

9-2014

# GPHY 468.01: Community and Regional Analysis

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## Recommended Citation

von Reichert, Christiane, "GPHY 468.01: Community and Regional Analysis" (2014). *Syllabi*. 1628.  
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## **GPHY 468 Community and Regional Analysis, 3 cr**

**TuTh 8.10-9.30, Stone Hall 217**

**with co-requisite GPHY 469 Planning and Analysis Lab, 1 cr**

**W 8.10-10 a.m., Stone Hall 218**

### **Instructor and Teaching Assistant Information:**

Instructor: Christiane von Reichert

Office & Phone: Stone Hall 210, 406-243-4784

Office Hours: Tu 9.40-11 am, We 10-noon, Th 9.40-11 am and by appointment

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Teaching Assistant: Sophia Albov

Office: Stone Hall 304B

Office Hours: Tu and Th 1-2 pm

e-mail: [sophia.albov@umconnect.umt.edu](mailto:sophia.albov@umconnect.umt.edu)

### **Learning Outcomes:**

This UG course, designed for upper-division and graduate students, prepares students to conduct socio-demographic analysis.

Students will

1. use current data for U.S. communities and regions and describe and evaluate population and employment structure of communities or counties,
2. compare different communities or counties in systematic ways,
3. become familiar and learn to access a variety of public socio-demographic and economic data sources (including AFF and ftp ACS summary data)
4. learn to work with public micro (=survey) data (tentative)
5. develop database management skills (EXCEL, SPSS),
6. use basic statistical procedures (SPSS)
7. visualize summary data (EXCEL, SPSS)
8. identify spatial patterns by producing simple maps (TransCad)
9. gain experience in presenting their work to an audience (prepare a brochure, a poster, and give presentations; InDesign)

### **Course Pre-requisite:**

A quantitative methods course (i.e. Math 117/M115 or higher) or consent of instructor. This is to assure that participants have an adequate mathematical background (mostly linear algebra and some descriptive and inferential statistics) or are inclined to acquire it.

I am adding some mapping components to the course. For that, GPHY 284 or GEOG 381 is helpful, but not required. I am asking students with a solid quantitative and cartography/GIS backgrounds to cooperate with others to promote success for all in this course.

## Required Text:

There is no text for purchase.

Readings in pdf will be on Moodle. Additionally, URL links to sources will be provided.

## Course Guidelines and Policies:

### Student Conduct Code

All students at the University of Montana must practice academic honesty at all times. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the [Student Conduct Code](#). The Code is available for review online at [http://www.umt.edu/vpsa/policies/student\\_conduct.php](http://www.umt.edu/vpsa/policies/student_conduct.php)

### Course Withdrawal

Sept 15, 5pm, the 15<sup>th</sup> Day of Classes. Last Day To: Register for classes, add classes with override slip/electronic override, change credits in variable credit courses or drop classes with a refund on CyberBear or with an override slip/electronic override.

For additional relevant dates, please see [Important Dates and Deadlines](#) <http://www.umt.edu/registrar/PDF/ImportantDatesFall2014.pdf>

### Disability Modifications

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and [Disability Services for Students](#) <https://www.umt.edu/dss/default.php>. If you think you may have a disability adversely affecting your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommasson Center 154 or call 406.243.2243. I will work with you and Disability Services to provide an appropriate modification.

### Attendance

Regular attendance and participation in class and lab are expected. Attendance and participation account for 15% of the grade.

### Grading Policy

Your work will be graded on a traditional grading system using +- breaks as follows:

| A        | A-      | B+      | B         | B-      | C+      | C         | C-      | D+      | D         | D-      | F   |
|----------|---------|---------|-----------|---------|---------|-----------|---------|---------|-----------|---------|-----|
| 93.3-100 | 90-93.3 | 86.7-90 | 83.3-86.7 | 80-83.3 | 76.7-80 | 73.3-76.7 | 70-73.3 | 66.7-70 | 63.3-67.7 | 60-63.3 | <60 |

### Progress and Grading

Progress in the course is achieved by

- completing a series of lab assignments (approx. 25%). These lab assignments are the building blocks of a poster (early in the semester) and a brochure (final course project).
- producing a poster and giving a poster presentation (approx. 15%)
- producing a final project consisting of a brochure to be presented during the final exam period (25%)
- outlines of poster and brochure (please see schedule; approx. 5%)
- attending and participating in class and lab (15%).
- To support the service learning experience, students will communicate with stakeholders in selected communities, discuss socio-demographic services that can be provided, learn of additional analysis needs, take the community needs into account when producing poster and brochure (10%)

- Students will reflect on the service experience by writing a report (5%)
- Please see bonus point/s for volunteering for the bike-ped count.

