**Core Courses Required of All Geography Majors (26 credits)**

**General Education Requirements for Major**
*Advanced Writing Requirement (in the Major)*
- B.A. students in Geography meet the Advanced Writing Course requirement by EITHER completing an Advanced Writing Course (GPHY 335 or GPHY 433) OR writing a senior thesis in Geography (GPHY 499);
- B.S. students in Geography meet requirement as specified in description of that program.

**Requirements Prior to Fall 2015 Catalog**

**Mathematical Literacy**
- Students obtaining a degree in Geography must meet the mathematical literacy requirement by taking M 115, regardless of the Symbolic Systems option.*

**Symbolic Systems**
- Students obtaining a B.A. Degree in Geography without option (General Geography) must meet the university-wide SS requirement with one year of foreign language (100 level or higher) OR by taking M 115 and STAT 216.*
- Students obtaining a B.A. Degree in Geography with option in Community & Environmental Planning must take M 115 and STAT 216.*
- Students obtaining a B.S. Degree with or without option should see detailed requirements of those programs.

*Completion of one M or STAT course higher in number than 150 satisfies both Mathematical Literacy & Sym. Systems.

**Requirements Beginning with Fall 2015 Catalog**

**Foreign Language Requirements**
- One year of a foreign language is required for all Majors.

**Mathematical Literacy**
- Students obtaining a degree in Geography must meet the mathematical literacy requirement by taking M 115 OR higher.

**Degree Mathematical Requirements**
- Students obtaining a B.A. Degree in Geography with option in Community & Environmental Planning or a B.S. Degree with or without option should see detailed requirements of those programs on reverse side.

**Introduction to Geography (7 credits)**
- GPHY 111N-3 Introduction to Physical Geography
- GPHY 112N-1 Physical Geography Lab (N as of SP2014)
- GPHY 121SX-3 Introduction to Human Geography

**Regional Geography Course (3 credits)**
- GPHY 141SX-3 Geography of World Regions
  - or one of the following —
  - GPHY 144 MT Mountains
  - GPHY 344 Crown of Continent
  - GPHY 241 Montana
  - GPHY 347 Regional Geography
  - GPHY 243 Africa
  - GPHY 348 Field Studies Geog.
  - GPHY 245X Middle East
  - GPHY 444 High Asia
  - GPHY 342 North America

**Geographic Methods Courses (6 credits)**
- GPHY 284-3 Intro to GIS & Cartography (was GPHY 381/2)
- GPHY 385-3 Field Techniques

**Upper-Division Systematic Geography Courses (9 credits)**
- One upper-division course each in the fields of:
  - Geography and Society: GPHY 323S Economic Geog. of Rural Areas, GPHY 421 Sustainable Cities, GPHY 434 Food and Famine
  - Physical Geography: ERTH 303N Weather and Climate, GPHY 314 Global Mountain Environments, GPHY 317 Geomorphology, GPHY 431 Biogeography, GPHY 438 Mountains Field Study, GPHY 525 Adv. Physical Geog.; or check with advisor.
  - Human-Environment Interaction: GPHY 335 Water Policy, GPHY 336 Exploration and Discovery, GPHY 338 Mountains and Society, GPHY 432 The Human Role in Environmental Change, GPHY 433 Cultural Ecology

**Capstone Course (1 credit) - Beginning Fall 2014 Catalog**
- GPHY 400-1 Geography Undergraduate Capstone (Fall) (Portfolio submitted final semester)

**Teaching & Geography**

*Elementary:*
- This curriculum requires either GPHY 121S Human Geog. OR GPHY 141S Geog. of World Regions. Some Geography courses can also count toward the 6 Concentrations. For the Social Science Concentration, GPHY 111N and others (ask advisor for details). For the Social Science Concentration, GPHY 121S Human Geog., GPHY 141S-3 Geog. World Reg., GPHY 323S Economic Geog. of Rural Areas, and GPHY 421 Sustainable Cities, GPHY 433 Cultural Ecology, and others.

*Secondary:*
- Geography can be used as ones major or minor if a second endorsement (teaching major or minor) is also taken. Requirements would follow the BA but with the addition of Edu 497. Those majoring in Comprehensive Social Sciences can take any 12 credits in Geography as one of their fields. And finally, a Minor in Geography (along with C&I 428) can contribute to your degree.

