**GGS 304 Population Geography**

*Spring 2020, MW 10:30 – 11:45 am, 2312 Exploratory Hall*

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**Office Hours**: Tuesday 3-4pm, Wednesday 12:30 -1:30pm, or by appointment

All issues and problems on the Earth, environmental and societal, are directly or indirectly related to human population. In fact, changes in population and human behavior are major drivers of physical, environment and societal changes. In reverse, environmental and societal conditions affect population dynamics – aspatial and spatial. A comprehensive understanding of the society problems and global change requires a thorough understanding of population characteristics and dynamics.

This course, meeting the core's synthesis requirements, draws on knowledge from several core areas: **social science** (involving economics, geography, and demography); **natural science** (relations to the natural environment); **global understanding** (providing a background of the world's condition). The course also involves **quantitative reasoning**, and the use of Geographic Information System (GIS), an **Information Technology** tool.

**What to Expect? (Learning objectives)** The course will review basic demographic concepts. A major purpose of this course is to provide students an understanding of the spatial dimension of population and its relationships to natural resources, environment and various aspects of the society. This understanding can serve as the foundation of analyzing not only population issues, but almost all societal problems. The course will discuss both concepts (analytic) and facts (descriptive). Students are expected to learn concepts and models related to population growth, dynamics and distribution, and acquire tools/methods to analyze population issues. These tools and methods include measurements, statistics, models, theories, and maps. Some of these tools and methods will be implemented in software programs, including spreadsheets and GIS/mapping packages. Students will acquire skills to use relevant tools to analyze population and societal issues with appropriate data.

**Technology Expectations:**

You are expected to know basic spreadsheet commands (MS Excel, Google Sheets, or any compatible spreadsheet program). *Students with no prior experience in MS Excel are expected to gain basic understanding from watching training video(s) in gmu.lynda.com (LinkedIn Learning). One possible "course" is "Learning Excel 2016" by David Rivers. Additional resources are provided below.*

Those with no prior experience in GIS should also watch training videos or go through an online tutorial. *There is no perfect one for this class, but a possible one is "Learning ArcGIS" by Adam Wilbert in LinkedIn Learning.* The course will be using *ArcGIS Online*. Instruction to access *ArcGIS Online* can be found in Blackboard. If you have very little experience with Excel or GIS, you are expected to complete these videos/trainings by **February 10**.

**Outcome**: After finishing this course, students are expected to have a better appreciation of global and local population issues. The students are also expected to develop a basic understanding of fundamental population-demographic concepts, theories, models, methods and techniques, both spatial and aspatial, in analyzing population. Therefore, students will be

evaluated by how much they comprehend these bodies of knowledge in terms of their ***definitions***, how they can be ***applied*** and data and results of analysis can be ***interpreted***.

**Prerequisites**: 30 hours, completion of, or concurrent enrollment in, all university general education courses, or permission of instructor. ***This course satisfies the synthesis requirement of the Mason Core.***

**Text:** Thomas, R. K. (2018) *Concepts, Methods and Practical Applications in Applied Demography*. Springer.

**Supplemental Text**: Newbold, B. (2017) *Population Geography: Tools and Issues*. Rowman & Littlefield Publishers;

**Assessment methods: (details below)**

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| 6 exercises | 100 (not equally weighted) |
| Exams | |
| Mid-term | 15 |
| Final | 25 |
| Report & Presentation | 30 in total (due on December 5) |
| Report (20); Presentation (10) | |
| Attendance/Participation | 10/20 |
| Total: | 200 points |

The grades are "curved". The "average grade" will be a C+ or B-. The best students will receive an A, regardless of how high or low his/her total scores may be. Students may fail if their total scores are "significantly" lower than the rest of the class.
* 10% of the score for each day will be deducted if an assignment is late.
* All materials submitted to meet the evaluation criteria should be completed in accordance with the student Honor Code (University Catalog). Also, no "double dipping" of term paper/report is allowed unless permissions are given by involved instructors.

**Incomplete** will be handled strictly according to the University policy. Make-up tests are not given unless under unusual circumstances such as serious illness. Proof (documentation) is necessary to be eligible for make-up tests.

**GGS Computer Lab Access:** All GGS students should receive "swipe" access (using your Student ID) to the GGS Student Computer Lab (Room 2102, Exploratory Hall) upon registering for the course. If you experience problems accessing the lab, please see Samantha Cooke in the Main GGS Office (2400, Exploratory Hall).

**GGS Computer Lab Assistance:** If you experience problems with the computers (e.g., software or hardware issues) in the GGS Student Computer Lab (Room 2102, Exploratory Hall), please email GGS IT assistants at *ggsit@gmu.edu*.

