**Course Syllabus**

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| **CNU International Summer Session** |

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| **Course Title** | | | Environment and Human Life | | | | | | | | | | | | | | | | | | |
| **Course Type** | | | Mixture of social, physical, and engineering sciences | | | | | | | | **Credits**  **(hours)** | | | 3 (3hrs/day)  Total 45 hours | | | | | | | |
| **Department** | | | Social Sciences, Natural Sciences, Engineering, or Agriculture & Life Sciences as desired by CNU | | | | | | | | **Professor** | | | Dr. Luke Juran | | | | | | | |
| **Classification**  **(year in school)** | | | Freshman - Senior | | | | | | | | **Course Code** | | | GEOG 3104 | | | | | | | |
| **Class room** | | | TBD | | | | | | | | **E-mail** | | | ljuran@vt.edu | | | | | | | |
| **Prerequisite(s)** | | | None | | | | | | | | | | | | | | | | | | |
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| **Course objectives** | | | Having successfully completed the course, students will be able to:   * Apply fundamental concepts related to scale, interconnectivity, and human-environment interaction; * Identify societal population dynamics in relation to demographic and epidemiological models; * Critique and debate ways in which rights are extended to humans and the biotic community; * Explain the opportunities and challenges of including local communities in decision making processes; * Formulate a team-based solution to a complex global problem related to human-environment interaction. | | | | | | | | | | | | | | | | | | |
| **Course Summary** | | | This course explores issues confronted by socio-ecological systems at the local and global scales. In particular, this course investigates how such problems manifest, how human activities play a role in creating or exacerbating such problems, and how such problems can be prevented or mitigated in the future. This course situates humans as part of (i.e., not separate from or superior to) the natural world. Therefore, ethical issues pertaining to the treatment of Earth and posterity will be examined, as will approaches to be more ecologically sensitive in large-scale development and our daily lives. Specific topics include: environmental justice, feeding growing populations, gender and human rights, disasters, climate change, global health, sustainability, energy, and the consequences of rapid urbanization and development broadly. | | | | | | | | | | | | | | | | | | |
| **Teaching Methods** | | | **Teaching Methods** | | | | | | | | | | | | | | | | | | |
| Lecture | Presentation/Discussion | | | | Problem Based Learning | | | | Project Based Learning | Flipped Learning | | | Experiment/ Practices | | | | Others  (Describe) | |
| X | X | | | | X | | | | X | X | | |  | | | | X | |
| **Lectures:**  Lectures focus on delivering content on socio-ecological relationships with real-life examples primarily from the international context but also from America and the local context of South Korea. For instruction, I utilize the Socratic method, which is a student-centered approach that poses queries in order to elicit dialogue, discussion, and critical thinking. I also adapt curriculum to foster diversity, inclusivity, and a truly interdisciplinary learning environment. Finally, of my lectures have breakpoints for small discussions, short videos, etc. so that students receive varying modes of content.  **Presentation / Discussion:**  Every course article/book chapter is discussed in class. First, small groups meet to form their main points, questions, critiques, etc. Next, a large group, student-led discussion is organized.  **Problem Based Learning:**  The project (team-based) requires groups of students to formulate an economic, social, and scientific/engineering solution to a contemporary global issue. The goal is to not only solve the problem, but to do so as an interdisciplinary team just as must be done in the real world.  **Project Based Learning:**  The project requires teams of students to: examine a contemporary global issue; explain how the issue manifests and its effects on socio-ecological systems; demonstrate effects of the issue at the local (case study) and global scales; and provide an economic, social, and scientific/engineering solution.  **Flipped Learning:**  Every course article/book is discussed in class. Students read the articles/book chapters before class and break into small groups upon arrival to class in order to form their main points, questions, critiques, etc. Next, a large group, student-led discussion is organized. These activities are organic, student-led, and require students to prepare out of class before we meet. As a group, the students dissect information presented in the articles/books while exploring real-world applications and associated ethical issues.  **Other:**  I vary lecture style, class setup, delivery of content (e.g., lecture, media, discussions, visual), and type of assessments (e.g., team-based, individual, exams with various formats of questions) to establish an equal field in which students from diverse backgrounds and learning styles can all succeed. | | | | | | | | | | | | | | | | | | |
| **Grading** | | | Mid-Term | Final | | Individual Tasks | | | Team Project | | | Class participation | | | Attendance | | Others  (Describe) | | | | **Total** |
| 20 | 25 | | 12 | | | 25 | | | 12 | | | 6 | | 0 | | | | 100% |
| ※ Pursuant Section 28 of the Guidelines on Class Management, grading methods can be adjusted for the physically impaired.  ※ Under Section 29 of the University Regulations on Academic Affairs, a student automatically fails a course in case of failure to attend more than 3/4 classes. (More than four (4) times absence) | | | | | | | | | | | | | | | | | | |