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**Department of Geography**

Welcome to UM’s Geography Department. Geography provides a broad ranging perspective on humans as inhabitants and transformers of the face of Earth. We offer a diverse set of courses for majors, minors, and students simply seeking to broaden their knowledge of our World. Please explore our website listed below and stop by the department for more information.

We offer the following undergraduate majors, minors, and certificates:
- **B.A. in GEOGRAPHY**
  - General Geography without option
  - Community & Environmental Planning option
- **B.S. in GEOGRAPHY**
  - General Geography without option
  - Physical Geography option
- **MINOR in GEOGRAPHY**
- **MINOR in MOUNTAIN STUDIES**
  Please see Mountain Studies flier
- **CERTIFICATE IN GIS SCIENCE & TECHNOLOGY**
  Offered jointly with the College of Forestry Please see GIS flier

Students are encouraged to explore study-abroad options, and field experiences. Geography credits obtained through study abroad will be applied towards the Geography degree. With approval of the student’s advisor, up to 6 college credits obtained through study-abroad and field-based courses outside the field of Geography may count towards Geography electives.

208 Stone Hall
(406) 243-4302
http://hs.umt.edu/geography/

28 March 2017
B.A. in GEOGRAPHY
General Geography without Option
(minimum 36/maximum 60 credits)
The B.A. in Geography is the most flexible degree and offers the most customization to a students goals. In addition to completing the requirements for ALL majors, students must complete at least 10 but no more than 34 elective credits in Geography (for a total of at least 36 and no more than 60 Geography credits).

B.S. in GEOGRAPHY
General Geography without Option
(minimum 42 credits/maximum 60 credits)
The B.S. in Geography is designed to accommodate those interested in pursuing more technical areas of study and work in the field of Geography.

Additional Science Coursework
In addition to completing the core requirements for all geography majors, students electing the B.S. option must complete 6-10 additional credits (a two-course sequence) of science coursework. The classes must be selected by the student and approved and advisor as appropriate to individual student goals (e.g., BIO 105N and BIOE 172N).

Senior Thesis or Science-based Writing Course
Students pursuing the B.S. must either complete a senior thesis (GPHY 499) or complete an Advanced science-based Writing Course (e.g. GPHY 335 or GPHY 433 —tell your prof you are using for req., GEO 320, GEO 499, BIOE 470, BIOE 475). See UM’s GenEd Req.’s for a list of potential science-based classes & consult your advisor.

Requirements Prior to Fall 2015 Catalog
Symbolic Systems Requirement
___ B.S. students MUST meet the symbolic systems requirement by taking M 115 and STAT 216, OR just one of M 162, M 171, or STAT 451. Regular calculus (M 171) is strongly recommended.

Requirements Beginning with Fall 2015 Catalog
Degree Mathematics Requirement
___ B.S. students MUST meet the mathematics requirement by taking STAT 216, M 162, M 171, or STAT 451. Regular calculus (M 171) is strongly recommended.

B.A. in GEOGRAPHY
Community & Environmental Planning Option
(prior to Fall 2015 Catalog: min 39/max 60 credits)
(begining Fall 2015 Catalog: minimum 43/maximum 60 credits)
Mathematical Requirements
Symbolic Systems Requirement (Prior to Fall 2015 Catalog)
___ CEP Option students MUST meet the symbolic systems requirement by taking M 115 (or above), and STAT 216.
Degree Mathematical Requirements (Beginning Fall 2015 Catalog)
___ CEP Option students MUST take STAT 216.
Core Courses:
___ GPHY 465-3 Planning Principles & Processes
___ GPHY 466-3 Environmental Planning
__ AND ONE OF THE FOLLOWING TWO-
___ GPHY 468-3 Community & Regional Analysis w/ 469 lab (1 cr.)
___ GPHY 486-3 Transport, Planning, & GIS w/ 489 lab (1 cr.)
Select 3 of the following Upper Division systematic courses**
___ GPHY 3235-3 Economic Geography of Rural Areas
___ GPHY 335-3 Water Policy
___ GPHY 421-3 Sustainable Cities
___ GPHY 432-3 The Human Role in Environmental Change
** OR either 468/9 or 486/9 if not taken for above requirement.
Electives***:
Community Planning Group
GPHY 442-3 Reg. & Rocky Mt West
GPHY 423-3 Migr. & Pop. Change
GPHY 443-3 Cult. & Global Comp
ANY 451-3 Cultural Res. Man.
ENST 480-3 Food, Ag., & Env.
ENST 4895-3 Env. Justice Issues
NRSM 475-3 Environ. & Dev.
SOCI 350-3 The Community
PSCI 344-3 State & Local Gov’t.
GIS Science Group
GPHY 487-3 Rem. Sen. & Raster GIS
GPHY 489-1 Lab (with GPHY 487)
GPHY 488-3 GIS Applications
GPHY 489-1 Lab (with GPHY 488)
DSSN 114-3 Intro. To CAD (offered at Missoula College)
Native American Communities
NASX 354K-3 Indians of Montana Since the Reservation Era
NASX 306K-3 Contemporary Issues of Indigenous Americans
NASX 475X-3 Tribal Sovereignty
*** Other electives may be chosen in consultation with advisor.

