**Geomatics Engineering MEng (course-based) Regulations**

Course-based Master (MEng) students must take a **minimum of 10 courses; at least 6 must be 600-level courses; at least 4 must be ENGO 600-level courses.** ([https://www.ucalgary.ca/pubs/calendar/grad/current/engineering-geomatics-engo.html](https://www.ucalgary.ca/pubs/calendar/grad/current/engineering-geomatics-engo.html))

**MEng students with a Geomatics Degree:**
A minimum of 6 graduate level courses selected from lists A, B, D, with at least 4 of these courses from list B. Up to 4 undergraduate level courses from lists C2 and E.

**MEng students with a non-Geomatics Degree:**
A minimum of 6 graduate level courses selected from lists A, B, D, with at least 4 of these courses from list B. Up to 4 undergraduate level courses from lists C1, C2 and E.

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**2020-2021 List of Courses**

*All courses are subject to availability.*

**A. Engineering (ENGG) Common Core Courses:**

- ENGG 687 – Ethics, Law, and the Engineering Profession
- ENGG 685 – Energy Policy
- ENGG 684 – Introduction to Project Management
- ENGG 683 – Innovation and Entrepreneurship
- ENGG 682 – Sustainability
- ENGG 681 – Engineering Tools

**B. Geomatics Engineering (ENGO) Graduate Courses**

- ENGO 610 – Geospatial Vision
- ENGO 612 – Wellbore Positioning by MWD sensors in the Directional Drilling
- ENGO 615 – Advanced Physical Geodesy
- ENGO 623 – Inertial Surveying & INS/GPS Integration
- ENGO 625 – Advanced GNSS Theory and Application
- ENGO 629 – Advanced Estimation Methods & Analysis
- ENGO 637 – Earth Observation for the Environment
- ENGO 638 – GNSS Receiver Design
- ENGO 645 – Spatial Databases and Data Mining
- ENGO 694 – Advanced Topics in Sensor Web and Internet of Things

- ENGO 601 – Graduate Project
- ENGO 697 – Directed Studies

*Go to Schedule Builder for the available full list of ENGO 600 level courses.*

**C1. Geomatics Engineering (ENGO) Undergraduate Courses – Fundamentals**

- ENGO 423 – Geodesy
- ENGO 431 – Principles of Photogrammetry
- ENGO 435 – Remote Sensing
- ENGO 443 – Geodetic and Engineering Surveys
C2. Geomatics Engineering (ENGO) Undergraduate Courses – Advanced Topics

ENGO 451 – Design and Implementation of Geospatial Information Systems
ENGO 455 – Land Tenure and Cadastral Systems
ENGO 465 – Satellite Positioning
ENGO 545 – Hydrographic Surveying
ENGO 579 – Survey Law and Practice
ENGO 581 – Land Use Planning

D. Suggested Non-Geomatics Engineering (ENGO) Graduate Courses (subject to availability)

ENEN 635  Environmental Modelling
ENEL 645  Data Mining & Machine Learning
ENEL 671  Adaptive Signal Processing
CPSC 615  Computational Techniques for Graphics and Visualization
GEOG 633  Research & Applications in Remote Sensing
GEOG 639  Advanced Spatial Analysis and Modeling
GEOG 647  Advanced Research and Applications In Geographic Information Systems
GEOG 680  Principles of Digital Cartography and Geovisualization
GEOG 682  Fundamentals of GIS
GEOG 684  Fundamentals of Remote Sensing
GEOG 686  Applied Statistics and Geospatial Analysis
GOPH 671  Inverse Theory and Applications I
GOPH 673  Inverse Theory and Applications II

E. Suggested Non-Geomatics Engineering (ENGO) Undergraduate Courses

CPSC 471  Data Base Management Systems
CPSC 571  Design & Implement Database Systems
GEOG 567  Introduction to Programming in GIS
GEOG 584  Advanced Remote Sensing
GEOG 585  Multivariate Statistics
GEOG 586  Web Mapping and Internet GIS
GEOG 587  Geospatial Project Management
GEOG 588  Urban GIS

Note a completed and signed Change of Course form may be required for non-Geomatics Engineering (ENGO) courses.