

**APEGGA**

The Association of
Professional Engineers, Geologists
and Geophysicists of Alberta

GEOPHYSICS
COURSE EQUIVALENTS
2000 Edition

University of Alberta

University of Calgary

00-GP-F1 Introductory Calculus

MATH 100 Calculus I
OR
MATH 114 Elementary Calculus I
OR
MATH 113 Elementary Calculus I
OR
MATH 117 Honours Calculus I
&
MATH 115 Elementary Calculus II
OR
MATH 101 Elementary Calculus II
OR
MATH 118 Honours Calculus II

MATH 251 Calculus I
OR
MATH 249 Introductory Calculus
OR
AMAT 217 Calculus for Engineers &
Scientists

00-GP-F2 Linear Algebra

MATH 120 Basic Linear Algebra I
OR
MATH 125 Linear Algebra I

MATH 211 Linear Methods I
OR
MATH 221 Linear Algebra for Scientists
& Engineers

00-GP-F3 Introductory Physics I

PHYS 102 Mechanics
OR
PHYS 124 Particles and Waves
OR
PHYS 144 Newtonian Mechanics and
Relativity

PHYS 211 Mechanics

00-GP-F4 Introductory Physics II

PHYS 100 Wave Motion and Electricity
OR
PHYS 126 Fluids, Fields, and Radiation
OR
PHYS 146 Fluids and Waves

PHYS 223 Intro Electromagnetism,
Fluids & Thermal Physics

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00-GP-F5 General Chemistry ICHEM 101(Fall) Introductory University
Chemistry**OR**CHEM 103Introductory University Chemistry
I

CHEM 201General Chemistry I

00-GP-F6 General Chemistry IICHEM 102(Winter) Introductory University
Chemistry**OR**CHEM 105Introductory University Chemistry
II

CHEM 203General Chemistry II

00-GP-F7 Computing ScienceCMPUT 114 Introduction to Programming
for Scientific Applications**OR**

CMPUT 101 Introduction to Computing

CPSC 215 Intro to Programming

OR

CPSC 231 Intro to Computer Science I

OR

ENG

COMP 100 Computer Programming for
Engineers**OR**PHYS 234 Introductory Computational
Physics**00-GP-C1 Differential Equations**

MATH 214 Intermediate Calculus I

MATH 253 Calculus II

OR

AMAT 311 Differential Equations I

00-GP-C2 Intermediate Calculus

MATH 215 Intermediate Calculus II

MATH 331 Multivariate Calculus

OR

MATH 353 Calculus IV

00-GP-C3 Electricity and Magnetism

PHYS 281 Electromagnetism and Optics

PHYS 323 Optics & Electromagnetism

00-GP-C4 Vibrations, Waves and Optics

PHYS 244 Mechanics

PHYS 321 Rotation, Harmonic Motion &
Waves

<i>University of Alberta</i>		<i>University of Calgary</i>	
00-GP-C5	Physical Geology		
EAS 101	Physical Geology	GLGY 201	Principles of Geology & Geophysics I
OR			
EAS 210	Engineering Earth Science		
00-GP-C6	Physics of the Earth		
GEOPH 221	Physics of the Earth	GOPH 359	Global Geophysics
00-GP-C7	Probability and Statistics		
STAT 141	Introduction to Statistics	STAT 357	Statistics for the Physical Sciences
OR		OR	
STAT 151	Introduction to Applied Statistics	STAT 211	Statistics 211
00-GP-C8	Integral Transform Methods		
MATH 334	Advanced Calculus I	AMAT 415	Mathematical Methods
OR			
MATH 201	Differential Equations		
00-GP-C9	Complex Variable Calculus		
MATH 311	Theory of Functions of a Complex Variable	PMAT 421	Introduction to Complex Analysis
		OR	
		AMAT 415	Mathematical Methods
00-GP-C10	Database Management or Computer Graphics or Computational Physics		
CMPUT 291	Intro to File & Database Mang.	CPSC 471	Data Base Management Systems
OR		OR	
PHYS 420	Computational Physics	CPSC 453	Computer Graphics I
		OR	
		PHYS 535	Computational Methods in Physics
00-GP-C11	Thermodynamics		
PHYS 211	Heat, Thermodynamics & Kinetic Theory	PHYS 447	Thermodynamics
OR			
PHYS 224	Thermal Physics		

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00-GP-C12 MA PH 467	Continuum Mechanics Mechanics of Deformable Media		
00-GP-C13 PHYS 362	Optics & Lasers Optics	APPH 575	Optics & Electro-Optics
00-GP-C14 PHYS 381	Electromagnetic Theory Electromagnetic Theory I	PHYS 455	Electromagnetic Theory I
00-GP-C15 EAS 103	Historical Geology Earth and Life Through Time	GLGY 203	Principles of Geology & Geophysics II
00-GP-C16 EAS 224	Crystallography and Mineralogy Mineralogy I	GLGY 313	Crystallography & Optical Mineralogy
00-GP-C17 EAS 222	Sedimentation and Stratigraphy Principles of Sedimentation and Stratigraphy	GLGY 381	Stratigraphy and Sedimentation
OR EAS 231	Principles of Sedimentation		
00-GP-C18 EAS 321	Structural Geology Structural Geology I	GLGY 341	Structural Geology
00-GP-C19 GEOPH 223	Introduction to Applied Geophysics Environmental Monitoring & Mining Exploration Techniques	GOPH 355	Exploration Geophysics
OR GEOPH 224	Geophysical Exploration Techniques		
00-GP-M1 GEOPH 421	Quantitative Seismology Seismology & Physical Structure of the Earth	GOPH 551	Seismic Theory and Methods

