Geomatics (GEOM)

Geomatics (GEOM) Courses

GEOM 1004 [0.5 credit]
Maps, Satellites and the Geospatial Revolution
Introduction to the creation and use of maps using a variety of geospatial tools to better understand and resolve physical, social and environmental problems. Overview of geomatics (cartography and map design, geographic information systems, GPS, remote sensing).
Includes: Experiential Learning Activity
Precludes additional credit for GEOM 2004 (no longer offered).
Lectures and laboratory, four hours a week.

GEOM 2007 [0.5 credit]
Geographic Information Systems
Data in a spatial context; spatial data structures, georeferencing, data query; mapping; creating spatial databases; selected topics in GIS application to environmental, land-use planning and market analysis issues.
Includes: Experiential Learning Activity
Lectures and laboratory, four hours a week.

GEOM 3002 [0.5 credit]
Introduction to Remote Sensing
Principles and methods of remote sensing; visual interpretation of air photos and satellite imagery; digital image processing, analysis and classification for thematic mapping.
Includes: Experiential Learning Activity
Prerequisite(s): GEOM 1004 or GEOM 2007, and second-year standing, or permission of the Department.
Lectures two hours a week, laboratory two hours a week.

GEOM 3005 [0.5 credit]
Geospatial Analysis
Acquisition, manipulation, and display of spatially referenced information using Geographic Information Systems (GIS). Spatial modeling, site selection, and routing analysis in raster and vector GIS.
Includes: Experiential Learning Activity
Prerequisite(s): GEOM 2007.
Workshop three hours a week.

GEOM 3007 [0.5 credit]
Cartographic Theory and Design
Principles of and issues in cartography, cartographic communication and map design; practical aspects of cartographic representation using multimedia and online mapping.
Includes: Experiential Learning Activity
Prerequisite(s): GEOM 1004 or GEOM 2007 or permission of the Department.
Lectures and laboratory four hours a week.

GEOM 3999 [0.0 credit]
Co-operative Work Term
Includes: Experiential Learning Activity

GEOM 4001 [0.5 credit]
Special Topics in Geomatics
A seminar focusing on selected topics in geomatics including advanced theory and/or application.
Includes: Experiential Learning Activity
Prerequisite(s): fourth-year Honours standing in Geomatics or permission of the department.
Laboratory or seminar three hours a week.

GEOM 4003 [0.5 credit]
Remote Sensing of the Environment
Advanced image enhancement; land cover classification for thematic mapping; biophysical modeling; applications in resources, environment, and urban mapping.
Includes: Experiential Learning Activity
Prerequisite(s): GEOM 3002 and Honours standing, or permission of the Department.
Lectures two hours a week, laboratory two hours a week.

GEOM 4005 [0.5 credit]
Directed Studies in Geomatics
Students pursue their interest in a selected theme in Geomatics on a tutorial basis with a member of the Department.
Prerequisite(s): permission of the Department.

GEOM 4008 [0.5 credit]
Advanced Topics in Geographic Information Systems
Advanced methods and techniques in GIS applications including: positional and attribute error analysis, multiple criteria decision making, interpolation, elevation modeling and ortho-imaging, and spatial pattern measurement.
Includes: Experiential Learning Activity
Prerequisite(s): GEOM 3005 and Honours standing.
Lectures two hours a week, laboratory two hours a week.

GEOM 4009 [0.5 credit]
Applications in Geographic Information Systems
Project design and customization, application development within a GIS, digital atlas compilation and geomatics education.
Includes: Experiential Learning Activity
Prerequisite(s): GEOM 3005.
Workshop three hours a week.

GEOM 4406 [0.5 credit]
Practicum I
Experience in an employment environment through field placement. Observation and involvement in issues and research methods used by professional geographers. May be taken for credit in addition to GEOG/GEOM 4408.
Includes: Experiential Learning Activity
Also listed as GEOG 4406.
Prerequisite(s): fourth-year Honours standing in Geomatics or Geography and permission of the Department.
Field placement one day a week.
GEOM 4408 [0.5 credit]
**Practicum II**
Experience in an employment environment through field placement. Observation and involvement in issues and research methods used by professional geographers. May be taken for credit in addition to GEOG/GEOM 4406.
Includes: Experiential Learning Activity
Also listed as GEOG 4408.
Prerequisite(s): fourth-year Honours standing in Geomatics or Geography and permission of the Department.
Field placement one day a week.

GEOM 4906 [1.0 credit]
**Honours Research Project**
Candidates for B.Sc. with Concentration in Geomatics undertake a research project within their area of specialization. The project is supervised by a member of the department and a written report must be submitted.
The candidate may be examined orally on the report.
Includes: Experiential Learning Activity
Precludes additional credit for GEOG 4904/GEOM 4904 (no longer offered), GEOG 4906, GEOG 4909, GEOM 4909, ENST 4906, and ENST 4907.
Prerequisite(s): fourth-year Honours standing in BSc Geomatics, and an approved research topic and adviser.
Hours to be arranged with faculty adviser.

GEOM 4909 [1.0 credit]
**Honours Research Thesis**
Independent design and implementation of a research project leading to the submission of a research thesis.
Students work with an individual faculty adviser. The subject for research is decided upon in consultation with the supervisor.
Includes: Experiential Learning Activity
Precludes additional credit for GEOG 4904 / GEOM 4904 (no longer offered), GEOG 4906, GEOG 4909, GEOG 4909, ENST 4906 and ENST 4907.
Prerequisite(s): fourth-year Honours standing in B.A. Geomatics, a minimum CGPA of 9.00 in the major or permission of the Department, and an approved research topic and adviser.
Hours to be arranged with faculty adviser.

**Summer session:** some of the courses listed in this Calendar are offered during the summer. Hours and scheduling for summer session courses will differ significantly from those reported in the fall/winter Calendar. To determine the scheduling and hours for summer session classes, consult the class schedule at central.carleton.ca
Not all courses listed are offered in a given year. For an up-to-date statement of course offerings for the current session and to determine the term of offering, consult the class schedule at central.carleton.ca