For the increment for graduate students, please see below.

I will distribute lab assignments through Moodle and/or the server. These assignments will provide you with instructions and point you toward data sources, but they are not entirely ‘self-contained’. I will also use demonstrations in-class and lab. Quite likely, you will have questions in the lab as you proceed with the assignments. Be prepared to spend time beyond lab periods to complete labs, especially at the stage of producing the poster or brochure. Also set some time aside to communicate with community stakeholders. This is an essential element of service learning.

Feel free to work in a team of two undergraduate or two graduate students.

Lab assignments are due via Moodle on Tuesday 8pm following the Wednesday lab (or as spelled out in assignments). Given the complexity of assignments and the grading scheme, we cannot accept late lab assignment. However, you can miss one assignment without a negative effect on your grade.

Other items due (reports, outline drafts) are due as specified. Late items will be discounted.

### Graduate Increment

Graduate students will write a review and present on a thesis, book or several research articles related to their own research as well as the content of the class (5-8 pages, 1.5 line spacing). In-class presentations about this will be just before Thanksgiving. Graduate students will also write an abstract (target: 250 words, please submit no later than 12/2) that could be submitted to a professional meeting (in late 2014 or 2015; Tip: keep an eye on the AAG call for papers and abstract deadline [www.aag.org](http://www.aag.org), in 2015 in Chicago, April 21-25). In several instances, assignments for graduate students will have additional, more challenging components. Overall, the work of graduate students will be judged against higher standards than the work of undergraduate students.

### Additional Information

#### Writing Assistance

For assistance with writing, please consult the on-line resources of the UM Writing Center, <http://www.umt.edu/writingcenter> or visit the Writing Center in the Liberal Arts Building 144, 243-2266.

#### Career Services

The Office of Career Services assists students in achieving career objectives. Please see the Catalog and the Career Services website for the range of services [www.umt.edu/career](http://www.umt.edu/career). Note, for instance, career and recruiting fairs <http://www.umt.edu/career/CareerFairs/SJF/default.php>, such as the Student Employment Fair, Thursday, August 28, 2014, UC Ballroom, 9am - 3pm

#### Internships

A professional internship can be a useful addition to your formal education. Internship experience also adds to your resume. Furthermore, an internship can allow you to connect with a potential long-term employer. For the UM’s **Internship Services**, please consult the website <http://www.umt.edu/internships> or <http://www.umt.edu/internships/student/FindanInternship.php>. Internship opportunities, brought to the attention of current or ex-students or our faculty members, are also publicized via

the Geography listserv. Previously, students also had good luck in locating and even opening up internship opportunities by directly contacting agencies and employers they would like to work for. Professional conduct is critical in assuring success with arranging for and successfully completing internships.

### Geography Listserv

The **Geography listserv** allows you to gain and share information about up-coming departmental events (from group advising to parties); internship, preceptorship, and job opportunities; and other relevant information (graduation deadlines, course announcements, meeting announcements, etc.) The instructions below are from our website

[http://www.cas.umt.edu/geography/facilities\\_resources/list\\_serv.cfm](http://www.cas.umt.edu/geography/facilities_resources/list_serv.cfm). To join:

- 1) Send an e-mail to: GEOGRAPHY-subscribe-request@LISTS.UMT.EDU  
This must be sent from the e-mail account that you wish to be on the Listserv
- 2) Leave the subject line blank
- 3) In the body of the e-mail type this:  
subscribe your name Geography

You will receive an e-mail message confirming your subscription.

If you have any questions, please contact Dr. Diep Dao (e-mail [diep.dao@mso.umt.edu](mailto:diep.dao@mso.umt.edu)).

Please use the listserv judiciously. Keep in mind that the REPLY key will go to ALL listserv members, not only the person who sent a previous message.

### Curry Health Center

The **Curry Health Center** on Eddy Street (406-243-2122), provides medical services for students, including counseling <http://life.umt.edu/curry/>.

