Canadian Geomatics Courses for CBEPS 2023 Syllabus

University of Calgary

Geomatics Engineering

University of Calgary : Geomatics Engineering ENGO (ucalgary.ca)

CBEPS Syllabus	Recommended courses
S1 Mathematics & Sciences	MATH 275 Calculus for Engineers and Scientists MATH 277 Multivariate Calculus for Engineering and Scientists MATH 211 Linear Methods I ENGG 319 Probability and Statistics for Engineers MATH 375 Differential Equations PHYS 259 Electricity and Magnetism ENGO 333 Computing for Geomatics Engineers
S2 Modeling & Analysis	ENGO 363 Estimation and Statistical Testing ENGO 419 Geomatics Networks
S3 Geodesy	ENGO 421 Co-ordinate Systems ENGO 423 Geodesy ENGO Satellite Positioning
S4 Surveying	ENGO 343 Fundamentals of Surveying ENGO 443 Geodetic and Engineering Surveys
S5 Remote Sensing	ENGO 431 Principles of Photogrammetry ENGO 435 Remote Sensing Mobile mapping systems & applications?
S5 Remote Sensing & S7 Law, Tenure, Boundaries, Cadastres and Planning	ENGO 545 Hydrographic Surveying
S6 Geographical Information Systems	ENGO 351 Introduction to Geospatial Information Systems ENGO 451 Design and Implementation of GIS BIM, Web/Cloud GIS and mapping?
S7 Law, Tenure, Boundaries, Cadastres and Planning	ENGO 581 Land Use Planning ENGO 455 Land Tenure and Cadastral Systems ENGO 579 Survey Law
S8 Professional Practice	ENGG 513 The Role and Responsibilities of the Professional Engineer in Society COMS 363 Professional and Technical Communications ENGO 501 Senior Capstone Design Project I ENGO 502 Senior Capstone Design Project II

University of New Brunswick

Geodesy and Geomatics Engineering

Geodesy and Geomatics program at UNB's Fredericton campus | UNB

CBEPS Syllabus	Recommended courses
S1 Mathematics & Sciences	MATH 1003 Introduction to Calculus I MATH 1503 Introduction to Linear Algebra MATH 1013 Introduction to Calculus II STAT 2593 Probabilities and Statistics ECE 1813 Electricity and Magnetism CS 1001 Programming and Problem Solving for Engineers
S2 Modeling & Analysis	GGE 3111 Introduction to Adjustment Calculus GGE 3122 Advanced Adjustment Calculus
S3 Geodesy	GGE 3202 Geodesy I GGE 3042 Introduction to Global Satellite Navigation Systems GGE 4211 Geodesy II
S4 Surveying	GGE 2012 Advanced Surveying GGE 2013 Advanced Surveying Practicum
S5 Remote Sensing	GGE 3342 Remote Sensing GGE 4313 Photogrammetry GGE 4303 Lidar Fundamentals GGE 5403 Web mapping & Geospatial web services
S5 Remote Sensing & S7 Law, Tenure, Boundaries, Cadastres and Planning	GGE 3353 Ocean Mapping
S6 Geographical Information Systems	GGE 3423 Introduction to Geographic Information Systems BIM? GGE 4423 Advanced GIS
S7 Law, Tenure, Boundaries, Cadastres and Planning	GGE 5833 Land Use Planning for Geomatics GGE4513 Survey Law I GGE 5522 Survey Law II
S8 Professional Practice	ENGG 1001 Engineering Practice Lecture Series ENGG 4013 Law and Ethics for Engineers ENGG 1015 Engineering technical Communications GGE 4700 Design Project and Report

University of New Brunswick

Geomatics (Cadastral) 3 Year

Bachelor of Geomatics – online and/or in person at UNB

CBEPS SYLLABUS	Recommended courses
S1 Mathematics & Sciences	MATH 1003 Introduction to Calculus I MATH 1013 Introduction to Calculus II MATH 1503 Introduction to Linear Algebra MATH 2513 Multivariable Calculus for Engineers STAT 2593 Probability and Statistics for Engineers PHYS 1151 Physics for Geomatics 1 PHYS 2151 Physics for Geomatics 2 CS 1003 Programming and Problem Solving for Engineers CS 3113 Numerical Method
S2 Modeling & Analysis	GGE 3111 Introduction to Adjustment Calculus GGE 3122 Advanced Adjustment Calculus GGE 3022 Survey Design and Analysis GGE 3023 Survey Design Practicum **OR** GGE 3024 Survey Design Practicum (Off-Campus)
S3 Geodesy	GGE 3202 Geodesy I GGE 4211 Geodesy II GGE 3042 Introduction to Global Navigation Satellite Systems
S4 Surveying	GGE 1001 Introduction to Geodesy & Geomatics GGE 2012 Advanced Surveying GGE 2013 Advanced Surveying Practicum **OR** GGE 2014 Advanced Surveying Practicum (Off-Campus)
S5 Remote Sensing	GGE 4303 LiDAR Fundamentals GGE 4313 Photogrammetry GGE 3342 Remote Sensing
S5 Remote Sensing & S7 Law, Tenure, Boundaries, Cadastres and Planning	GGE 3353 Ocean Mapping
S6 Geographical Information Systems	GGE 3423 Introduction to Geographic Information Systems GGE 4423 Advanced Geographic Information Systems
S7 Law, Tenure, Boundaries, Cadastres and Planning	GGE 5833 Land Use Planning for Geomatics GGE 4513 Survey Law I GGE 2501 Land Administration I GGE 5522 Survey Law II
S8 Professional Practice	EGG 4013 Law and Ethics for Engineers GGE 3700 Survey Project and Report

