

## Course description

|                             |                      |                 |                  |
|-----------------------------|----------------------|-----------------|------------------|
| <b>Course abbreviation:</b> | KGM/POK              | <b>Page:</b>    | 1 / 3            |
| <b>Course name:</b>         | Computer Cartography |                 |                  |
| <b>Academic Year:</b>       | 2023/2024            | <b>Printed:</b> | 03.06.2024 09:03 |

|                                         |                                                      |          |          |                               |                 |
|-----------------------------------------|------------------------------------------------------|----------|----------|-------------------------------|-----------------|
| <b>Department/Unit /</b>                | KGM / POK                                            |          |          | <b>Academic Year</b>          | 2023/2024       |
| <b>Title</b>                            | Computer Cartography                                 |          |          | <b>Type of completion</b>     | Exam            |
| <b>Accredited/Credits</b>               | Yes, 3 Cred.                                         |          |          | <b>Type of completion</b>     | Combined        |
| <b>Number of hours</b>                  | Lecture 1 [Hours/Week] Tutorial 2 [Hours/Week]       |          |          | <b>Course credit prior to</b> | YES             |
| <b>Occ/max</b>                          | Status A                                             | Status B | Status C | <b>Counted into average</b>   | YES             |
| <b>Summer semester</b>                  | 0 / -                                                | 0 / -    | 0 / -    | <b>Min. (B+C) students</b>    | 1               |
| <b>Winter semester</b>                  | 0 / -                                                | 0 / -    | 0 / -    | <b>Repeated registration</b>  | NO              |
| <b>Timetable</b>                        | Yes                                                  |          |          | <b>Semester taught</b>        | Winter semester |
| <b>Language of instruction</b>          |                                                      |          |          | <b>Internship duration</b>    | 0               |
| <b>Optional course</b>                  | Yes                                                  |          |          | <b>Ev. sc. – cred.</b>        | S/N             |
| <b>Evaluation scale</b>                 | 1 2 3 4                                              |          |          |                               |                 |
| <b>No. of hours of on-premise</b>       |                                                      |          |          |                               |                 |
| <b>Auto acc. of credit</b>              | Yes in the case of a previous evaluation 4 nebo nic. |          |          |                               |                 |
| <b>Periodicity</b>                      | K                                                    |          |          |                               |                 |
| <b>Substituted course</b>               | KMA/POK                                              |          |          |                               |                 |
| <b>Preclusive courses</b>               | N/A                                                  |          |          |                               |                 |
| <b>Prerequisite courses</b>             | N/A                                                  |          |          |                               |                 |
| <b>Informally recommended courses</b>   | N/A                                                  |          |          |                               |                 |
| <b>Courses depending on this Course</b> | N/A                                                  |          |          |                               |                 |

### Course objectives:

Graduates of the course KMA/POK learn the question of relation of markup languages and digital cartography. In this course there will be taught following themes: Maps on the Internet, e-publishing, web publishing, creating of maps on the Internet and colours used on the maps. The most important lectures will be focused on markup languages (XML, geodata and graphic languages, schema languages, transformations languages).

### Requirements on student

Student has to follow the study plan, which is setup at the beginnig of the semester. Student has to pass the final exam.

### Content

Introduction to computer cartography  
 Internet publishing - web cartographic e-document.  
 Data - basics of SGML/XML, schema languages  
 Transformation and query languages  
 Data vizualisation - SVG, CSS  
 Building of web pages and webdesign  
 Colours in computer cartography  
 Interoperability and semantics.  
 Accessibility and openness of applications  
 Trends and changes in current cartography

<http://prostudenty.blogspot.cz/p/studijni-materialy.html>

## Fields of study

## Guarantors and lecturers

- **Guarantors:** doc.Ing.Mgr. Otakar Čerba, Ph.D. (100%)
- **Lecturer:** doc.Ing.Mgr. Otakar Čerba, Ph.D. (100%)
- **Tutorial lecturer:** doc.Ing.Mgr. Otakar Čerba, Ph.D. (100%)

