**Physical Geography**

**Geography 273, Section 03**

**3 credits**

Physical geography is both a subfield of geography and an earth science. It is the study of how and why earth surface features happen and/or have formed where they have. This course covers basic physical geography concepts, methods, and theories. Please note that this is a natural science course, which means also being evaluated on how well you demonstrate critical thinking by applying logic and maths. This aspect will be assessed through problem-solving exercises in which you have to figure out how to arrive at an answer on your own, on the basis of given information and through the application of learned concepts and maths. You will therefore be exposed to what scientists often have to face in making sense of what and how things relate or not to each other and on that basis figuring out solutions.

**Contact information**

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**Course objectives**

By the end of the semester, you are expected to:

1. demonstrate understanding of methods scientists use to explore natural phenomena, including observation, hypothesis development, measurement and data collection, experimentation, evaluation of evidence, and employment of mathematical analysis
2. demonstrate application of scientific data, concepts, and models in a natural science
3. identify, analyse, and evaluate arguments as they occur in your own and others’ work
4. develop well- reasoned arguments
5. identify, distinguish, and evaluate the accuracy of explanations of physical geographic processes, relating to different geospheres
6. accurately interpret graphs and maps showing the locations of and relationships among physical geographical phenomena
7. develop and test hypotheses explaining actual and hypothetical geographical distributions of physical environmental phenomena
8. connect physical and social processes, both with respect to human impacts on physical environments and physical environment’s effects on humans
9. identify the location of major geographical features

**Policies**

* **ADA policy**: If you need classroom or testing accommodation, please contact the Disability Resource Center (Student Union Building, Room 210, tel: 257-3020, http://www.newpaltz.edu/drc/) to obtain and complete required forms. As soon as I receive verification from the Center, I will provide appropriate accommodations. Please request such accommodations as close to the beginning of the semester as possible.
* **Attendance**: You should attend lectures regularly because missing class undermines your ability to grasp the course material. In case of absence, it is your responsibility to obtain notes from other students, *not* the instructor.
* **Class cancellation**: In case of extreme events, call 257-4636 and check the university home page to find out if classes will be held. Refrain from driving to campus if road conditions are hazardous. Please also check your email before coming to class, in case I cannot attend due to sudden illness or emergency. For official cancellation policies, see http://www.newpaltz.edu/emergency/policy.php
* **Credit hours**: Credit hours assigned reflect time for classroom instruction and expected outside preparation/study and must comply with SUNY’s credit hour policy (http://www.suny.edu/sunypp/documents.cfm?doc\_id=168). Verification of compliance is a component of Middle States’ reaccreditation review.
* **E-mail or telephone correspondence**: I will respond to telephone or e-mail messages when I can during daytime hours. For urgent matters, the most effective way of reaching me is during office hours or class time (if appropriate).
* **Extra-credit**: No extra-credit is given under any circumstance. This is because (1) it inflates final marks without necessarily reflecting the achievement of greater competence and (2) you have ample time during the term to seek my assistance before coursework is due. Extra-credit on an individual basis is even less acceptable, since it is unfair to students that do not ask for such and/or who do well in the course.
* **General academic policies and procedures**: For policies on course withdrawal, GPA, and related issues, see http://www.newpaltz.edu/advising/policies.html.
* **Marking/Grades**: There is no “curving” in this course because (1) it means giving credit for *not* knowing something, (2), marking should reflect actual knowledge, (3) if all students do well, those with the lowest scores should receive a failing mark, and (4) those demonstrating a full grasp of the subject could get the same mark as those that do not.
* **Plagiarism**: Submitting material that is not your own work, including downloads from the Internet, is considered plagiarism. It will result in an F and a report to the Department Chair and Letters & Science Dean. Quoted material must be correctly cited. Refer to the Student Handbook section on Academic Integrity for a full discussion of policies on plagiarism, cheating, and forgery, or consult the following site: http://www.newpaltz.edu/advising/policies\_integrity.html.
* **Rescheduling**: Late or missed work is not accepted and is marked with a zero. Rescheduling is granted only for medical or family emergencies, but is contingent on the student presenting both documentation describing the reason(s) for the absence and contact information for the person providing the document(s).