British Columbia Institute of Technology (BCIT)

Bachelor of Science – Geomatics

Geomatics, Bachelor of Science, Full-time (8640BSC) - BCIT

CBEPS Syllabus	Recommended courses
S1 Mathematics & Sciences	MATH 2511 Differential and Integral Calculus MATH 1513 Trigonometry & Statistics MATH 3513 Matrix Methods and ODEs PHYS 1151 Physics for Geomatics 1 PHYS 2151 Physics for Geomatics 2 GEOM 3025 Computer programing
S2 Modeling & Analysis	GEOM 4091 Error Theory and Analysis GEOM 5140 Intro to Least Squares GEOM 6125 Advanced Adjustments
S3 Geodesy	GEOM 3051 Intro to Geodesy GEOM 4080 Coordinate Systems and Mathematical Cartography GEOM 6121 Physical Geodesy GEOM 7121 Satellite Geodesy
S4 Surveying	GEOM 1010 Field Surveying 1 GEOM 2010 Field Surveying 2 GEOM 7150 Advanced topics in Precision Survey
S5 Remote Sensing	GEOM 3015 Laser Scanning & Reality Capture Technologies GEOM 3071 Introduction to Photogrammetry GEOM 4016 Remote Sensing & GIS GEOM 6165 Advanced Photogrammetry
S5 Remote Sensing & S7 Law, Tenure, Boundaries, Cadastres and Planning	GEOM 8195 Hydrographic Surveying
S6 Geographical Information Systems	GEOM 4016 Remote Sensing & GIS GEOM 5111 Geospatial Data Management GEOM 6106 GIS Applications
S7 Law, Tenure, Boundaries, Cadastres and Planning	GEOM 4025 Cadastral Surveying and Lane Use Planning GEOM 5111 Land Use Planning GEOM 5155 Cadastral Studies & Land Registration Systems GEOM 6175 Survey Law
S8 Professional Practice	COMM 1135 Technical Communications 1 LIBS 7001 Critical Reading and Writing BLAW 3100 Business Law BUSA Management Skills and Applications LIBS 7002 Applied Ethics ENCON 1150 Economic Issues

Toronto Metropolitan University
Civil Engineering

Civil Engineering - BEng - Programs - Toronto Metropolitan University (torontomu.ca)

CBEPS SYLLABUS	Recommended courses
S1 Mathematics & Sciences	MTH 140 Calculus I MTH 240 Calculus II MTH 141 Linear Algebra MATH 410 Statistics MATH 425 Differential Equations and Vector Calculus PCS 125 Physics: Waves and Fields CPS125 Digital Computation and Programming
S2 Modeling & Data Analysis	MTH 410 Statistics CVL352 Geomatics Measurement Techniques Least squares estimation and analysis?
S3 Geodesy	CVL650 Satellite Positioning Gravity fields and Height systems?
S4 Surveying	CVL323 Introduction to Surveying CVL352 Geomatics Measurement Techniques High Precision Surveys? Survey design, simulation and analysis?
S5 Remote Sensing	CVL354 Remote Sensing and Image Analysis CVL352 Geomatics Measurement Techniques
S5 Remote Sensing & S7 Law, Tenure, Boundaries, Cadastres and Planning	Hydrography?
S6 Geographical Information Systems	CVL 736 Fundamentals of Geospatial Information Systems DEM, BIM, Web/Cloud GIS, mobile mapping and Geospatial programming?
S7 Law, Tenure, Boundaries, Cadastres and Planning	CVL 602 Municipal Engineering Economics of land development ? Survey Law I* Survey Law II*
S8 Professional Practice	CMN 432 Communications in the Engineering Professions and Capstone Project CEN 800: Law and Ethics in Engineering Practice Management and business skills?

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These courses are available through 4 Points Learning and University of New Brunswick.

YORK UNIVERSITY

Bachelor of Engineering (BEng) in Geomatics Engineering

CBEPS SYLLABUS	Recommended courses
S1 Mathematics & Sciences	MATH 1013 Applied Calculus I MATH 1025 Applied Linear Algebra MATH 2015 Applied Multivariate and Vector Calculus MATH 2271 Differential Equations foir Scientists and Engineers MATH 2930 Introduction to Probability and Statistics PHYS 2020 Electricity and Magnetism ESSE Algorithmic and Computational methods for Geomatics and Space Engineering
S2 Modeling & Data Analysis	MTH 410 Statistics CVL352 Geomatics Measurement Techniques Least squares estimation and analysis?
S3 Geodesy	CVL650 Satellite Positioning Gravity fields and Height systems?
S4 Surveying	CVL323 Introduction to Surveying CVL352 Geomatics Measurement Techniques High Precision Surveys? Survey design, simulation and analysis?
S5 Remote Sensing	CVL354 Remote Sensing and Image Analysis CVL352 Geomatics Measurement Techniques
S5 Remote Sensing & S7 Law, Tenure, Boundaries, Cadastres and Planning	Hydrography?
S6 Geographical Information Systems	CVL 736 Fundamentals of Geospatial Information Systems DEM, BIM, Web/Cloud GIS, mobile mapping and Geospatial programming?
S7 Law, Tenure, Boundaries, Cadastres and Planning	CVL 602 Municipal Engineering Economics of land development? Survey Law I* Survey Law II*
S8 Professional Practice	CMN 432 Communications in the Engineering Professions and Capstone Project CEN 800: Law and Ethics in Engineering Practice Management and business skills?

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These courses are available through 4 Points Learning and University of New Brunswick.