Faculty of Environmental Sciences

Study programme: **Environmental Data Science**
Type of study: **Bachelor study program**
Study form: **full time form of study**
Guarantor: doc. Markonis, Ph.D.

St. year: 1 **2023/2024**

Code	Compulsory subjects	1st Semester winter						2nd Semester summer						Guarantee
		Le	Pr	FE	ECTS	Cr	Ex	Le	Pr	FE	ECTS	Cr	Ex	
ETZ04E	Algorithm Development	2	1	-	5	z	zk							Ing. Havránek, Ph.D.
ZEX101E	Fundamentals of Ecology	2	1	-	5	z	zk							doc. Morelli
ZGX118E	Fundamentals of Physical Geography	2	-	-	5	z	zk							Ing. Lagner, Ph.D.
ZVX103Z	Introduction to EDS	1	-	-	1	z								prof. Hanel
TAZ40E	Mathematics with Applications I	2	2	-	5	z	zk							doc. Jedlička
ZVX104Z	Productivity Tools	2	1	-	4	z								prof. Hanel
ZVX113E	Programming in R	2	1	-	4	z	zk							Mgr. Martínková, Ph.D.
ZVX112E	Earth System Sciences							2	2	-	5	z	zk	Ing. Mgr. Markonis, Ph.D.
ZVX114E	Exploratory Data Analysis							2	1	-	5	z	zk	Ing. Mgr. Markonis, Ph.D.
ZVX116E	Machine Learning							2	1	-	5	cr	ex	Ing. Havlíček, Ph.D.
TAZ41E	Mathematics with Applications II							2	2	-	5	z	zk	doc. Jedlička
ZVX115E	Meteorology and Climatology							2	-	-	5	z	zk	doc. Kyselý
ETZ03E	Programming in Python							1	2	-	4			Ing. Stočes, Ph.D.
Σ		13	6	0	29	0	0	11	8	0	29	0	0	58

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St. year: 2 **2023/2024**

Code	Compulsory subjects	3rd Semester winter						4th Semester summer						Guarantee
		Le	Pr	FE	ECTS	Cr	Ex	Le	Pr	FE	ECTS	Cr	Ex	
ZVX105Z	Advanced R Programming	1	2	-	5	cr								prof. Hanel
ZVX107E	Air Pollution	2	2	-	6	cr	ex							Mgr. D. Waldhauserová, Ph.D.
ZGX103E	Geographic Information Systems I	2	2	-	6	cr	ex							doc. Moudrý
ZVX108E	Hydrology	2	1	-	6	cr	ex							doc. Máca
ZVX115Z	EDS Seminar							2	-	-	3	cr		prof. Hanel
ETZ06E	Markup Languages							2	1	-	5	cr	ex	Ing. Vasilenko, Ph.D.
ETZ07E	Programming							2	1	-	5	cr	ex	Ing. Stočes, Ph.D.
ZGX106E	Remote Sensing I							2	2	-	6	cr	ex	Ing.Moravec, Ph.D.
ZGX109E	Statistics							2	2	-	6	cr	ex	Mgr. Zikmundová, Ph.D.
	Optional subjects (min. 15 ECTS)										15			
Σ		7	7	0	23	4	3	10	6	0	40	5	4	63

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St. year: 3 **2023/2024**

Code	Compulsory subjects	3rd Semester winter						4th Semester summer						Guarantee
		Le	Pr	FE	ECTS	Cr	Ex	Le	Pr	FE	ECTS	Cr	Ex	
ETZ05E	JavaScript	2	1	-	5	cr	ex							Ing. Masner, Ph.D.
ETZ08E	Web Design	2	1	-	5	cr	ex							doc. Šimek
ZXX101Z	Bachelor Thesis WS	-	-	-	5	cr								Supervisor
ZXX109Z	Bachelor Thesis SS							-	-	-	25	cr		Supervisor
	Optional subjects (min. 25 ECTS)				15						10			
Σ		4	2	0	30	3	2	0	0	0	35	1	0	65

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St. year: 2 **2023/2024**

Code	Optional subjects	3rd Semester winter						4th Semester summer						Guarantee
		Le	Pr	FE	ECTS	Cr	Ex	Le	Pr	FE	ECTS	Cr	Ex	
ZVX107Z	Big Data Analysis and Cloud Computing in R							2	1	-	5	cr	ex	prof. Hanel
ZVX114Z	Hydroclimatological Data Analysis							2	1	-	5	cr	ex	Ing. Rakovec, Ph.D.
ETZ09E	Operating systems and computer networks							2	1	-	5	cr	ex	Ing. Vaněk, Ph.D.
EIZ06E	Software Engineering							2	1	-	5	cr	Ex	prof. Vrana

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St. year: 3 **2023/2024**

Code	Optional subjects	5th Semester winter						6th Semester summer						Guarantee
		Le	Pr	FE	ECTS	Cr	Ex	Le	Pr	FE	ECTS	Cr	Ex	
EIZ01E	Component-based SW Development	2	1	-	5	cr	ex							Ing. Brožek, Ph.D.
EIZ02E	Database Systems	2	2	-	5	cr	ex							Ing. Pavlíček, Ph.D.
EIZ03E	Human Computer Interaction	2	1	-	5	cr	ex							Ing. Pavlíček, Ph.D.
EIZ04E	Interaction Design	2	1	-	5	cr	ex							Ing. Pavlíček, Ph.D.
ZVX110Z	Interactive Web Visualization for Hydroclimatological Data	2	1	-	5	cr								Ing. Horáček, Ph.D.
EIZ05E	UNIX Operating Systems	2	1	-	5	cr	ex							doc. Veselý