

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-eng.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.

2021-2022 List of Courses

All Courses are subject to availability.

A. Engineering (ENGG) Common Core Courses:

ENGG 686 – Climate Change Adaptation for Engineers
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 623 – Inertial Surveying & INS/GPS Integration
ENGO 625 – Advanced GNSS Theory and Application
ENGO 629 – Advanced Estimation Methods & Analysis
ENGO 638 – GNSS Receiver Design
ENGO 642 – Optical Imaging Metrology
ENGO 645 – Spatial Databases and Data Mining
ENGO 651 - Advanced Geospatial Topics
ENGO 699 – Principles of Infrastructure Asset Management and Sustainability

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 351 – Introduction to Geospatial Information Systems (no credit course; if no previous experience with GIS, it can be assigned as ENGO 697 with credit)
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 531 – Advanced Photogrammetric and Ranging Techniques
ENGO 545 – Hydrographic Surveying
ENGO 563 – Data Analysis in Engineering
ENGO 579 – Survey Law and Practice
ENGO 581 – Land Use Planning
ENGO 583 – Environmental Modelling (ENEN 635)

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

ENEN 635 – Environmental Modelling (ENGO 583)
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
CPSC 615 – Computational Techniques for Graphics and Visualization

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