Fall 2016 Courses

CE 4920-40 CRN: 15551
3 credit(s)
Hydrographic Surveying
Danny Swain
The use of applied hydrographic surveying techniques with a focus on single beam sounders for underwater mapping projects. Discussions will include lectures on Underwater Acoustics, Speed of Sound, Transducers, the Sonar Equation, Single Beam Echo Sounders, Multi-Beam Echo Sounders, Other Methods of Determining Depths, Tides, Vessels, and Basic Seamanship. The basics of Hypack software will be taught and used throughout the course.
Prerequisite: LS 2400 and LS 2020
Dates/Times: 6 - 7 p.m., Tue MDT; Aug 30 - Dec. 13

CE 4920-41 CRN: 15552
1 credit(s)
Machine Guidance and Control
Fermin Glasper
This course is designed to instruct the student on the Surveyor’s Role in providing the “Survey Control Network,” for Machine Guidance and Control in construction applications. In addition, it will provide information on various applications and techniques.
Prerequisite: (LS 2010 or CE 2070) and LS 2020
Dates/Times: 7 - 8 p.m., Thur MDT; Nov 3 - Dec. 8

CE 4920-80 CRN: 15560
3 credit(s)
Land Subdivision and Platting
Robert Loane III
The intention of this course is to expose the student to the principles of subdividing lands, both public and private, including boundary computation and analysis, ranging from lot splits to aliquot sectional breakdowns and a basic introduction to the plating process.
Prerequisite: LS 3100, LS 3110, and LS 3120
Dates/Times: Thur. 6 -7 p.m., Thur MDT; Sep 1 - Dec. 15

CE 4920-81 CRN: 15561
3 credit(s)
Property Boundary Analysis
Chuck Karayan
This course is intended to expose the student to the integration of acquired knowledge and the formulation of sustainable professional opinions. Aspects of mathematics, science and law are dealt with in a holistic manner. The focus is on the concepts and evidence of real property rights and boundaries, and the application of those principles and practices essential to locating, describing and marking them.
Prerequisite: LS 3100, LS 3110, and LS 3120
Dates/Times: 7:30 – 8:30 p.m., Wed MDT; Aug 31 - Dec. 14

LS 2010-80 CRN: 14158
2 credit(s)
Engineering Surveying Lecture
David Hammond
Principles of measurements of distances, elevation and angles. Basic error theory in measurement and calculations. Basic principles of surveying and map making.
Prerequisites: A working knowledge of algebra and trigonometry
Dates/Times: Thur. 6:15-7:15 p.m., MDT; Sept. 01 - Dec. 15

LS 2400-80 CRN: 14153
2 credit(s)
Basic Geodesy for Todays Land Surveyor
John Adam
The history of geodesy including measurement techniques, coordinate systems, ellipsoids, and datum is reviewed. The modern geodetic and Cartesian coordinates systems, as well as the differences between grid and ground coordinates systems, and the current geodetic and Cartesian coordinate systems available today are discussed.
Prerequisite: CE 2070 or LS 2010
Dates/Times: Tue. 7:15-8:15 p.m., MDT; Aug 30- Dec. 13
Fall 2016 Courses

**LS 3100-80**  
CRN: 14152  
2 credit(s)  
Real Property Descriptions  
Chuck Karayan  
Historical and current issues for land description writing and usage for the practicing surveyor. Relationship between written descriptions and field survey data, interpreting old descriptions and the structure principles of description.  
Prerequisite: CE2070 or LS2010 and LS2100 and LS2110  
Dates/Times: Thur. 7:30-8:30 p.m., MDT; Sep 1 - Dec. 15

**LS 3130-80**  
CRN: 15562  
3 credit(s)  
Public Land Surveys  
Dennis Mouland  
Basic fundamentals of the Public Land Survey System (PLSS), dependent and independent resurveys, survey plats, "bono fide rights", riparian boundaries, non-rectangular entities, corner evidence and the role of the modern day surveyor.  
Prerequisite: CE 2070 or LS 2010, and LS 2110  
Dates/Times: 7:00 - 8:00 p.m., MDT; Mon Aug. 29 - Dec 12

**LS 3200-80**  
CRN: 16940  
3 credit(s)  
Route Surveying  
Mark Rehwaldt  
Principles of route location and design. The theory of circular, parabolic and spiral curves; highway and railway geometric design; area and volumes of earthwork; and mass diagrams.  
Prerequisite: CE 2070 or LS 2010, and ES 1060 or ES 1061  
Dates/Times: Tue. 7:30-8:30 p.m., MDT; Aug 30 – Dec 13  
Audio Teleconferencing

**LS 4130-80**  
CRN: 14146  
4 credit(s)  
Advanced Public Lands  
Dennis Mouland  
Advanced topics in situations and problems in the Public Land Survey system, with discussion of major court cases involving everyday applications to surveyors. 1975 BLM casebook and other sources of survey reference.  
Prerequisite: LS 3120 and LS 3130  
Dates/Times: 8:15-9:15 p.m., MDT; Aug. 29-Dec. 12

**MATH 1400-98**  
CRN: 14538  
3 credit(s) USP 2003: QA; USP 2015: Q  
College Algebra  
William Welch  
Emphasizes aspects of algebra important in the study of calculus. Includes notation of algebra, exponents, factoring, theory of equations, inequalities, functions, graphing and logarithms. For students who plan to enroll in a calculus course (MATH 2200 or 2350). Students receiving credit for MATH 1450 may not receive credit for this course.  
Prerequisite: Grade of C or better in MATH 0925 (132) or Level 3 on the Math Placement Exam or Math ACT of 23 or Math SAT of 600  
*This course has controlled enrollment; contact Outreach Credit Programs for registration information.  
Dates/Times: Mon Aug 29 – Dec 9  
Independent Learning: Semester Based

**MATH 1405-98**  
CRN: 26898  
3 credit(s) USP 2003: QA; USP 2015: Q  
Trigonometry  
Hayoung Choi  
Emphasizes aspects of trigonometry important in the study of calculus. Interplay between trigonometric expressions and their graphs. Students are expected to use a graphing calculator in the course and on exams. See instructor for specifications. Topics include angle measurement, trigonometric functions, graphing, laws of sines and cosines, identities, equations, polar equations and graphs, vectors, complex numbers and DeMoivre's theorem. For students with little or no prior knowledge of trigonometry who plan to enroll in MATH 2200. Students receiving credit for MATH 1450 may not receive credit for this course.  
Prerequisites: Grade of C or better in MATH 1400 or Level 4 on the Mathematics Placement Exam or Math ACT of 25 or Math SAT of 600  
*This course has controlled enrollment; contact Outreach Credit Programs for registration information.  
Dates/Times: Mon Aug 29 – Dec 9  
Independent Learning: Semester Based