

**SYS 4048 / GSGS 3559 – Global Development Systems
STS 3048 - Sustainability and Human Needs**

May 21 – June 1, 2018

10:00AM-12:00 PM, 1:00 – 3:30PM

[Morven Farm](#) – [Morven Summer Insittute](#)

INSTRUCTORS: G. Louis

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Office Hours: M-F 3:00-3:30 PM. Morven Farm

<https://www.youtube.com/watch?v=ginn51YnvMA>

<https://www.youtube.com/watch?v=CJH2eUQVYwI>

<https://www.youtube.com/watch?v=K5VcaN8v7tI>

COURSE DESCRIPTION:

What is a sustainable quality of life or standard of living? Is it at the current level of consumption in industrialized countries like the US, in emerging economies like China, or in lower-income countries like Kenya? How should governments balance the desire to create national income and provide for the human needs of their citizens, against the desire to conserve natural resources and the environment for future generations? Sustainable Development allows a society to satisfy its present needs without compromising the ability of future generations to meet their needs. Is it possible to reach an international consensus on human development that balances the aspirations of the global South with those of the global North? What role must governments, industry, and civic society play? Are organizations like the UN and World Bank still relevant in this debate? What role can individuals like you play?

This course takes a systematic approach to answering these questions. It begins with a review of system analysis and uses these tools to analyze sustainability in the context of human needs. We examine the technology and policy approaches to satisfying these needs, and the processes by which essential services could be provided over time. We analyze the roles of government, civic society, industry and international organizations like the UN in implementing sustainability at the local, national and global levels. We examine case studies of practical approaches to sustainability and human development, and visit local organizations taking action to address human needs.

The course will consist of a set of assigned readings, daily written briefs on the readings, daily small group presentations on the assigned material, and facilitated lectures and discussions by the instructor and invited speakers. The course will include field trips to several facilities that illustrate the issues of sustainability covered in class. Students will complete a small-group course project report and presentation on a related topic. *If possible, each group will contain at least one student taking the course for SYS credit and one for STS credit. Students taking the course for SYS credit will be primarily (but not solely) responsible for the technical and economic analysis of their presentations and course project. Students taking the course for STS credit will be primarily (but not solely) responsible for the ethical and socio-cultural analysis of their presentations and course project.* Each student will keep a daily log in a hard cover notebook of their thinking on sustainability and human needs over the course of

the project. Students completing the course will understand sustainability as the context for satisfying human needs in society, and be able to evaluate technologies and public policies to promote sustainable development at the national and global levels. The course will also evaluate sustainability in the context of the UN Sustainable Development Goals.

The course will be taught at Morven Farm as part of the Morven Summer Institute.

Prerequisites: APMA 1090, ECON 2010 or instructor permission

GOAL AND OBJECTIVES:

The goal of this course is to enable students to evaluate critically and systematically, the challenges and opportunities for human development in the 21st Century. This will be accomplished through three objectives:

1. To build students' knowledge and comprehension of the tools, concepts, policies and processes of sustainability in the provision of human needs.
2. To engage students in the tradeoffs involved in fostering human development with explicit constraints of equity and resource conservation.
3. To allow students to articulate and thereby refine their ideas about sustainability, human needs, and development in an interconnected and interdependent world.

TEXTBOOK

Iceland, John., (2013). *Poverty in America: A Handbook*, 3rd Edition., University of California Press, Berkeley, CA. ISBN: 978-0-520-27300-9.

SUPPLEMENTARY SUGGESTED TEXTBOOK

Amadei, B., *Engineering for Sustainable Human Development: A Guide to Successful Small-Scale Community Projects*, ASCE, 2014. ISBN: 978-0-7844-7841 (E-Book).

Schumacher, E.F., *Small is Beautiful: Economics as if People Mattered*, Harper & Row, New York, NY. 1973. ISBN: 0-06-09630-3

Gibson, J.E., and W.T. Scherer, *How to Do Systems Analysis*, Wiley, Hoboken, NY. 2007.

<https://www.nae.edu/19582/Bridge/SustainabilityEngineering/HarnessingIngenuityforSustainableOutcomes.aspx>

https://sites.hks.harvard.edu/sustsci/ists/docs/whatisSD_env_kates_0504.pdf

These readings provide good context but are not required for the course.

GRADING POLICY:

Daily 1 page essay (7@5% each)	35%
Small Group Presentations (8@ 3% each)	24%
Daily Quizzes (8@2% each)	16%
Group Project Report/Presentation (2@10%)	20%
Punctuality, Attendance, Participation	5%
0.24*0.24*0.05TOTAL	100%

SUGGESTED READINGS:

Additional readings are listed in the schedule. These and other assigned readings will be posted on the UVA Collab site for the class.

GRADING OF 1-PAGE ESSAY

A one page essay should be turned in at the start of each day. It is a summary of your review of the readings and thoughts on the topic of the day. A second page is allowed for the listing of references. The “one-pagers” must be at least single-spaced, 12-point Times New Roman or equivalent font. Guidelines for the grading of these Notes are as follows:

30 pt	Coverage of main points in the readings
40 pt	Notes on your position on the issues, clearly stated, including the key stakeholders, their objectives, and the key policy & implementation strategies
20 pt	Use of external references other the assigned readings to support or refute points in the discussion of the issues
10 pt	Writing quality. Clear and orderly presentation

COURSE SCHEDULE AND READINGS:

GSSTYS 4502-MSI 17	Summer 2017	
Daily Presentation Schedule		
Group X	Group Y	
A,A,A,A,A	B,B,B,B,B	
Date	Topic	Group
30-May	Intro, SDG 1-2	Louis
31-May	SDG 3-4, SDG 5-6	X, Y
1-Jun	SDG 7-8, SDG 9-10	X, Y
2-Jun	SDG 11, SDG 12	X, Y
5-Jun	SDG 13-14, SDG 15-16	X, Y
6-Jun	SDG 17	X & Y
7-Jun	Food Energy Water	Louis
8-Jun	North Anna visit	All
9-Jun	Final Presentations	X and Y

