



HÖGSKOLAN I GÄVLE

GIS Application Development 10 cr

GIS-applikationsutveckling 10 hp

Set by Faculty of Engineering and Sustainable Development

Version

| Set at | Valid from |
|---------|------------|
| 9/3/13 | VT2013 |
| 9/11/14 | VT2015 |

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|----------------------------|---------------------|
| Level | G1F |
| Education level | First cycle |
| Course identifier | DVG304 |
| Credits | 10 cr |
| Main field of study | Computer Science |
| Subject group | Computer Technology |
| Disciplinary domain | Technology 100.0 % |

Learning outcomes

After completion of the course the student shall be able to:

1. clarify what GIS applications are and present different application areas
2. develop and customize a GIS application
3. implement and administer a GIS database
4. develop an application using ArcObjects and an object oriented language, and use Python scripts for the same purpose
5. search and sort out data that is required for a GIS application
6. get familiar with the ArcObjects model och use the most common interfaces
7. in a project develop a GIS application to solve a geographically bound problem within a company or organization.

Course content

Basic functions of ArcObjects
Introduction to programming in Visual Studio and Add-ins
Programming and data base management for GIS applications
Customizing of software using ArcObjects
Point and polygon handling in ArcObjects and Python scripts
Searching by attribute and geometry

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|--------------------------------|---|-------------|---------------------|
| | Presentation of data as raster and vector files Development of a GIS application. | | |
| Teaching | Lectures, laborations and consultations | | |
| Prerequisites | Computer Systems and Software Engineering 15 credits, GIS Systems Analysis and Databases 7,5 credits and Development of Distributed GIS 15 credits or equivalent. | | |
| Examination | Assignments and project. | | |
| Grade | A, B, C, D, E, Fx, F | | |
| Other regulations | Grading criteria are provided by the course coordinator or examiner in connection with the course introduction. | | |
| Sustainable environment | A minor part of the course content deals with sustainable development. | | |
| Module | | | |
| | 0010 | Assignments | 7 cr Grade: AF |
| | 0020 | Project | 3 cr Grade: AF |