## Literature

- **Recommended:** Bayer, Tomáš. *Algoritmy v digitální kartografii*. Praha : Karolinum, 2008. ISBN 978-80-246-1499-1.
- **Recommended:** PRAVDA, Ján, KUSEDOVÁ, Dagmar. *Aplikovaná kartografie*. Bratislava, 2007. ISBN 978-80-89317-00-4.
- **Recommended:** Voženilek, Vít. *Aplikovaná kartografie I. : tematické mapy*. 2. vyd. Olomouc : Univerzita Palackého, 2001. ISBN 80-244-0270-X.
- **Recommended:** Staníček, Petr. *CSS Kaskádové styly : kompletní průvodce*. Vyd. 1. Praha : Computer Press, 2003. ISBN 80-7226-872-4.
- **Recommended:** Brewer, Cynthia A. *Designing Better Maps: A Guide for GIS Users*. Redlands, 2005. ISBN 1-58948-089-9.
- **Recommended:** Robinson, Arthur Howard. *Elements of cartography*. 6th ed. New York : John Wiley & Sons, 1995. ISBN 0-471-55579-7.
- **Recommended:** Meyer, Eric. *Eric Meyer o CSS - ovládněte kaskádové styly!*. Vyd. 1. Brno : Zoner software, 2004. ISBN 80-86815-03-X.
- **Recommended:** Meyer, Eric A. *Eric Meyer o CSS - pokračujeme s kaskádovými styly profesionálně!*. Vyd. 1. Brno : Zoner Press, 2005. ISBN 80-86815-17-X.
- **Recommended:** Peterson, Michael P. *Interactive and Animated Cartography*. 1995. ISBN 0-130791040.
- **Recommended:** KONEČNÝ, Milan, KAPLAN, Věroslav, KEPRTOVÁ, Kateřina, PODHRÁZSKÝ, Zbyšek, STACHOŇ, Zdeněk, TAJOVSKÁ, Kateřina. *Kartografie a geoinformatika. Multimediální učebnice*. Brno.
- **Recommended:** Peterson, Michael. *Maps and the internet*. 1st ed. Oxford : Elsevier, 2003. ISBN 0-08-044201-3.
- **Recommended:** Cartwright, William - Peterson, Michael P. - Gartner, Georg F. *Multimedia Cartography*. 1999. ISBN 3-540-0658181.
- **Recommended:** PRAVDA, Ján, KUSEDOVÁ, Dagmar. *Počítačová tvorba tematických map*. Bratislava, 2004. ISBN 80-223-2011-0.
- **Recommended:** Monmonier, Mark. *Proč mapy lžou*. Vyd. 1. Praha : Computer Press, 2000. ISBN 80-7226-238-6.
- **Recommended:** Eisenberg, J. David. *SVG Essentials*. 2002. ISBN 0-596-00223-8.
- **Recommended:** Kaňok, Jaromír. *Tematická kartografie*. Vyd. 1. Ostrava : Přírodovědecká fakulta Ostravské univerzity, 1999. ISBN 80-7042-781-7.
- **Recommended:** Špinar, David. *Tvoříme přístupné webové stránky : připraveno s ohledem na novelu Zákona č. 365/2000 Sb., o informačních systémech veřejné správy*. Vyd. 1. Brno : Zoner Press, 2004. ISBN 80-86815-11-0.
- **Recommended:** Young, Michael J. *XML : krok za krokem*. Vyd. 1. Brno : Mobil Media, 2002. ISBN 80-86593-28-2.
- **Recommended:** Žák, Miroslav. *XML : začínáme programovat*. 1. vyd. Praha : Grada, 2003. ISBN 80-247-0565-6.
- **Recommended:** Fitzgerald, Michael. *XML Hacks, 100 Industrial-Strength Tips & Tools*. 2004. ISBN 0/596/00711/6.
- **Recommended:** Bradley, Neil. *XML kompletní průvodce*. 1. vyd. Praha : Grada, 2000. ISBN 80-7169-949-7.
- **Recommended:** Kosek, Jiří. *XML pro každého : podrobný průvodce*. 1. vyd. Praha : Grada, 2000. ISBN 80-7169-860-1.
- **Recommended:** Harold, Elliotte Rusty; Means, W. Scott. *XML v kostce : pohotová referenční příručka*. Vyd. 1. Praha : Computer Press, 2002. ISBN 80-7226-712-4.
- **Recommended:** Marchal, Benoît. *XML v příkladech*. Vyd. 1. Praha : Computer Press, 2000. ISBN 80-7226-332-3.
- **Recommended:** Holzner, Steven. *XSLT : příručka internetového vývojáře*. Vyd. 1. Praha : Computer Press, 2002. ISBN 80-7226-600-4.

## Time requirements

## All forms of study

| Activities                               | Time requirements for activity [h] |
|------------------------------------------|------------------------------------|
| Contact hours                            | 39                                 |
| Individual project (40)                  | 25                                 |
| Presentation preparation (report) (1-10) | 9                                  |

Preparation for an examination (30-60)

30

**Total:****103****assessment methods****Knowledge - knowledge achieved by taking this course are verified by the following means:**

Written exam

**prerequisite****Knowledge - students are expected to possess the following knowledge before the course commences to finish it successfully:**

The course expects knowledge corresponding to the courses KMA/TKA, KMA/KRP and KMA/UGI.

**teaching methods****Knowledge - the following training methods are used to achieve the required knowledge:**

Lecture

Lecture supplemented with a discussion

Interactive lecture

Practicum

E-learning

Multimedia supported teaching

Task-based study method

Textual studies

Group discussion

Self-study of literature

Students' portfolio

One-to-One tutorial

Discussion

**learning outcomes****Knowledge - knowledge resulting from the course:**

Ability to understand terminology used in field of computer cartography. Acquired knowledge of XML based languages focused on geodata. Ability to apply XML technologies in digital cartography.

**Course is included in study programmes:**

| Study Programme        | Type of             | Form of   | Branch                            | Stage | St. plan v. | Year | Block                      | Status | R.year | R. |
|------------------------|---------------------|-----------|-----------------------------------|-------|-------------|------|----------------------------|--------|--------|----|
| Certificate Programmes | Postgraduate Master | Full-time | Technologie pro bezpilotní létání | 1     | 2022        | 2023 | Povinně volitelné předměty | B      | 2      | ZS |
| Certificate Programmes | Postgraduate Master | Full-time | Technologie pro bezpilotní létání | 1     | 2017        | 2023 | Povinně volitelné předměty | B      | 2      | ZS |
| Certificate Programmes | Postgraduate Master | Full-time | Technologie pro bezpilotní létání | 1     | 2022        | 2023 | Povinně volitelné předměty | B      | 2      | ZS |
| Certificate Programmes | Postgraduate Master | Full-time | Technologie pro bezpilotní létání | 1     | 2017        | 2023 | Povinně volitelné předměty | B      | 2      | ZS |