



Course code	GIS_ORACLE
Schedule	2 times per year
Duration	3 months
Accreditation	Electives UNIGIS MSc, UNIGIS Professional, UNIGIS eXpress / FT
Closing date for registration	One week before the Module starts
Credits	6 ECTS
Module Language	English

Course description and Course Objectives

The module gradually introduces the world of spatial information, and guides the reader from basic concepts to sophisticated analyses and case studies. It communicates a hands-on learning style, with extensive examples and practical information. The module should open up new application domains to developers and prompt them to incorporate spatial aspects in already existing applications. However, the module was also designed to attract GIS programmers or users, if only because it is the first optional module that addresses Oracle Spatial entirely. In spite of its title, it does in fact cover the full spectrum of geospatial technologies of Oracle that is, the database (Oracle Spatial and Locator) and also the Oracle Application Server (MapView and Router). The convergence of geospatial technology with mainstream IT platforms is driving enormous advances in the ability to deploy spatial information across the enterprise and the Web. Geospatial tools, including GIS, are now able to deliver more reliability, security and scalability as they leverage IT infrastructure. In doing so, these geospatial technologies become enabling services to more mainstream business applications. The proprietary "glue" that was once necessary to connect the component parts of a GIS software application is being replaced by open standard interfaces, protocols and schemas. This is being done so that software components (database, application server, spatial tools) that were once "tightly coupled" in a single software package can now be assembled through a looser, more open "publish, find, bind" regime that spans across the enterprise and the Web.

Course Outline

- Overview of Oracle Spatial
- Location-Enabling Your Applications
- Part I: SDO_GEOMETRY Data Type
- Part II: Geometry Examples
- Part I: Loading and Transporting Spatial Data
- Part II: Validating and Debugging...
- Part I: Spatial Indexes
- Part II: Spatial Operators
- Geometry Processing Functions
- Topology Data Model in Oracle
- Storing Raster Data in Oracle
- Case Studies
- Tips, Common Mistakes and Common Errors
- Generating Maps Using MapViewer

Module meets
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requirements

Elective Modules
SYLLABUS





INSTRUCTOR:
**Dr. Manfred
Mittlböck**

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Geography and GIScience (1999) in the field of internet mapping technologies. His research interests aim at geospatial data infrastructures, web based geo-collaboration, geospatial analyses for the energy domain, bridging GIS and theoretically 'non-geographic' fields with server based workflow integration of GIS technology focusing on real time geoawareness".

Started working with Oracle Spatial in 2002 focusing on the integration with web based geo-collaboration frameworks.

Methods

The module is delivered in form of an instructed self-study that is based on explorative learning process. Theoretical concepts are complemented with practice oriented examples and demonstrated with help of multimedia elements. A discussion forum is used for communication among students and the instructor. Upon completion of the module students are requested to evaluate the module, which is a part of our quality assurance policy and practice.

Reading and Software Requirements

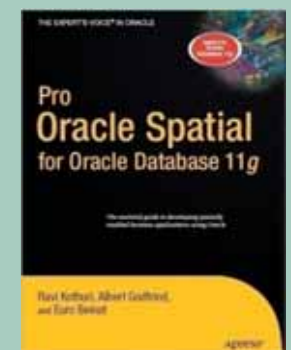
Kothuri, R. et al. (2007): Pro Oracle Spatial for Oracle Database 11g. (The book is part of the module and will be delivered within). A web based interface to an Oracle Spatial database based on Oracle Application Express (former known as Oracle HTML DB) is provided in the module.

Prerequisites

UNIGIS Module GEODBMS or any comparable knowledge of (spatial) database concepts

Assessment and Grading

Instructor assessment is the part of a course that reflects student's achievements in this module and is conducted through assessing module assignments. It counts towards the academic qualification. Exercises are designed to enforce students' knowledge and skills whereas quizzes provide feedback to a student based on availability of correct answers. These should be completed to allow students to assess their own progress and are not included in the module assessment.



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