

## ENVIRONMENTAL MODELLING

### *PhD Specialization*

#### **Special subjects<sup>1</sup> to compile your Individual study plan (ISP)\*\* - min. 20 credits**

Code	Subject	Garant / Examiners	Compulsory / Elective	Credits	When to study
DZVX10Y	Modeling of Processes in Environment	Vach M. / Máca P., Hanel M., Kuráž M., Markonis Y.	C	10	before 4 <sup>th</sup> year
DZOX11Y	Environmental Geochemistry	Komárek Michael / Chrastný Vladislav, Vítková M.	E	10	before 4 <sup>th</sup> year
DZOX12Y	Environmental Hydrogeology	Trakal Lukáš / Kuráž M., Pech P.	E	10	before 4 <sup>th</sup> year
	External course (not CZU)	individual	E	10	before 4 <sup>th</sup> year
DZVX14Y	Flow in the Atmospheric Boundary Layer	Jaňour Zbyněk	E	10	before 4 <sup>th</sup> year
DZVX11Y	Hydraulic and Hydrological Modeling	Pech Pavel / Máca Petr, Kuráž Michal, Hanel Martin	E	10	before 4 <sup>th</sup> year
DZVX12Y	Modeling of Water Flow in Porous Media	Pavíásek Jiří / Kuráž Michal	E	10	before 4 <sup>th</sup> year
DZOX07Y	Numerical Methods	Kuráž Michal	E	10	before 4 <sup>th</sup> year
DZVX08Y	Physical - Chemical Aspects of Processes	Vach Marek / Máca Petr, Hanel Martin, Kuráž Michal	E	10	before 4 <sup>th</sup> year
DZVX13Y	Transport Processes (in Surface and Ground Waters)	Pech Pavel / Kuráž M.	E	10	before 4 <sup>th</sup> year
DAPX01Y	Transport Processes in Soils	Kodešová Radka	E	10	before 4 <sup>th</sup> year

\*\* You need to choose all compulsory subjects + one elective subject.

#### **Other study obligations to replenish your ISP - min. 105 credits**

Code	Study obligation	Garant	Compulsory / Elective	Credits	When to study
DVPX01Y	Didactic and Presentation Skills	Institute of Education and Communication	C - full / E - part	5	1 <sup>st</sup> year - WS
MET_DISP	Doctoral Thesis Methodology	Komárek Michael	C	10	1 <sup>st</sup> year - SS
DZXX10Y	Literature Review	Komárek Michael	C	10	1 <sup>st</sup> year - SS
DZXX29Y	Information Sources Processing	Komárek Michael	C	5	1st year - WS
DZXX28Y	Academic English	Komárek Michael	C	10	1st year - WS
DZXX27Y	Academic Writing	Komárek Michael	C - full / E - part	10	2 nd year - WS
DZEX33Y	Statistical Methods	Šálek Miroslav	C	5	before 4 <sup>th</sup> year
DZXX11Y	Foreign internship <sup>2</sup>	Komárek Michael	C	10	anytime
DZXX15Y	Article in a Journal with IF or SJR <sup>4</sup> - 1 <sup>st</sup> Author 1	Komárek Michael	C	40	anytime

**Other study obligations not included in your ISP\*\* - min. 115 credits**

Code	Study obligation	Garant	Compulsory / Elective	Credits	When to study
DZXX16Y	Article in a Journal with IF or SJR <sup>3</sup> - 1 <sup>st</sup> Author 2	Komárek Michael	E	40	anytime
DZXX17Y	Article in a Journal with IF or SJR <sup>3</sup> - 2 <sup>nd</sup> Author 1	Komárek Michael	E	16	anytime
DZXX18Y	Article in a Journal with IF or SJR <sup>3</sup> - 2 <sup>nd</sup> Author 2	Komárek Michael	E	16	anytime
DZXX19Y	Article in a Journal with IF or SJR <sup>3</sup> - 3 <sup>rd</sup> Author 1	Komárek Michael	E	8	anytime
DZXX20Y	Article in a Journal with IF or SJR <sup>3</sup> - 3 <sup>rd</sup> Author 2	Komárek Michael	E	8	anytime
DZXX21Y	Article in a Journal with IF or SJR <sup>3</sup> - 4 <sup>th</sup> and next Author 1	Komárek Michael	E	4	anytime
DZXX22Y	Article in a Journal with IF or SJR <sup>3</sup> - 4 <sup>th</sup> and next Author 2	Komárek Michael	E	4	anytime
DZXX12Y	Conference Contribution - Indexed <sup>4</sup> 1	Komárek Michael	E	10	anytime
DZXX13Y	Conference Contribution - Indexed <sup>4</sup> 2	Komárek Michael	E	10	anytime
DZXX14Y	Conference Contribution - Indexed <sup>4</sup> 3	Komárek Michael	E	10	anytime
DZXX23Y	Conference Contribution (unindexed) or Scientific Seminar <sup>5</sup> 1	Komárek Michael	E	2	anytime
DZXX24Y	Conference Contribution (unindexed) or Scientific Seminar <sup>5</sup> 2	Komárek Michael	E	2	anytime
DZXX25Y	Conference Contribution (unindexed) or Scientific Seminar <sup>5</sup> 3	Komárek Michael	E	2	anytime
DZXX26Y	Summer School (1 week)	Komárek Michael	E	2	anytime
SDZ	State Doctoral Examination***	Komárek Michael	C	20	anytime
ODP	Doctoral Thesis Defence	Komárek Michael	C	80	anytime