Environmental Planning Group
ERTH 303N-3 Weather & Climate
GPHY 317-3 Geomorphology
GPHY 311N-3 Biogeography
GPHY 432-3 Hum. Role in Env. Change
NRSM 424-3 Community For. & Con.
NRSM 455-3 Riparian Ecology & Man.
FOR 481-3 Forest Planning
NRSM 485-3 Watershed Management
Policy Group
ENST 502-3 Env. Law for Non-Lawyers
ENST 560-3 Env. Impact Analysis
NRSM 422-3 Nat. Res. Policy & Admin

For Seniors with Qualifying GPA
GPHY 560-3 Sem. in Planning
GPHY 564-3 Planning Design
GPHY 580-3 Sem. in GIS & Cart.
GPHY 587-3 Dig. Imag. Anal. & Model.
GPHY 588-3 Vector GIS
COMX 514-3 Sem. Comm. Conflict
COMX 515-3 Adv. Dispute Resolution.
ENSC 540-3 Watershed Conservation

Minor in GEOGRAPHY
(minimum 19 credits)
A Minor in Geography is available. For a minor, a student must complete a minimum of 19-20 credits including: GPHY 1215 and 111N; GPHY 4145 or other regional course; GPHY 112N GPHY 385 or GPHY 284 (GPHY 381 & 382); two upper-division systematic courses from the fields of geography and society, physical geography, and human-environment interaction (see list under requirements for the Major).

B.S. in GEOGRAPHY
Physical Geography Option
(prior to Fall 2015 catalog: min 46/max 60 credits)
(begining Fall 2015 Catalog: min 47/max 60 credits)
Mathematical & Science Requirements
Symbolic Systems Requirement (Prior to Fall 2015 Catalog)
This MUST be fulfilled with M 162, 171, M 172, STAT 451, or above.
Additional Mathematics Course (Prior to Fall 2015 Catalog)
An additional M or STAT course must be taken. For instance, if M 171 has been taken, then M 172 is suggested as well.
Degree Mathematical Req’s (Beginning Fall 2015 Catalog)
___ In ADDITION to BS Math Requirement, students MUST complete one of M 162, M 171, M 172, STAT 451, or STAT 152
Additional Science Coursework (All Catalogs)
The Science requirement (6-10 credits) for the B.S. MUST be meet with ONE of the following sequences:
___ CHMY 123-4 Org. & Biol. Chem.
(for those interested in biological cycling)
___ CHMY 141-5 College Chem. I
___ CHMY 143-5 College Chem. II
(no organic; suitable for hard-rock process interests)
___ BIO 105-3 Intro. Botany & __ BIOE 172N-3 Intro. Ecology
(for those interested in ecological interactions)

Required Courses***:
ERTH 303N-3 Weather & Climate
GPHY 317-3 Geomorphology
___ GPHY 311N-3 Biogeography

****Substitution of suitable courses from Geography and/or other allied fields (e.g., Biology, Chemistry, Forestry, Geosciences, Physics, or Wildlife Biology) may be made with approval of your advisor; they must broaden the curriculum of study to include a range of sciences. Also, an additional science seq. (above) may replace one of the 3 physical core courses.