

course	SSD	Type of activity	language	hrs	credits	year of attendance	final test	mandatory/ optional	curriculum
SCIENCE: OBSERVATION AND PREJUDICE	GEO/02	lesson	English	8	1	1°	NO	optional	Intercurricular
COMMUNICATION OF CLIMATE CHANGE	GEO/12	lesson	English	8	1	1°	NO	optional	Intercurricular
THE CLIMATIC ROLE OF ATMOSPHERIC AEROSOL IN THE ARCTIC	CHIM/12	lesson	English	8	1	1°	NO	optional	Intercurricular
ICE CORE SCIENCE	GEO/04	lesson	English	8	1	1°	NO	optional	Intercurricular
SCANNING AND TRANSMISSION ELECTRON MICROSCOPY, PRINCIPLES AND APPLICATIONS	GEO/06	lesson	English	28	3	1°	NO	optional	Intercurricular
RAMAN SPECTROSCOPY: A FLEXIBLE TOOL FOR AN INTEGRATED RESEARCH APPROACH	GEO/02	lesson	English	16	2	1°	NO	optional	Intercurricular
SCANNING PROBE MICROSCOPY: PRINCIPLES, APPLICATIONS, AND IMAGE HANDLING	FIS/01	laboratory	English	12	1	1°	NO	optional	Intercurricular
SUSTAINABLE CHEMICAL PROCESSING TECHNOLOGIES	CHIM/06	lesson	English	16	2	1°	NO	optional	Intercurricular
NEW LIGNIN-BASED SUSTAINABLE MATERIALS: SCIENCE AND TECHNOLOGICAL ASPECTS	CHIM/06	lesson	English	8	1	1°	YES	optional	Intercurricular
CRITICAL RAW MATERIALS AND THEIR ENVIRONMENTAL IMPACT	GEO/09	lesson	English	16	2	1°	NO	optional	Intercurricular
ISOTOPES AS ENVIRONMENTAL TRACERS	BIO/07	lesson	English	20	2	1°	YES	optional	Intercurricular
ENHANCEMENT OF FRAGILE CULTURAL HERITAGE	CHIM/12	lesson	English	20	2	1°	NO	optional	Intercurricular
MACHINE LEARNING FOR MULTIVARIATE DATA ANALYSIS	CHIM/01	lesson	English	20	2	1°	NO	optional	Intercurricular
OPEN-SOURCE SOFTWARE FOR SPATIAL DATA ANALYSIS	GEO/04	lesson	English	16	2	1°	YES	optional	Intercurricular
SPATIAL VARIABILITY OF ENVIRONMENTAL CHARACTERISTICS AND MAPPING METHODOLOGIES	AGR/14	lesson	English	16	2	1°	YES	optional	Intercurricular
TIME SERIES ANALYSIS OF ENVIRONMENTAL DATA	GEO/05	lesson	English	20	2	1°	YES	optional	Intercurricular
CARBON AND NOBLE GASES SYSTEMATICS IN THE EARTH'S INTERIOR	GEO/08	lesson	English	8	1	1°	NO	optional	Intercurricular
ADVANCED TECHNIQUES FOR SAMPLE PREPARATION	CHIM/01	lesson	English	16	2	1°	NO	optional	Chemical Sciences
NMR SPECTROSCOPY APPLICATIONS TO LIGAND-RECEPTOR STUDIES	CHIM/06	lesson	English	20	2	1°	YES	optional	Chemical Sciences
NMR SPECTROSCOPY OF MOLECULAR INORGANIC AND ORGANOMETALLIC COMPOUNDS	CHIM/03	lesson	English	8	1	1°	NO	optional	Chemical Sciences
ADVANCED THEORETICAL CHEMISTRY	CHIM/03	lesson	English	16	2	1°	NO	optional	Chemical Sciences
CRYSTALLOGRAPHY AND LABORATORY OF X-RAY POWDER DIFFRACTION	CHIM/03	lesson	English	20	2	1°	YES	optional	Chemical Sciences
INTRODUCTION TO PHOTOCHEMISTRY	CHIM/02	lesson	English	24	3	1°	NO	optional	Chemical Sciences

COMPUTATIONAL APPROACHES FOR STRUCTURE-BASED DRUG DESIGN	CHIM/02	lesson	English	16	2	1°	NO	optional	Chemical Sciences
DETRITAL GEOCHRONOLOGY AND THERMOCHRONOLOGY	GEO/02	lesson	English	16	2	1°	NO	optional	Geological Sciences
PROVENANCE ANALYSIS: HOW TO INTEGRATE SINGLE GRAIN AND BULK TECHNIQUES	GEO/02	lesson	English	16	2	1°	NO	optional	Geological Sciences
EARTH'S VOLATILE CYCLE: THE FLUID AND MELT INCLUSION APPROACH	GEO/07	lesson	English	24	3	1°	YES	optional	Geological Sciences
MONTE CARLO APPROACH TO GEOPHYSICAL INVERSE PROBLEM: AN INTRODUCTION	GEO/11	lesson	English	20	2	1°	NO	optional	Geological Sciences
ADVANCED FIELD AND REMOTE-SENSED CHARACTERIZATION OF ROCK FRACTURES IN OUTCROPS	GEO/05	lesson	English	18	2	1°	NO	optional	Geological Sciences
INTRODUCTION TO GEODYNAMIC AND LANDSCAPE EVOLUTION NUMERICAL MODELING	GEO/03	lesson	English	20	2	1°	YES	optional	Geological Sciences
UAV/ROV AND IMMERSIVE VIRTUAL REALITY FOR RESEARCH IN EARTH SCIENCES	GEO/03	lesson	English	18	2	1°	NO	optional	Geological Sciences
GEOENERGY AND GEOMECHANICS	GEO/05	lesson	English	16	2	1°	YES	optional	Geological Sciences
ADVANCED EXPERIMENTAL TESTING AND MONITORING ON GEOMATERIALS	ICAR/07	lesson	English	20	2	1°	YES	optional	Geological Sciences
GEOTECHNICAL MODELLING FOR SLOPE STABILITY AND UNDERGROUND GEOSTRUCTURES	ICAR/07	lesson	English	20	2	1°	YES	optional	Geological Sciences
NATIVE PLANT ASSEMBLAGES TO RESTORE DEGRADED LANDS	BIO/01	lesson	English	8	1	1°	NO	optional	Terrestrial and Marine
NON-ANIMAL TESTING AND RESEARCH: ETHICAL ISSUES AND SCIENTIFIC APPLICATIONS	BIO/06	lesson	English	8	1	1°	NO	optional	Terrestrial and Marine
ECOLOGICAL BASELINE AND CONSERVATION PALEOBIOLOGY	GEO/01	lesson	English	16	2	1°	NO	optional	Terrestrial and Marine
NEXT GENERATION SEQUENCING AND BIOINFORMATIC TOOLS FOR ECOLOGICAL STUDIES	BIO/19	lesson	English	20	2	1°	NO	optional	Terrestrial and Marine
ADVANCED HUMAN ECOLOGY	BIO/07	lesson	English	16	2	1°	NO	optional	Terrestrial and Marine
ECOSYSTEM SERVICES	BIO/07	lesson	English	16	2	1°	YES	optional	Terrestrial and Marine
ACOUSTICS APPLIED TO THE ENVIRONMENT: SOUNDSCAPE AS ENVIRONMENTAL QUALITY INDEX	FIS/07	laboratory	English	12	1	1°	NO	optional	Terrestrial and Marine
Total hrs/credits				652	74				