Roger Williams University **1-page Course Syllabus**

NATSC 203 – Humans, Environmental Change & Sustainability

Time: Tuesdays & Fridays 2:05-3:25 Location: GHH 106

Instructor: Dr. Loren B. Byrne Phone: X 3890 Email: lbyrne@rwu.edu Office: 227 MNS
Office Hours: By appt. ONLY, outside or online: good times are MWF @ 10:30 & 12pm; Tue @3:30

Quotes that summarize Dr. Byrne's teaching and learning philosophy

"The mind is not a vessel to be filled but a fire to be kindled." ~ Plutarch
"Teachers open the door. You must enter by yourself." ~ Chinese proverb
"(Intelligence) is 1% inspiration and 99% perspiration." ~ Thomas Alva Edison
"Today a reader, tomorrow a leader." ~ W. Fusselman
"When we try to pick out anything by itself, we find it is tied to everything else in the universe." ~ John Muir
"High-quality learning is absolutely essential for high-quality living." ~ L. Dee Fink

Course description

This course examines the effects of human populations and sociocultural variables on contemporary environmental changes at global and local scales with an emphasis on the sustainable use, management, and conservation of natural resources, biodiversity, and ecosystem services. Topics covered include human demographics, land use and land cover change, energy generation and use, agricultural production, biodiversity issues, water management, pollution and global climate change. These topics will be discussed in an interdisciplinary context to emphasize interrelationships among the economic, political, philosophical and ecological dimensions of environmental change and the sustainability of human populations and ecosystems.
Fulfills a course requirement in the Environmental Science and Sustainability Studies Core Concentrations
Prerequisite: BIO 104

Be prepared: this course is **reading, writing** and participation intensive (a good thing for your education—see quotes 3 and 4 above). Lectures will usually be a smaller part of class time and will mostly be used to illustrate topics covered in the texts with more context, examples, diagrams, images, etc. Thus, you will maximize your learning during this course if you read assigned texts carefully and critically before class and then ***engage with your classmates*** about the material during class.

Course goals for learning outcomes

After this course, students should be able to:

- Describe changes in the biological and cultural characteristics of humans throughout their history
- Articulate an interdisciplinary understanding of relationships between human sociocultural variables and contemporary environmental changes
- Describe major social-environmental issues, events, and trends of 20th century world history
- Explain relationships among human well-being, environmental quality, biodiversity and ecosystems
- Apply information from the course to the examination and interpretation of current environmental issues
- Discuss the concept of sustainability and methods for sustaining environmental conditions, resources and societies
- Exhibit improved communication and critical thinking skills as related to the examination of human-environment interactions
- Appreciate the value of pursuing interdisciplinary, scientific knowledge and understanding!

Required texts

McNeil, J.R. 2000. Something New Under the Sun. WW Norton & Co., New York, NY.
Other readings to be provided digitally or as hard-copies

Required assignments & grading

Students' grades will be based on the following:	**% Value of final grade**
Home- and in-class work (incl. half-sheets, reading responses, group work)	20
Quizzes	10
Human evolution & ecology synthesis essay	15
"Story of Stuff" research report (with proposal & draft)	30
Final exam questions (take-home essays)	20
Final oral exam (discussion about synthesis essays during final exam period)	5

Grading scale and the meaning of grades

A= ≥ 93% - Excellent	A- = 90-92.9% Great	B+ = 87-89.9% Very Good	B= 83-86.9% Good	B- = 80-82.9% Good
C+= 77-79.9% Average	C= 73-76.9% Average	C- = 70-72.9% Average	D= 60-69.9% Poor	F= ≤59.9% Failure

NATSC 203 Humans, Environmental Change and Sustainability: Semester outline

Week	Topic	Readings *(complete before class) (MN = McNeil)* ** indicates when readings may be divided among students*
1	8/28: Introductions & Expectations	
2	**Part I: So Human an Animal** 9/1: What are the origins & early evol. of humans? 9/4: What is culture & how does it change?	9/1: Dartnell, Diamond 32-39, 47-51, Tattersall, Takacs-Santa (TS) 51-54, 9/4: TS 54-58, Pagel & Mace, Ehrlich 232-238, Ehrlich 255-261, Ehrlich & Levin
3	9/8: Energy, revolutions, & global paradigms 9/11: Why do people do what they do? Norms, worldviews, behavior, lifestyles, consumption	9/8: TS 58-62, MN pp. 10-16 & 296-3:13 9/11: MN pp. 314-324, 326-336, Byrne (and review Ehrlich & Levin)
4	9/15: The human predicament: a part of or apart from nature? 9/18: Past, current & future human demography	9/15: Ehrlich 3-14, Karieva et al., Liu et al. 9/18: Zhang et al., MN 270-281, Cohen
5	**Part II: 20th C. Anthropogenic Env. Change** 9/22: Introduction & overview 9/25: TBD (Stuff & Library Research?)	9/22: MN xxi-17, MEA, Ehrlich & Kennedy
6	9/29: Lithosphere: soil & agriculture 10/2: Lithosphere: erosion, mining & pollution	9/29: MN 21-26, 212-227; soil quality video 10/2: MN 26-49
7	10/6: Atmosphere: urban pollution 10/9: Atmosphere: regions, acid rain & ozone loss	10/6: MN 50-83* 10/9: MN 84-108*, 111-115
8	10/13: Atmosphere: climate change 10/16: Hydrosphere: water use & pollution	10/13: MN 108-111, others TBD 10/16: MN 118-148*
9	10/20: Hydrosphere: water abuse & control 10/23: Biosphere: forestry	10/20: MN 149-191* 10/23: MN 228-236, others TBD
10	10/27: Biosphere: altering global biodiversity 10/30: Noosphere: urbanization & globalization	10/27: MN 252-266, invasive species website* 10/30: MN 281-295, Capra chapter
11	11/3: Noosphere: "The Economics of Happiness" 11/6: Noosphere: marketing, media & consumerism	11/3: Choose 2 of 3 selections 11/6: TBD
12	**Part III: Toward Sustainability** 11/10: What is sustainable progress? 11/13: Conserving biodiversity & ecosystems	 11/10: Capra or Wessels or others TBD 11/13: Goodall selection*
13	11/17: Feeding the masses sustainably 11/20: Ethics, policies & tough decisions	 11/20: MN 336-356 (w/ whaling: MN 237-252)
14	11/24: Energy generation & efficiency 11/27: *No class- Thanksgiving break*	11/24: Kilowatt Ours quiz
15	Online meeting dates & times TBD: Nov 30-Dec 4 Is sustainability achievable? Stuff discussions & Conclusions	Friedman 2009 & Trade-offs excerpts

FINAL EXAM PERIOD: Wednesday Dec 9, 2:45-4:45pm: Required discussion; ***final paper due***

****The professor reserves the right to modify this schedule at any time if necessary****

Assignments overview: Home- and in-class work includes half-sheets, reading worksheets, short writing assignments, presentations, and in-class group work. Short writing assignments foster student engagement with the readings, their own opinions, values and beliefs as well as reflection on their own learning processes and progress. Other in-class activities (including group work) and homework assignments will be used to facilitate student engagement with course content and promote critical thinking skills. Assessment and point values for individual assignments will vary; in general, points will be awarded for correct answers (quizzes, homework) and completeness (projects, reflections).

Quizzes, based on assigned readings and lectures, will assess student learning and understanding of basic vocabulary, facts and principles as well as develop higher-level critical thinking skills such as application of concepts to problems.