| **Accommodations** | | | - Visually impaired: provision of course related materials in audio, note taking helper, permission to record the lecture  - Audibly impaired: provision of course related materials in visual, note taking helper, permission to have e-learning lectures in sign language or shorthand  - Physically or mentally challenged: provision of course related materials, note taking helper, permission to record the lecture   * Any other requests that are considered necessary: provision of assisted   ingress and egress to the classrooms and other supports | | | | | | | | | | | | | | | | | | |
| **Textbooks & References** | | | | | | | | | | | | | | | | | | | | | |
| Category | Title | | | | Author | | | | | | | Publisher | | | | | | | Year of publication | | |
| Scientific Articles / Book Chapters | “The social determinants of health: it’s time to consider the causes of the causes”  “Women, gender norms, and natural disasters in Bangladesh”  “The land ethic”  “The beholding eye: ten versions of the same scene”  “Biofuel production and its impact on food securing in low and middle income countries: implications for the post-2015 Sustainable Development Goals”  “How people promoting clean water availability, sanitation, and hygiene (WASH) can actually injure communities”   * Also, a few recent news articles related to course content will be provided to students. Quizzes are based on content from these short articles. | | | | Braveman & Gottlieb  Juran & Trivedi  Leopold  Meinig  Renzaho, Kamara, and Toole  Kreamer | | | | | | | *Public Health Reports* 129(S2): 19-31  *Geographical Review* 105(4): 601-611  In *A Sand County almanac,* pp. 237-264, New York: Ballantine Books.  In *The interpretation of ordinary landscapes: geographical essays*, pp. 33-50, New York: Oxford University Press.  *Renewable & Sustainable Energy Reviews* 78: 503-516  *Water Resources Impact* 18(1): 8-12 | | | | | | | 2014  2015  1970 (originally published 1949)  1979  2017  2016 | | |
| \* All reading materials provided to students digitally for free (no material fees for course).  **Daily Course Schedule** | | | | | | | | | | | | | | | |
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| **Day**  **(3hurs)** | **Lecture Topic** | **Hours per day** | **Method of Instruction** | **Class Materials & Assignments** |
| 1 | -Syllabus & course introduction  -Defining ‘development’  -Population dynamics | 3 | -Lecture  -Media  -Group learning | -Demographic Transition Model  -Population pyramids |
| 2 | -Population dynamics (continued)  -Feeding our hungry planet | 3 | -Lecture  -Media  -Group learning | -Demographic Transition Model (continued)  -Population pyramids (continued) |
| 3 | -Big agriculture in a hungry world  -Global health in an interconnected world  -Select project teams & topics | 3 | -Lecture  -Media | -Quiz 1 |
| 4 | -Global health in an interconnected world (continued)  -Discuss Braveman & Gottlieb article  -Environmental (in)justice & geopolitics | 3 | -Lecture  -Media  -Group discussion | -Reflection 1  -Discussion/flipped learning |
| 5 | -Environmental (in)justice & geopolitics (continued)  -Discuss Meinig article  -Gender & the environment | 3 | -Lecture  -Media  -Group discussion | -Reflection 2  -Discussion/flipped learning |
| 6 | -Gender & disasters  -Discuss Juran & Trivedi article  -Review for midterm exam  -Work on team projects | 3 | -Lecture  -Media  -Group discussion  -Group learning | -Reflection 3  -Discussion/flipped learning |
| 7 | MIDTERM EXAM | 3 | -Paper exam | -Mixture of conceptual, objective, and short essay questions |
| 8 | -Dams & development-induced displacement  -Ecology, ecosystem services & biodiversity | 3 | -Lecture  -Media | -Quiz 2 |
| 9 | -(Un)natural disasters & climate change  -Energy & biofuels  -Discuss Koizumi article | 3 | -Lecture  -Media  -Group discussion | -Reflection 4  -Carbon footprint  -Discussion/flipped learning |
| 10 | -Hydrologic cycles & the human right to water  -Water quality, sanitation & hygiene | 3 | -Lecture  -Media | -Quiz 3 |
| 11 | -Water quality, sanitation & hygiene (continued)  -Ethics of humanitarian aid  -Discuss Kreamer article | 3 | -Lecture  -Media  -Group discussion | -Reflection 5  -Discussion/flipped learning |
| 12 | -Finiteness of water  -Heterogeneity & temporality of water resources  -Work on team projects | 3 | -Lecture  -Media  -Group learning | -Water footprint  -Quiz 4 |
| 13 | -Team project presentations | 3 | -Student presentations / flipped learning | -Team project presentations |
| 14 | -Sustainability  -Environmental management & public participation  -Discuss Leopold article | 3 | -Lecture  -Media  -Group discussion | -Reflection 6  -Discussion/flipped learning |
| 15 | FIANL EXAM | 3 | -Paper exam | -Mixture of conceptual, objective, and short essay questions |

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| **Evaluation & Grading (total = 100 points):**  -*Midterm Exam* = 20 points  -*Final Exam* = 25 points  -*Team Project* = 25 points  -*Individual Tasks* = 12 points (6 reflections, 4 quizzes, 1 carbon footprint, 1 water footprint)  -*Class Participation* = 12 points (based on contributions to discussions, leadership abilities, ability to work on a team, etc.)  -*Attendance* = 6 points (2 point deduction per absence and 0.5 point deduction per lateness; >4 unexcused absences may result in automatic failure of the course)  **Grading Scale:**  A = 93-100 C = 73-76  A- = 90-92 C- = 70-72  B+ = 87-89 D+ = 67-69  B = 83-86 D = 63-66  B- = 80-82 D- = 60-62  C+ = 77-89 F = 59 and below |