**Coursework expectations and suggestions**

A course compressed into a couple of months can easily get very intense. It requires constant engagement on your part and mine. In any case, a 15-credit course load is considered to be a full-time load in colleges. It means 40-60 hours of work per week, in and out of class. For this course, this means at least 10 hours a week, including 2.5 hours in class. Do not expect to do well if you study for many hours only a day or two before an exam or an assignment is due. Studying at least an hour every day will be a more successful strategy. To help you excel in this course, I have included a guide on the Blackboard site on effective ways of taking notes and studying. Here is the minimum you must do to have the possibility of getting a high final mark.

***Check for deadlines***: Read the programme below carefully and often for exercise deadlines and exams so as to plan effectively and avoid lateness. Check for announcements on Blackboard every day; I will post programme modifications in the Blackboard Announcements section as the need arises.

***Keep up with coursework***: To avoid getting overwhelmed, keep up with all assigned readings. The texts will be challenging, so do not cram readings the night before class. Prior to doing the readings, however, make sure to check the syllabus for what I expect you to read. When reading the texts, look for information that helps you answer study questions. Instead of copying the information directly from the sources, come up with answers in your own words. Take and subsequently organise notes on class lectures.

***Answer all the study questions as they are covered***: On Blackboard, I include a list of exam questions, organised by module. Exams are comprised of a selection from those questions, so if you know the correct answers, you are ready for the exams. Write your answers after you have completed the assigned readings, as part of regular studying. If you are unsure whether your answers are correct, re-read the material and try answering the questions again. If you still have trouble, tell me in class the answers you have formulated and explain what you are not sure about or email me your written answer(s), specifying what you find unclear or troublesome.

***Become familiar with geography terms***: I will expect the terminology from the readings to begin appearing in your responses and in your communications with me and others in the course. But for you to become familiar with such new terms, you must make sure to understand them. So, look up terms, notice how the terms are used and in what context, ask me to clarify terms you have trouble comprehending. I also expect you to use appropriate terms and understand them thoroughly in answers to coursework questions.

***Practice problem-based calculations***: There are questions on exercises and exams that require you to figure out how to set up solutions and calculations on your own. If you have trouble with problem-solving or applied maths, I have provided guides on Blackboard demonstrating how to solve such problems. What you should do is use different numbers for the given examples in the guides and the practice exercises, first figuring out the answer on your own and then seeking my comments. Do this often and throughout the term. These problems are based on applying maths and logic; they cannot be solved by memorising recipes or formulae. Remember that you are getting credit for natural science, which means knowing maths and how to apply it. I can show you how one can answer a certain question or solve some puzzle that I will be giving you to do, but you will succeed in finding solutions to problems only through practice and by thinking of analogies to what you already know how to do.

***Study and prepare for classes and coursework***: Before reading the assigned pages, read the related exam questions. Answer all the questions in the study guide as you read the assigned textbook pages. Read actively by taking and organising notes (e.g., making outlines). Review your notes regularly and modify them as necessary, correcting for errors, adding pertinent information from subsequent lectures and readings, etc. Re-read all assigned materials at least once. Integrate your notes on the assigned readings with any supplemental course materials. Begin memorising map locations two weeks prior to a map exam. You can test yourself by using blank maps until you can identify all locations. Do this gradually, focusing on one area or set of countries at a time. Once you have covered all the locations, begin again, but starting with a different area or set of countries. Repeat the process until you can identify all locations.

***Be an active learner***: Ask questions about material you find difficult, but always formulate your own answers first. This will help me gauge what you know and give you more effective feedback. Focus both on how one arrives at the answer as well as what it is. Ensure your study question answers are correct by referring to assigned materials and class notes and sending me your answers to get my comments; do this regularly instead of sending long lists of answers that I will not be able to comment promptly.

***Regularly use office hours or other ways of contacting me***: It is impossible to deal with problems effectively once they pile up. Visit me during office hours to resolve any problems you might have with the course or send me e-mail to do the same, if you cannot make it to office hours. Do not wait until a week before a deadline or towards semester’s end to do the above tasks or to seek my help; by then, it will be too late for me to be able to help you.

