

Master's Program - Applied Genetics

(Applicable to students enrolled from the 2026–2027 academic year.)

Part I

Course Title	ECTS	Contact Hours	Course Prerequisites	Semester I	Semester II	Instructor	Status
Compulsory courses - 30 credits							
Statistics for Biologists	6	44		x		D. Tarkhnishvili	req'd
Modern Genetics I	6	47		x		Oleksiy Yanchukov	req'd
Modern Genetics II	6	47	Modern Genetics I		x	Oleksiy Yanchukov	req'd
Laboratory Methods in Molecular Genetics	6	62		x		M. Murtskhvaladze	req'd
Population Biology and Genetics	6	32	Modern Genetics I Statistics for Biologists		x	D. Tarkhnishvili	req'd
Compulsory-elective courses - min. 24 credits							
Living Systems Block (min. 12 credits)							
GMOs and their detection in food	6	47	Modern Genetics I	x		N. Datukishvili	comp-elective
Biochemistry of Systems and Metabolomics	6	39		x		L. Shanshiashvili	comp-elective
Microbial Genetics	6	47			x	A. Kotorashvili	comp-elective
Dramatic Virology	6	32		x		Leonid Margolis	comp-elective
Methodological Block (min. 6 credits)							
Methods of Evolutionary Research	6	39	Modern Genetics I	x		D. Tarkhnishvili	comp-elective
Molecular-Genetic Research Methods in Ecology	6	38	Laboratory Methods in		x	M. Murtskhvaladze	comp-elective
Spatial Analysis in Ecology	6	32		x	x	A. Gavashelishvili	comp-elective
Next Generation Sequencing	6	47			x	A. Kotorashvili	comp-elective
Elective courses - max. 6 credits*							
Rangeland Ecology, Assessment and Management	6	58			x	M. Gebhardt	elective
Archaeology and Natural Sciences	6	32		x		M. Elashvili	elective
Modern Management	6	32		x		R. Kikava	elective
Qualitative and Quantitative Ethnobotany	6	32		x	x	R. Bussmann	elective
Health Promotion, Health Protection and Disease	6	30			x	Irma Kirtadze	elective
Global Health and environmental safety	6	30			x	Iagor Kalandadze	elective
Applied Epidemiology	6	48		x		Veriko Mirtskhulava	elective

* Instead of elective courses, a student is allowed to take courses from methodological or living systems blocks.

Part II							
Course Title	ECTS	Contact Hours	Course Prerequisites	Semester I	Semester II	Instructor	Status
Compulsory courses - 12 credits							
Effective Scientific Communications: Science Writing	6	48			x	D. Tarkhnishvili	req'd
Master's Seminar	6	38				All professors	req'd
Compulsory-elective courses - min. 12 credits							
Living Systems Block (min. 6 credits)							
Cell Physiology	6	32			x	G. Gamkrelidze	comp-elective
Special Topics in Biotechnology and DNA Manipulation	6	32				Cort Anderson	comp-elective
Methodological Block (min. 6 credits)							
Analysis of Biological Data	6	44			x	M. Murtskhvaladze	comp-elective
Spatial Analysis in Ecology	6	32		x	x	A. Gavashelishvili	comp-elective
Introduction to Programming for Bioinformatics	6	48			x	V. Lagani	comp-elective
Methods for Bioinformatics	6	66				V. Lagani	comp-elective
Bioinformatic analysis in Evolutionary Genomics	6	32		x		Oleksiy Yanchukov	
Elective courses - max. 6 credits*							
Methods of Biodiversity Assessment in the Field	6	64				D.Tarkhnishvili,	elective
Nature and Forest Economics	6	34			x	Francesco Carbone,	elective
Woody Plants of Georgia (Dendrology)	6	40		x		M. Mosulishvili	elective
Archaeology and Natural Sciences	6	32		x		M. Elashvili	elective
Qualitative and Quantitative Ethnobotany	6	32				R. Bussmann	elective
Master's Thesis							
Master's Thesis	30		Master's Seminar; Effective Scientific Communications: Science Writing (and speaking)				req'd

* Instead of elective course, a student is allowed to take course from methodological or living systems blocks.