

# Applied Genetics

Course Title	ECTS	Contact hours	Prerequisite(s)	1 Semester	2 Semester	3 Semester	4 Semester	Instructor	Course Status
<b>Compulsory courses - 42 credits</b>									
<b>Modern Genetics I</b>	6	47		x				C. Anderson	<b>req'd</b>
<b>Modern Genetics II (ENG)</b>	6	47	Modern Genetics I		x			C. Anderson	<b>req'd</b>
<b>Laboratory Practicum</b>	6	32		x				C. Anderson, M. Murtskhvaladze	<b>req'd</b>
<b>Population Biology and Genetics</b>	6	32	Modern Genetics I; Statistics for Biologists <b>OR</b> Applied Statistics using R software		x			D. Tarkhnishvili	<b>req'd</b>
<b>Microbial Genetics</b>	6	47			x			A. Kotorashvili	<b>req'd</b>
<b>Statistics for Biologists</b>	6	44		x		x		D. Tarkhnishvilio	<b>req'd</b>
<b>Applied Statistics using R software</b>		32		x				Al. Gavashelishvili	
<b>Master Seminar</b>	6	38	Modern Genetics II; Laboratory Practicum			x		C. Anderson, D. Tarkhnishvilio, M. Murtskhvaladze, A. Kotorashvili	<b>req'd</b>
<b>Communication Block - 6 credits</b>									
Academic Writing	6	32		x		x		L. Mumladze	comp- elective
Effective Scientific Communications: Science Writing in English (Eng)	6	48			x			C. Anderson	comp- elective
<b>Living Systems Block- min.18 credits</b>									
Viruses of Microbes - Model system in Molecular Biology	6	38			x			E. Tevdoradze	comp- elective
Genetically Modified Organisms and their Detection in Food	6	41	Biotechnological Approaches			x		N. Datukishvili	comp- elective
Biotechnological Approaches	6	47	Favorite Chapters of Molecular Biology			x		N. Datukishvili I. Ketchakmadze	comp- elective
Favorite Chapters of Molecular Biology	6	66		x				R. Solomonia, E. Tevdoradze	comp- elective
Molecular immunology	6	38				x		L. Shanshiashvili	comp- elective

Nanoscience: Principles of Nanobiology and Nanomedicine	6	34			x		I. Zhvania	comp- elective
Pharmacogenomics, Toxicogenomics and Drug Resistance Mechanisms	6	33			x		T. Barbakadze, E. Zhuravliova	comp- elective
Modeling of Human Genetic Diseases and Study of Pathophysiological Mechanisms	6	34	Favorite Chapters of Molecular Biology			x	Z. Kutchia	comp- elective
<b>Methodological Block - min. 12 credits</b>								
Analysis of Biological Data	6	44	Statistics for Biologists <b>or</b> Applied Statistics using R software		x		D. Tarkhnishvilio, M. Murtskhvaladze, Zh. Ekhvaia	comp- elective
Evolutionary Research Methods	6	36	Population Ecology and Genetics			x	D. Tarkhnishvilio, C. Anderson	comp- elective
Introduction to programming for bioinformatics	6	48	Statistics for Biologists		x		V. Lagani	comp- elective
Field Methods of Biodiversity Assessment	6	64	Course of Communication Block		x		D. Tarkhnishvili G. Iankoshvili	comp- elective
Molecular-Genetic Research Methods in Ecology	6	38	Laboratory Practicum		x		M. Murtskhvaladze	comp- elective
Next Generation Sequencing (Decode of DNA Nucleotide Sequence)	6	47			x		A. Kotorashvili	comp- elective
Methods in bioinformatics	6	66	Introduction to programming for bioinformatics			x	V. Lagani	comp- elective
Bioinformatic analysis in Evolutionary Genomics	6	32		x		x	O. Yanchukov	comp- elective
<b>Elective courses – max. 12 credits *</b>								
Woody Plants of Georgia (Dendrology)	6	45				x	M. Mosulishvili	elective
Ethnobotany and Ethnobiology of the Caucasus	6	32		x			Z. Kikvidze R. Bussmann Sh. Sikharulidze	elective
Nature and Forest economics	6	38			x		Francesco Carbone, Nika Gobronidze, Vasil Metreveli	elective
Introduction to Forest Sciences	6	56		x			V. Metreveli, I. Akobia	elective
Quantitative Analysis of Biodiversity	6	32	Statistics for Biologists <b>or</b> Applied Statistics using R software			x	L. Mumladze	elective
Environmental Modeling	6	42	Statistics for Biologists <b>or</b> Applied Statistics using R software			x	G. Chaladze	elective
Special Course in English Language for Bio Scientists	6	47			x		M. Sefashvili	elective
Health Promotion, Health Protection and Disease Prevention	3	30			x		Irma Kirtadze	elective

Global Health	3	30			x			Iagor Kalandadze	elective
Applied Epidemiology	6	48		x		x		Veriko Mirtskhulava	elective
Population Health and its Material - Physical, Radiological, Chemical and Biological - Environmental Determinants	3	32		x		x		Iagor Kalandadze	elective
<b>Master's Thesis</b>									
<b>Master's Thesis</b>	30		Master Seminar; Course of Communication Block				x		<b>req'd</b>

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