### Public Transportation

**Mountain Line and ASUM Transport:** Did you know that Missoula's bus service, the Mountain Line, is free for UM students and employees with GrizCard? <http://www.mountainline.com/>. ASUM buses are also free, including the U-DASH evening bus to downtown [http://life.umt.edu/asum/asum\\_agencies/Transportation/getting-around/bus/](http://life.umt.edu/asum/asum_agencies/Transportation/getting-around/bus/)

### Get Involved

- Consider serving on the ASUM Transportation Board and other student and civic organizations
- Become active in the Geography Club. Become a member of the GTU (Geographical Honors Society)
- Volunteer in the community
- Bonus points for bike/ped count volunteering: Tu 9/9, 4-6 pm and Sa 9/13, 12-2 pm, Training on 9/8 and 9/12 from 12-2. You will receive 1 bonus points for volunteering for one bike-ped count period, 2 points for volunteering for two periods. The online sign-up form is located at: <http://www.ci.missoula.mt.us/FormCenter/Development-Services-15/Bicycle-Pedestrian-Count-Program-Volunte-167>. Additional questions? Please contact: David Gray, Missoula Transport Planner [DGray@ci.missoula.mt.us](mailto:DGray@ci.missoula.mt.us).

## TOPICS

### I. INTRODUCTION TO COMMUNITY AND REGIONAL ANALYSIS

- Socio-demographic analysis and planning/GIS
- Socio-demographic analysis and service learning
- Understanding the structure and dynamics of communities through data analysis
- Basic EXCEL (YOUTUBE TUTORIALS)
- How to reference sources

### II. POPULATION AND POPULATION STRUCTURE (*software: EXCEL, TransCad*)

- Census Basics: data, hierarchies, Census summary versus ACS summary versus ACS micro data
- Who lives there (descriptive measures, demographic profile using Census 2010 STF1 and ACS survey data)
- Basic mapping (Caliper Corp. TransCad Tutorial)
- Where are certain population groups, including disabled persons, concentrated (Location Quotient)

### III. SOCIO-DEMOGRAPHIC ANALYSIS; FOCUS ON DISABILITY

- Socio-demographic analysis as a service to communities (RTC?)
- Disability data sources
- A tool for producing posters and brochures: InDesign Tutorials

### IV. ECONOMIC STRUCTURE (*EXCEL*)

- How do people make a living (SIC, NAICS)
- Why do job data differ (CBP, REIS, ES202)
- Dominant versus over-represented sectors (~ economic base approach)
- How has employment changed (economic restructuring, shift share technique)
- Tentative: Employment versus income measures

### V. POPULATION DYNAMICS: TRENDS AND COMPONENTS (*EXCEL, SPSS*)

- What are the trends in population growth (linear trends)
- What drives population growth (components of change: births, death, migration)

### VI. POPULATION DYNAMICS: COHORT-COMPONENT BASICS (*EXCEL*)

- There is more to population change than trends and components (the need for including cohorts/age)
- Importance of cohorts in population analysis: the case of rural population decline
- Cohort-specific net migration data (University of Wisconsin)

### VII. Tentative: SUMMARY VERSUS MICRO DATA

- U.S. Bureau of the Census: Census and ACS PUMS; What PUMS Users Need to Know
- The case of disabilities: how summary and micro data differ
- SPSS Basics