**GMU Email Accounts:** Students must use their GMU email account to receive important University information, including messages related to this class. See http://masonlive.gmu.edu for more information.

**Office of Disability Services:** If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Services (ODS) at 993-2474, http://ods.gmu.edu. All academic accommodations must be arranged through the ODS.

**GMU Resources:**
The Writing Center: http://writingcenter.gmu.edu
University Libraries, Ask a Librarian: http://library.gmu.edu/ask
Counseling and Psychological Services: http://caps.gmu.edu
University Catalog: http://catalog.gmu.edu
University Policies: http://universitypolicy.gmu.edu

**Major Topics**:

***Fundamental Concepts***

1. Introduction (Ch. 1)
   Population Geography/Spatial Demography: What & Why?
2. Perspectives and Methods (Ch. 2)
3. Data and Tools (Ch. 3)
4. Population Size, Distribution and Concentration (Ch. 4)
5. Population Composition and Characteristics (Ch. 5)
   Compositions
   Analysis

***Demographic Processes***

6. Demographic Processes: Fertility (Ch. 6)
7. Demographic Processes: Mortality (Ch. 7)
8. Population Spatial Dynamics: Migration (Ch. 8)
9. Population Temporal Dynamics: history, change, and measurement (Ch. 9)

***Selected Applications of Demographic Analysis***

10. Business Demographics (Ch. 10)
11. Health Demographics (Ch. 11)
12. Political Demographics and others. (Ch. 12 & 13)

**Exercises:**
Six exercises will be given out after relevant materials are covered in class throughout the semester. Specific instructions will be provided. All exercises should be submitted through Blackboard, and typed with 1-inch margin in all sides, 12-point font in Times New Roman, with page numbers, single-sided and double-spaced.

**Attendance/Participation:**
Attendance will be taken occasionally. Each student has two "free excuses" (you do not need to take them). Students will be asked to read sections of the text prior to classes, post questions online, and are expected to participate in class discussion in a meaningful and constructive manner.

**Report**:
To partially meet the synthesis requirements, students are required to submit a report/paper. Students have two options for this report:

1) **Describe and explain the population characteristics of a chosen country – this is the focus of the report**. Each student should use the Wikis tool in the course website to announce to the class the country you have chosen to research and write about. Countries taken cannot be used by another student ("first-come, first- serve"). However, prior to the sign up, students should conduct preliminary research, exploring if sufficient data and information for the particular country is available. The report should include the minimum the following sections:

- Geographical and political settings of the chosen country (**how do they affect population distribution and characteristics?**)
- Who are the people? Demographic characteristics
- Where are the people? Their spatial distributions
- Relevant and significant historical development related to the population
- Major population issues in the country (all issues are related to population, but some are more population-oriented and more important than others)

2) **A summary-review and critique** of two studies published in peer-reviewed papers, demonstrating how demographic/population data can be used in some of the following areas ***spatially/geographically***:
a. Business planning, b. Health service, c. Epidemiological analysis, d. Crime and public safety planning, e. Education, f. Urban &/or community/economic planning, g. Transportation.
For each paper, the following sections, at the minimum, should be included:

- What is/are the objective(s) of the study? (Research questions, hypotheses)
- Data used and methodology of the study
- Result and conclusion
- Critique:
    - Is/are the research question(s) important or meaningful? Why?
    - Are the data and analysis appropriate?
    - Are the results and conclusion supported by the analysis?
    - How may the study be improved?

A list of potential journals will be provided on Blackboard.

**For both types of report:**

- References: use a format adopted by a major academic journal (*Annals of the AAG; The Professional Geographer*, etc.) consistently throughout the report/paper
- Sources of information, including statistics, should be provided (as citations, references or footnotes). Beware of the definition of ***plagiarism*** and not to claim the credits that you do not deserve.
- The length of the report/paper should be 2800 to 3000 words (please provide a word count, approximately 10 to 13 pages), plus references, tables and figures/maps. It should be in double-spaced, single-sized, 12 point in Times New Roman or a similar font. Detail of the submission process will be provided later. The paper is due on May 4/5. Earlier submissions will be appreciated.

**Presentation:**
At the end of the semester (may start on April 27), each student would give a concise 8 minutes or less presentation of the report to meet the verbal communication requirement of a synthesis course. The presentation should be well structured and organized, highlighting major findings of your research. For those country reports, unique population characteristics or issues of the chosen country may be highlighted. For those literature reviews, highlight the importance and utilities of demographic data analysis in both spatial and aspatial contexts.

**Addition resources on Excel & GIS**

- https://infoguides.gmu.edu/c.php?g=564384&p=6105534
- https://infoguides.gmu.edu/geospatial/learn

*The instructor reserves the right to modify this syllabus, but will notify students about the change.