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00-GP-M2	Digital Signal Processing		
GEOPH 426	Signal Analysis of Geophysical Data Sets	GOPH 557	Geophysical Data Processing
00-GP-M3	Principles of Applied Seismic Methods		
GEOPH 326	Ray Seismology	GOPH 355	Exploration Geophysics
00-GP-M4	Principles of Applied Electrical and Electromagnetic Methods		
GEOPH 424	Electromagnetic and Potential Methods of Exploration	GOPH 453	Mining Geophysics
00-GP-M5	Principles of Applied Gravity and Magnetic Methods		
GEOPH 325	Gravity, Magnetic and Electrical Prospecting Techniques	GOPH 547	Gravity and Magnetism
00-GP-M6	Advanced Global Geophysics, or Global Geology		
GEOPH 521	Plate Tectonics and Global Dynamics	GOPH 681	Advanced Global Geophysics & Geodynamics
		OR	
		GLGY 555	Global Geology
00-GP-M7	Petroleum Geology		
EAS 430	Petroleum Geology	GLGY 577	Petroleum Geology
OR			
EAS 431	Regional and Petroleum Hydrogeology		
00-GP-M8	Metallic Mineral Deposits		
EAS 433	Metalliferous Mineral Deposits	GLGY 527	Metallic Mineral Deposits
00-GP-M9	Hydrogeology		
EAS 223	Introduction to Hydrogeology	GLGY 401	Physical Hydrogeology
00-GP-M10	Physical Properties of Rocks/Engineering Geology		
GEOPH 332	Physical Properties of Geomaterials	GOPH 457	Physical Properties of Rocks
OR		OR	
MIN E 323	Rock Mechanics	GLGY 571	Engineering Geology

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00-GP-M11	Well Log Analysis		
PET E 465	Well Logging & Formation Evaluation	ENPE 507	Well Logging and Formation Evaluation
OR			
EAS 424	Subsurface Geological Methods		
00-GP-M12	Partial Differential Equations		
MATH 337	Introduction to Partial Differential Equations	AMAT 413	Introduction to Partial Differential Equations
OR			
MATH 300	Advanced Boundary Value Problems I		
00-GP-M13	Solid State Physics		
PHYS 415	Introduction to Condensed Matter Physics I	PHYS 507	Solid State Physics
00-GP-M14	Geostatistics		
MIN E 310	Ore Reserve Estimation	GLGY 597	Numerical Models & Geostatistics
OR			
MIN E 612	Geostatistical Methods for Modelling Earth Sciences Data		
00-GP-M15	Advanced Signal Processing		
GEOPH 623	Time Sequence Analysis	GOPH 657	Seismic Signal Analysis
00-GP-M16	Advanced Seismic Methods		
GEOPH 624	Theoretical Seismology I	GOPH 659	In Situ Seismic Analysis
00-GP-M17	Advanced Seismic Interpretation		
GEOPH 438	Aspects of Seismic Data Processing	GOPH 559	Geophysical Interpretation
00-GP-M18	Advanced Electrical and Electromagnetic Methods and Interpretation		
GEOPH 424	Electromagnetic and Potential Methods of Exploration	GOPH 653	Electromagnetic & Induced Polarization Topics

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00-GP-M19 GEOPH 424	Advanced Gravity and Magnetic Methods Electromagnetic and Potential Methods of Exploration	GOPH 547	Gravity & Magnetism
00-GP-M20 PET E 473	Reservoir Engineering Fundamental Reservoir Engineering	ENPE 523	Reservoir Engineering I
00-GP-M21 GEOPH 437	Geophysical Field Methods Application of Methods of Exploration Geophysics	GOPH 459	Field School
GEOPH 438	Aspects of Seismic Data Processing		
00-GP-M22 EAS 420	Isotope Geophysics Geochemistry II	PHYS 561	Stable and Radioactive Isotope Studies, Fundamentals
00-GP-M23 MAPH 467	Fluid Dynamics Mechanics of Deformable Media		
00-GP-M24 CH E 540	Computer Controlled Instrumentation Process Dynamics & Control		
00-GP-M25 EAS 331	Igneous Petrology Igneous Petrology	GLGY 431	Igneous Petrology
00-GP-M26 EAS 332	Metamorphic Petrology Metamorphic Petrology	GLGY 433	Metamorphic Petrology
00-GP-M27 EAS 422	Advanced Sedimentology Sedimentary Facies	GLGY 461	Sedimentary Petrology
00-GP-M28 EAS 421	Advanced Structural Geology Structural Geology II	GLGY 541	Advanced Structural Geology

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00-GP-M29 Fluid Flow In Porous MediaPET E 473 Fundamental Reservoir
EngineeringGLGY 677 Petroleum Reservoir
Production**OR**

EAS 223 Introduction to Hydrogeology

OR

ENPE 513 Flow in Porous Media

00-GP-M30 Geochemistry

EAS 320 Geochemistry I

GLGY 505 Chemical Hydrology

00-GP-M31 Numerical Modelling MethodsCH E 474 Computational Methods In
EngineeringGLGY 605 Simulation Methods in
Subsurface Flow and
Transport**OR**

PHYS 420 Computational Physics

00-GP-M32 Remote Sensing

EAS 451 Remote Sensing

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