**VIII. Tentative: SERVICE PARTNER FEEDBACK; REFLECTING: SOCIO-DEMOGRAPHIC ANALYSIS AND SERVICE LEARNING**

**IX. SHARING THE FINDINGS VIA BROCHURE**

**TIME LINE**

| Gphy 468 Community and Regional Analysis (with co-requisite lab GPHY 469) |     |          |   |  | Fall 2014 |     |   |
|---|-----|----------|---|--|-----------|-----|---|
| #/ec  | day | date     | Topic   |  | class     | lab | due                                       |
| 1   | Tu  | 26-Aug   | Introduction to the course; sociodemographic analysis, planning, and GIS  |  | 1         |     |   |
|   | We  | 27-Aug   | Lab Orientation, EXCEL Basics (tutorial)  |  |           | 1   |   |
|   | Th  | 28-Aug   | (Tentative: Service learning) Using public data for understanding the structure and dynamics of communities;        |  | 2         |     |   |
| 2   | Tu  | 2-Sep    | Census data, census hierarchies; ACS summary and micro data; how to reference sources                               |  | 3         |     | lab 1                                     |
|   | We  | 3-Sep    | Census versus ACS summary data; Mapping population data(TransCad)   |  |           | 2   |   |
|   | Th  | 4-Sep    | ACS Tutorial; Census versus ACS data; Location quotient   |  | 4         |     |   |
| 3   | Tu  | 9-Sep    | Location Quotients-- disability data  |  | 5         |     | lab 2                                     |
|   | We  | 10-Sep   | Census/ACS data: LQ, maps and charts  |  |           | 3   |   |
|   | Th  | 11-Sep   | Tentative: Socio-demographic analysis and service to communities(Tom Seeking)                                       |  | 6         |     |   |
| 4   | Tu  | 16-Sep   | Early report on communities due (generic information); contact community stake holders                              |  | 7         |     | lab 3                                     |
|   | We  | 17-Sep   | InDesign tutorial   |  |           | 4   |   |
|   | Th  | 18-Sep   | How do people make a living(economic structure, dominant versus over-represented sectors)                           |  | 8         |     |   |
| 5   | Tu  | 23-Sep   | How have employment and incomes changed(shift share)  |  | 9         |     | report?<br>lab 4                          |
|   | We  | 24-Sep   | Working with employment and/or income data(economic structure, dominant versus over-represented, structural change) |  |           | 5   |   |
|   | Th  | 25-Sep   | Discussion/experience: contacting community stake holders   |  | 10        |     |   |
| 6   | Tu  | 30-Sep   | Starting on poster: population basics, employment basics  |  | 11        |     | Lab 5                                     |
|   | We  | 1-Oct    | Working on poster: population basics, employment basics; poster outline due (end of lab)                            |  |           | 6   | poster<br>outline                         |
|   | Th  | 2-Oct    | Poster presentations due  |  | 12        |     | Poster;<br>serv. part.<br>feedback        |
| 7   | Tu  | 7-Oct    | Population dynamics: trends and estimates   |  | 13        |     |   |
|   | We  | 8-Oct    | Getting estimates, components of change   |  |           | 7   |   |
|   | Th  | 9-Oct    | Cohort components, the basics; Age  |  | 14        |     |   |
| 8   | Tu  | 14-Oct   | Cohort components, continued or TBD   |  | 15        |     | Lab 7                                     |
|   | We  | 15-Oct   | Population Dynamics: trends & components or TBD   |  |           | 8   |   |
|   | Th  | 16-Oct   | Cohort netmigration data, time series   |  | 16        |     |   |
| 9   | Tu  | 21-Oct   | Age data  |  | 17        |     | Lab 8?                                    |
|   | We  | 22-Oct   | Age data, cohort netmigration   |  |           | 9   |   |
|   | Th  | 23-Oct   | Q&A   |  | 18        |     |   |
| 10  | Tu  | 28-Oct   | Macro versus micro data   |  | 19        |     | Lab 9                                     |
|   | We  | 29-Oct   | SPSS basics   |  |           | 10  |   |
|   | Th  | 30-Oct   | Working with micro/survey data; trading off geographic detail versus subject detail(PUMAs, MIGPUMAs)                |  | 20        |     |   |
| 11  | Tu  | 4-Nov    | election day, no class  |  |           |     | Lab 10                                    |
|   | We  | 5-Nov    | working with micro data   |  |           | 11  |   |
|   | Th  | 6-Nov    | Q&A   |  | 21        |     |   |
| 12  | Tu  | 11-Nov   | Veteran's day, no class   |  |           |     | Lab 11                                    |
|   | We  | 12-Nov   | more on micro data by PUMA/MigPUMA  |  |           | 12  |   |
|   | Th  | 13-Nov   | uni- and bivariate analysis   |  | 22        |     |   |
| 13  | Tu  | 18-Nov   | relationships between variables; rural urban contrasts?   |  | 23        |     | Lab 12                                    |
|   | We  | 19-Nov   | start on/outline brochure   |  |           | 13  |   |
|   | Th  | 20-Nov   | Discussion; reflect on service learning   |  | 24        |     |   |
| 14  | Tu  | 25-Nov   | Gradute increment presentation and paper; rough brochure outline due  |  | 25        |     | broch.<br>outline                         |
|   | We  | 26-Nov   | travel day, no class  |  |           |     |   |
|   | Th  | 27-Nov   | Thanksgiving holiday, no class  |  |           |     |   |
| 15  |     | 2-Dec    | Reflect on service learning(report due)   |  | 26        |     | abstract<br>due;<br>reflection<br>report? |
|   | Tu  |          |   |  |           |     |   |
|   | We  | 3-Dec    | work on brochure; revised brochure outline due (end of lab)   |  |           | 14  | broch.<br>outline                         |
|   | Th  | 4-Dec    | continue on brochure  |  | 27        |     |   |
|   |     | Tu, 12-3 | 8-10 and 10.10-12.10 final exam periods: brochure presentations   |  | 28.5      | 15  | brochure<br>& present.                    |