41							2			2	E		4	
CIES6O10	Internal combustion engines processes and operating characteristics	DS	52							2		2	1	E		5	
CIES6O12	Automotive systems – Calculus and construction 1	DS	52							3		1	1	E		5	
CIES6O14	Practical placement 2	DS	72										30	C		3	
	<b>TOTAL OFFICIALLY COMPULSORY</b>			<b>15</b>		<b>9</b>			<b>27</b>	<b>11</b>		<b>4</b>	<b>6</b>			<b>26</b>	
	<b>OPTIONAL COMPULSORY</b>			<b>C</b>	<b>S</b>	<b>L</b>	<b>Pr</b>	<b>Ev</b>	<b>K</b>	<b>C</b>	<b>S</b>	<b>L</b>	<b>Pr</b>	<b>Ev</b>	<b>K</b>		
CIED5A19	Plant organising	DD	30	2	1			C	3								
CIED5A28	Quality engineering	DD															
CIEC6A17	Labour and social security law	DC								2				E		2	
CIEC6A30	Law and international legislation	DC															
CIED6A15	Management	DD	19							1	1			C		2	
CIED6A29	Marketing	DD															
	<b>TOTAL SI/S2 (Opt. Compulsory)</b>			<b>2</b>	<b>1</b>				<b>3</b>	<b>3</b>	<b>1</b>					<b>4</b>	
	<b>TOTAL An I (Opt. Compulsory)</b>			<b>5C + 2S</b>						<b>1E + 2C</b>						<b>7K</b>	
	<b>TOTAL COMPULSORY SI/S2</b>			<b>17</b>	<b>1</b>	<b>9</b>			<b>30</b>	<b>14</b>	<b>1</b>	<b>4</b>	<b>6</b>			<b>30</b>	
	<b>TOTAL COMPULSORY</b>			<b>27</b>						<b>K30</b>	<b>25</b>						<b>K30</b>
	<b>TOTAL COMPULSORY DISCIPLINES 1<sup>st</sup> year</b>			<b>31C + 2S + 13L+6Pr</b>						<b>12E + 5C</b>						<b>K60</b>	
	<b>FACULTATIVE</b>			<b>C</b>	<b>S</b>	<b>L</b>	<b>Pr</b>	<b>Ev</b>	<b>K</b>	<b>C</b>	<b>S</b>	<b>L</b>	<b>Pr</b>	<b>Ev</b>	<b>K</b>		
CIEC5F21	Method of calculation in mechanical engineering	DC	30	1		2		C	3								
CIEC5F23	Economical diagnosis	DC	30	2	1			C	3								
CIEC5F25	Teaching practice	DC	80	0	3			C	5								
CIEC6F22	European administration	DC	19							2				C		2	
CIEC6F26	Teachnig practice	DC	80								3			C		5	
CIEC6F27	Final evaluation – Didactic portofolio	DC	108								1			E		5	
	<b>TOTAL Facultative</b>			<b>3</b>	<b>4</b>	<b>2</b>			<b>11</b>	<b>2</b>	<b>4</b>					<b>12</b>	

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**STUDY COURSES WITH RESPECT TO THE ACADEMIC YEARS**  
**valid throughout the academic year 2018-2019**  
**4<sup>th</sup> YEAR**

Course code	Course	Course type	Indiv. study/ Sem (h)	Weekly learning hours and evaluation type													
				1 <sup>st</sup> Semester 14 weeks						1 <sup>st</sup> Semester 14 weeks							
				C	S	L	Pr	Ev	K	C	S	L	Pr	Ev	K		
	<b>OBLIGATORII IMPUSE</b>																
CIED7O01	Vehicles dynamics 2	DD	33	2			1	E	3								
CIES7O02	Automotive systems – Calculus and construction 2	DS	44	2		1	1	E	4								
CIES7O03	Automotive engine systems – Calculus and construction	DS	55	2		1	2	E	5								
CIES7O04	Braking, steering and suspension systems	DS	58	2		1		C	4								
CIES7O05	Automotive electric and electronic systems	DS	83	2		1		E	5								
CIES7O06	Automotive repairing	DS	69	2		1	1	E	5								
CIES8O07	Automotive terotechnics	DS	8							2		1		E		2	
CIES8O08	Auxiliary automotive systems – Calculus and construction	DS	19							2			2	E		3	
CIES8O09	Unconventional propulsion systems	DS	8							2		1		C		2	
CIES8O10	Computer aided design	DS	22									2		C		2	
CIES8O11	Vehicle testing	DS	33							2		1		C		3	
CIES8O12	Diploma project develop	DS	180										5			10	
CIED8O13	Practice for diploma project	DS	15										60	C		3	
	<b>TOTAL OFFICIALLY COMPULSORY</b>			12		5	5		26	8		5	7			25	
	<b>OPTIONAL COMPULSORY</b>			C	S	L	Pr	Ev	K	C	S	L	Pr	Ev	K		
CIES7A14	Automatic transmissions and automotive powertrains	DS	44	2		2		E	4								
CIES7A20	Diagnose technics and equipments	DS															
CIES8A16	Automotive fuel economy	DS	33							2		1		E		3	
CIES8A21	Planetary gear transmissions	DS															
CIES8A18	Welding and assembling of thin sheets	DS	8							2		1		C		2	
CIES8A22	Pollution control	DS															
	<b>TOTAL S1/S2 (Opt. Compulsory)</b>			2		2			4	4		2				4	
	<b>TOTAL An I (Opt. Compulsory)</b>			6C + 4L							2E + 1C						8K
	<b>TOTAL COMPULSORY S1/S2</b>			14		7	5		30	12		7	7			30	
	<b>TOTAL COMPULSORY</b>			26						K30	26						K30
	<b>TOTAL COMPULSORY DISCIPLINES 1<sup>st</sup> year</b>			26C + 14L + 12Pr							9E + 6C						K60
	<b>FACULTATIVE</b>			C	S	L	Pr	Ev	K	C	S	L	Pr	Ev	K		
CIEC7F18	Calculation methods in mechanical engineering	DC	33	1		2		C	3								
CIEC7F20	Economic diagnosis	DC	33	2	1			C	3								
CIEC8F19	European administration	DC	22							2				C		2	
	<b>TOTAL Facultative</b>			3	1	2			6	2						2	
	Diploma exam passing													E		10	

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