CURRICULUM
60711500- Mechatronics and Robotics

Name of qualification: **Bachelor of Engineering Sciences**
Official length of programme: **Four years studies, 240 credits**
Mode of studies: **Continual studies**

Course type	Course code	Course name	Credit	Hours	Classes					Self-study
					Total	Lecture	Practice	Labs	Seminar	
1 semester (15 weeks)										
1	MathM15	Mathematics 1	5	150	75	37	38			75
1	PhysM15	Physics 1	5	150	75	30	30	15		75
1	ITFM15	Information technologies in the field	5	150	75	30	45			75
2	RL/ULM14	Russin language/Uzbek language	4	120	60		60			60
2	TLHUM14	New history of Uzbekistan (2 ECTS)/Philosophy (3 ECTS)	4	120	60	30	30			60
3	SpM13	Sport	3	90	45		45			45
1	FLT14	English 1	4	120	60		60			60
		Total for semester:	**30**	**900**	**450**	**127**	**308**	**15**		**450**
2 semester (15 weeks)										
1	BNTM24	Data processing and algorithm	4	120	60	30	30			60
1	PhysM25	Physics 2	5	150	75	30	15	30		75
1	MathM25	Mathematics 2	5	150	75	38	37			75
1	DGIGM24	Engineering and computer graphics 1	4	120	60	30	30			60
1	QPM24	Qualification practice	4	120						120
1	FLT24	English 2	4	120	60		60			60
1	BM	Fundamentals of mechatronics	4	120	60	30	30			60
		Total for semester:	**30**	**900**	**390**	**158**	**202**	**30**		**510**
		Total for year:	**60**	**1800**	**840**	**258**	**510**	**45**		**960**
3 semester (15 weeks)										
3	MathM36	Mathematics 3	6	180	72	32	34		6	108
3	PhysM36	Physics 3	6	180	72	14	30	22	6	108
3	ElectrM36	Electrical engineering	6	180	72	30	18	18	6	108
3	ApplMechM34	Applied mechanics	4	120	48	24	20		4	72
	DGIGM34	Engineering and computer graphics 2	4	120	48		44		4	72
2	OOPLT34	Object-oriented programming languages	4	120	48	22		22	4	72
		Total for semester:	**30**	**900**	**360**	**122**	**146**	**62**	**30**	**540**
4 semester (15 weeks)										
	MatResM46	Strengths of materials	6	180	72	24	22	20	6	108
	ThTermEngineerM44	Thermodynamics	4	120	48	20	18	6	4	72
	MS and PQMM44	Metrology, standardization, product quality management	4	120	48	30	8	6	4	72
	QPM46	Qualification practice	4	120						120
	EconT46	Economics	6	180	72	32	34		6	108
	MST44	Materials science	6	180	72	30	18	18	6	108
		Total for semester:	**30**	**900**	**312**	**136**	**100**	**50**	**26**	**588**
		Internship								
		Total for year:	**60**	**1800**	**672**	**258**	**246**	**112**	**56**	**1128**
5 semester (15 weeks)										
4	AESM56	Automated electromechanical systems **	6	180	72	24	28	14	6	108
4	MTM54	Control theory	4	120	48	20	12	12	4	72
4	MBTPM54	Fundamentals of microcontrollers and their programming	4	120	48	20	12	12	4	72
4	RRSM54	Robots and robotic systems **	6	180	72	24	28	14	6	108
1	DCCCSM56	Design in CAD/CAM/CAE systems 1	6	180	72	22	44		6	108
3	PET54	Power electronics	4	120	48	22	22		4	72
		Total for semester:	**30**	**900**	**360**	**132**	**146**	**52**	**30**	**540**
6 semester (15 weeks)										
	DMMRM66	Drives of mechatronic modules and robots **	6	180	72	24	28	14	6	108
	SMSM64	Circuit theory and microprocessor systems	4	120	48	20	12	12	4	72
	MRM64	Mobile robots	4	120	48	22	22		4	72
	DCCCSM66	CAD/CAM/CAE systems 2 **	6	180	72	22	44		6	108
	QPM66	Qualification practice	4	120	0					120
	MMTDT64	Mechatronic modules and their construction	6	180	72	30	18	18	6	108
		Total for semester:	**30**	**900**	**312**	**118**	**124**	**44**	**26**	**588**
		Industrial Internship								
		Total for year:	**60**	**1800**	**672**	**250**	**270**	**96**	**56**	**1128**
7 semester (15 weeks)										
8 semester (10 weeks)										

4	DMCSTM76	Design of microcontroller control systems **	6	180	72	24	28	14	6	108		MMADSRM86	Automated design systems of mechatronic modules and robots **	6	180	72	24	28	14	6	108
4	SMSM75	Circuit theory and microprocessor systems **	5	150	60	20	20	14	6	90		RCSTDM86	Control systems of robots and their design **	6	180	72	24	28	14	6	108
5	BRPM56	Fundamentals of Robot Programming	6	180	72	24	28	14	6	108		MMTPM85	Mathematical modeling of technological processes	5	150	60	26	14	14	6	90
	MMADSRM74	Automated design systems of mechatronic modules and robots	4	120	48	22	22		4	72		AIM85	Artificial intelligence	5	150	60	26	14	14	6	90
	BMETM75	Fundamentals of mechanical engineering	5	150	60	26	14	14	6	90		FVM84	Final state certification/Graduation qualification defense	4	120						120
5	IDMMRM74	Information devices of mechatron modules and robots	4	120	48	22	22		4	72		QPM84	Qualification practice	4	120						120
		Total for semester:	**30**	**900**	**360**	**138**	**134**	**56**	**32**	**540**			**Total for semester:**	**30**	**900**	**264**	**100**	**84**	**56**	**24**	**636**
1. Humanitarian and Social sciences Courses													Career Internship	**0**							
2. Mathematical and Natural science Courses																					
3. General Professional Courses													**Total for year:**	**60**	**1800**	**624**	**238**	**218**	**112**	**56**	**1176**
4. Professional Courses																					
5. Professional Elective Courses													**Total:**	**240**	**7200**	**3270**	**1860**	**1020**	**330**	**60**	**3930**

Elective courses:

1. Materials Science
2. Engineering Mechanics
3. Fluid Mechanics and Thermodynamics
4. Theory of Mechanisms and Machines
5. Machine Elements
6. Mechanics of Materials
7. Materials in Mechatronics
8. Robotical Technology