**Materials and supplies**

Sometimes during class we will put into practice some concepts by means of classroom assignments. For this reason, please have the following items available: calculator, graph paper (at least five sheets), tracing paper (at least five sheets), metric ruler (at least 15 cm in length), masking tape (to hold tracing paper in place over a map), N° 2 pencils, pencil sharpener, artist or gum rubber/eraser or soft vinyl rubber/eraser; (optional) protractor, compass, and small, light brush (to brush away residues).

**Reading sources**

***Textbook***:The textbook for this course is free and accessible via the Blackboard course website: Michael Pidwirny. 1999-2010. *Fundamentals of Physical Geography*. http://www.physicalgeography.net.

***Additional sources***: Further reading is assigned as background information to exercises and/or class activities. Such sources are made available through Blackboard.

**Evaluation**

**Exams (70 points)**: The first three exams are each worth 15 points and the final exam is worth 25 points. Questions are drawn directly or in modified form from the exam questions list posted on Blackboard. The final exam is comprehensive, but I will email you the study questions covered in the exam two to three days in advance of the exam date. Each exam is composed of three parts: (1) multiple-choice and/or matching questions; (2) short-answer questions; and (2) five to ten locations to identify on a map. Some maps are included on Blackboard under “Exam Questions and Selected Maps”. Otherwise, consult an atlas to look up the rest of the locations. The content of the map portions of the exams will appear in the following order:

Exam 1: *Continents*: Africa, Antarctica, Asia, Europe, Oceania/Australia, North and South America; *Oceans*: Antarctic, Arctic, Atlantic, Pacific; *Seas*: Andaman, Arabian, Arafura, Barents, Bering, Black, Caribbean, Celebes, Chukchi, East China, Kara, Labrador, Laptev, Mediterranean, North, Okhotsk, Red, Sargasso, South China, Tasman.

Exam 2: *Mountain ranges*: Alps, Altai, Andes, Appalachians, Atlas, Barisan, Carpathians, Caucasus, Drakensberg, Great Dividing Range, Himalayas, Hindu Kush, Karakoram, Kjølen (Scandinavian), Qin, Rockies, Ruwenzori, Transantarctic, Urals, Western Ghats.

Exam 3: *Climate regions*: A-E, H; *Air mass source regions*: cA, cAA, cT, cP, etc.

Final Exam: *Rivers*: Amazon, Amur, Chang Jiang (Yangtze), Congo, Euphrates, Huang He, Indus, Lena, Mackenzie, Madeira, Mekong, Mississippi, Murray, Niger, Nile, Ob, Paraná, Tocantins, Volga, Yenisei, Yukon; *Lakes/Inland Seas*: Aral, Athabasca, Baikal, Balkhash, Caspian, Erie, Great Bear, Great Slave, Huron, Ladoga, Malawi, Michigan, Nicaragua, Onega, Ontario, Superior, Tanganyika, Taymyr, Titicaca, Victoria, Winnipeg.

**Assignments (15 points)**: Assignments are group activities done in class, each worth five points. Class will be divided into groups of three-four people, each group member receiving the same score for the answers given. Instructions are included in assignment handouts.

**Exercises (15 points)**: Exercises are each worth five points and done online through Blackboard, where answers are mostly marked automatically. You have the chance to practice the exercises as many times as you wish before working on the final version. No marks or points are received by completing the practice exercises. When you are ready to work on the actual exercise, you can click on the link in the “Exercises” course section for that exercise any time prior to the deadline. You will have one hour to complete each exercise. ***Online exercises are available until 2359 of the due date***. Save often. Once you submit the exercise, there is no chance to correct any answers.

**Marking system**

Please note that I can only assess you on the basis of your performance, not on effort, amount of studying, reading comprehension, course attendance, etc. Final marks are determined by summing all the points received over the course of the term. To calculate your status during the term, add all the points you received, divide them by the total possible points for that given period, and multiply by 100. Corresponding letter marks are shown in the chart below.

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| --- | --- |
| **Final mark** | **Total points** |
| A | 90-100 |
| A- | 86-89 |
| B+ | 81-85 |
| B | 70-80 |
| B- | 66-69 |
| C+ | 61-65 |
| C | 50-60 |
| C- | 46-49 |
| D+ | 41-45 |
| D | 30-40 |
| D- | 26-29 |
| F | 0-25 |

**Online Student Evaluation of Instruction**

Your comments and suggestions are useful towards improving my teaching and course structure and content. Please complete the form online between 30 November and 10 December.