\*\* You need to choose all compulsory study obligations + elective study obligations to replenish the total required credits. The elective study obligations could be done repeatedly.

\*\*\* The Final State Examination consists of two examination topics and thesis discussion. The examination topics are given by the Doctoral Board of the student's study programme and are related to the thesis.

**To complete doctoral studies the minimum of 240 credits is required.**

**To graduate from CZU successfully, the Study and Examination Rules CZU for Studies in Doctoral Study Programmes, Rector's regulation no. 2/2018 and the FES Dean's regulations have to be observed.**

**Notes:**

<sup>1</sup> Special Subjects prescribed by supervisor or Field of Study Board.

<sup>2</sup> Foreign Internship means completed 4 weeks internship abroad. For each extra week student obtains 2,5 credits but at maximum 180/240 credits.

<sup>3</sup> Article published in a journal with Impact Factor within the WoS database or SJR index within the SCOPUS database.

<sup>4</sup> Indexed Conference Contribution is a contribution published as an article in the conference proceedings included in WoS or SCOPUS database.

<sup>5</sup> Conference contribution published as an article in the conference proceedings which is not included in WoS or SCOPUS database. Presentation of doctoral thesis research at scientific seminar or students conference (if this is prescribed by the Field of Study Board).

### Sample ISP in the University Information System\* (Student's portal)

The cooperation of a student and his/her supervisor is required for ISP compilation.

\* UIS vocabulary: required courses, elective courses, subject of FES, subject of CZU, outside course

Code	Subject	Planned date	Examiner	Credits
<b>1<sup>st</sup> year of study</b>				
MET_DISP	Doctoral Thesis Methodology	winter semester	Komárek Michael	10
DVPX01Y	Didactic and Presentation Skills	winter semester	Slavík Milan	5
DZXX29Y	Information Sources Processing	winter semester	Landová Hana	5
DZXX28Y	Academic English	winter semester	Garajová Jolana	10
DZXX10Y	Literature Review	summer semester	Komárek Michael	10
DZVX10Y	Modeling of Processes in Environment	summer semester	Máca Petr	10
<b>2<sup>nd</sup> year of study</b>				
DZXX27Y	Academic Writing	winter semester	Tufano James	10
DZEX33Y	Statistical Methods	summer semester	Hanel Martin	5
DZOX06Y	Special Hydrology	winter semester	Trakal Lukáš	10
<b>3<sup>rd</sup> year of study</b>				
DZXX11Y	Foreign internship <sup>2</sup>	summer semester	Komárek Michael	10
<b>4<sup>rd</sup> year of study</b>				
DZXX15Y	Article in a Journal with IF or SJR <sup>4</sup> - 1 <sup>st</sup> Author 1	winter semester	Komárek Michael	40
<b>Credits in ISP</b>				<b>125</b>

### Sample obligations not included in ISP

<b>1<sup>st</sup> year of study</b>				
DZXX23Y	Conference Contribution (unindexed) or Scientific Seminar <sup>5</sup> 1	winter semester	Komárek Michael	2
<b>2<sup>nd</sup> year of study</b>				
DZXX19Y	Article in a Journal with IF or SJR <sup>4</sup> - 3 <sup>rd</sup> Author 1	summer semester	Komárek Michael	8
DZXX24Y	Conference Contribution (unindexed) or Scientific Seminar <sup>5</sup> 2	summer semester	Komárek Michael	2
<b>3<sup>rd</sup> year of study</b>				
DZXX11Y	Foreign internship <sup>2</sup>	summer semester	Komárek Michael	10
DZXX12Y	Conference Contribution - Indexed <sup>3</sup> 1	summer semester	Komárek Michael	10
<b>4<sup>rd</sup> year of study</b>				
SDZ	State Doctoral Examination	winter semester	Komárek Michael	20
DZXX17Y	Article in a Journal with IF or SJR <sup>4</sup> - 2 <sup>nd</sup> Author 1	summer semester	Komárek Michael	16
ODP	Doctoral Thesis Defence	summer semester	Komárek Michael	80
<b>Credits not in ISP</b>				<b>148</b>
<b>Total credits</b>				<b>273</b>