**Programme**

Please note that this programme may be subject to change during the course of the term. The last day for course withdrawal is 30 October. I will be away 20-25 September for an academic conference. During that time, I will be reachable via email and coursework will be due online.

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| **Date** | **Modules/Work due** | **Readings** |
| 25-28 Aug | 1. Introduction | Handout on Geography (below); Pidwirny, pp. 1-12 |
| 1-4 Sep | 2. Maps | Pidwirny, pp. 13-47 |
| *8 Sep* | *No session* |
| 11-15 Sep | 2. Maps | Pidwirny, pp. 13-47 |
| **18 Sep** | **Assignment 1 in class** |
| *22-25 Sep* | *No sessions* |
| **22 Sep** | **Exam 1 done online between 800 and 915** |
| **25 Sep** | **Exercise 1 online due at 2359** |
| 29 Sep-2 Oct | 3. Earth History and Structure | Pidwirny, pp. 110-113; 482-484; 486-490 |
| 6-9 Oct | 4. Energy and Matter | Pidwirny, pp. 114-119, 125-130, 137-151 |
| *13 Oct* | *No session* |
| 16-23 Oct | 5. The Atmosphere | Pidwirny, pp. 153-268 |
| **27 Oct** | **Exam 2** |
| 30 Oct-3 Nov | 5. The Atmosphere | Pidwirny, pp. 268-316 |
| 6-13 Nov | 6. The Hydrosphere | Pidwirny, pp. 323-362 |
| **13 Nov** | **Assignment 2 in class; Exercise 2 online due at 2359** |
| **17 Nov** | **Exam 3** |
| 20-24 Nov | 7. Soils | Lecture notes I; Pidwirny, pp. 541-549 |
| *27 Nov* | *No session* |
| 1 Dec | 7. Soils | Lecture notes II |
| **8 Dec** | **Assignment 3 in class; Exercise 3 online due at 2359** |
| **15 Dec** | **Final Exam, 800-1000** |

**Geography**

There are many definitions of geography. Most think that geography is about memorising the locations of countries, capitals, rivers, etc. or about reading maps. No doubt, these are important components of geography. It is like knowing how to read relative to studying literature or history. But just because you know how to read it does not mean that you understand novels or history. Or, put differently, memorising where things are is like asking a mathematician to memorise all the mathematical formulae in existence without understanding what they mean. You may know where things are, but not why they are there and why it matters.

Geography involves much more than knowing where things are or mapping them. Geographers try to answer three questions:

1. Where or where is it moving to?

2. Why there or why is it moving there?

3. Why does it matter?

Geographers study anything that has a significant spatial component, both in place or in the course of movement. Geographers concentrate on the “where” and by doing this they may be able to gain a better grasp of what is being studied than if the “where” were ignored. This is the “spatial perspective” that is peculiar to the study of geography. This perspective is useful in a wide variety of fields and therefore there is a wide variety of sub-disciplines in the field of geography (like political geography, cultural geography, physical geography, etc.). Geographers ask not only where things are located and why they are located or moving where they are, but also how and why places differ from one another and how and why people interact with the environment in diverse ways in different places.

What then is geography? Geography is the study of how or why phenomena are where they are or where they moving. The phenomena can be related to physical environments, people, or both. There are three main branches of geography: human and physical geography and cartography.

Human geography is concerned with the spatial aspects of human existence - how people and their activity are distributed in space, how they use and perceive space, and how they create and sustain the places that make up the earth’s surface. Physical geographers study spatial patterns of climate, land forms, vegetation, soils, and water. Geographers also study the linkages between human activity and natural systems, through either human or physical geography or both. Geographers were, in fact, among the first scientists to sound the alarm that human-induced changes to the environment were beginning to threaten the balance of life itself. Finally, geographers are involved in representing what happens where. This is known as cartography, the art/science and study of map-making.

Modified from:

http://www.harpercollege.edu/mhealy/g101ilec/intro/int/g3intrfr.htm

http://communicate.aag.org/eseries/scriptcontent/custom/giwis/cguide/explore\_whatisgeog.cfm