#	Date	Topic	Readings ^a
1	T: May 30	Introductions, Syllabus, Intro to the SDG Goal 1, 2: Poverty , Hunger Case Study - <i>Poverty in America</i> , to Ch1. Morven Garden Tour/Intro. Catered Lunch	Getting Started with the SDGs UN NY. 2015. The SDG Report 2016 . UN. (to pg. 11). 2013. World Bank, State of the Poor . 2015. FAO Hunger Report . Child Poverty in America Today: The Promise of Education . (2013).
2	W: May 31	Goal 3, 4: Health , Quality Education Goal 5, 6: Gender Equality , Water & Sanitation . Case Study – <i>Poverty in America</i> , Ch 2-3. Discussion: Global Food Security	Levels & Trends in Child Mortality . UNICEF. 2012. 2015. Lancet. Global Burden of Disease Report . Toward Universal Primary Education: Investments, Incentives, and Institutions . UN Millennium Project. 2005 A. Cawthorne., (2008). The Straight Facts on Women in Poverty . UN (2015), Progress on Sanitation & Drinking Water, 2015 Update
3	H: Jun 1	Goal 7, 8: Energy , Economy Goal 9, 10: Infrastructure , Inequality Case Study – <i>Poverty in America</i> , Ch 4-5 Discussion: Energy Options & Tradeoffs	Worldwatch Institute. Energy for Development . 2011. World Bank Blog . World Energy Challenge . US Energy Policy , Other. Trade for Development , UNMP. 2005. 2015 Eorld Bank Blog: Youth Bulge . World Economic Forum – World Infrastructure Gap 2015 Oxfam Inequality Video 2015 The Guardian - Inequality
4	F: Jun 2	Goals 11, 12: Sustainable Cities , Consumption & Production .	2009. UN, Creating An Inclusive Society . 2015 Carter-Inclusive Soc . Improving the Lives of Slum Dwellers: A Home in the City . UNMP. 2005 Habitat III – The New Urban Agenda
5	M: Jun 5	Goals 13: Climate , COP21 Goals 14, 15. Oceans , Land Case Study – <i>Poverty in America</i> , Ch 6-7. Guest Speaker: Dr. Scott Remer, Hexagon Energy	2014 IPCC Report , The President’s Climate Action Plan (White House, 2015) FAO 2014: The Water, Energy, Food Nexus . Planet Ocean movie , FEW Nexus video . 2016 UN World Ocean Assessment . 2013 Oceans & Marine Resources - NOAA . 2011 FAO State of Land & Water Report
6	T: Jun 6	Goals 16, 17: Peace & Justice , Partnership Visit to Bellevue Winery (tentative) Mindfulness w/ Leslie	2016 Forbes - Partnerships https://www.youtube.com/watch?v=5e0a7rpp1sw video
7	W: Jun 7	The Global Water Challenge: . Climate & the Food, Energy, Water Nexus	IPCC Energy Supply & Climate Change – Selected Section – Collab . https://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-chapter4.pdf
8	H: Jan 8*	Visit to Lake Anna Nuclear Power Plant Discussion of Energy Options in Car. Visit to Blue Ridge Area Food Bank, Verona	Renewable Energy Options in Developing Countries . http://www.livescience.com/11324-power-future-10-ways-run-21st-century.html http://www.huffingtonpost.com/2015/07/07/future-of-energy-video_n_7410468.html
9	F: Jun 9	Andy Reynolds Guest Speaker: Diplomacy & Development . Final Project Presentations.	

DAILY STRUCTURE OF CLASSES

Time	Activity	Leader
10:00 – 10:10	Appreciative check-in ¹	Class
10:10 – 11:00	Small Group 1 Presentation & Discussion	Small Gp/Class
11:00 – 11:10	Transition: Set up for Small Group 2	Class
11:10 – 12:00	Small Group 2 Presentation & Discussion	Small Gp/Class
12:00 – 13:00	Lunch	Class
13:00 – 13:10	Setup for Case Study	Class
13:10 – 14:00	Case Study & Discussion	Class
14:00 – 14:10	Transition & set up for video ²	Class
14:10 – 14:30	Video & Discussion	Class
14:30 – 14:45	Daily Quiz	Class
14:45 – 15:00	Journal & Appreciative check-out ³	Class
15:00 – 15:30	Office Hours	Louis

¹ Appreciative check-in is a process of positive, motivational comments at the beginning of a meeting to set a positive tone for the proceedings.

² I plan to use a set of short streaming videos, including the 10-part film series on international aid, “*Beyond Good Intentions*” Produced by Teri Hogan for showing in the class.
<http://www.beyondgoodintentions.com/resources/filmseries/>

³ Appreciative check-out is my adaptation of the ‘appreciative check-in’ process to close the class on a positive note. It also gets students to share items from their deliberative writing with the rest of the class.

SMALL GROUP PRESENTATIONS

Small groups are groups of 2 students who prepare a PowerPoint presentation on the topic of the day (see schedule). The presentation must state clearly the assigned SDG goal and its targets or the goal and objectives of the issue if not an SDG. It should include the implementation plan for the goal and the role of U.S. and other policies in implementing the plan. The presentation must also include a short case study or video that illustrates the goal and a list of the references and sources used to prepare the presentation. The Small Group Presentation will be graded on the following criteria:

State SDG Goal or Assigned Issue	10
State Targets or Criteria for evaluating the issue	20
Key challenges and policy options for addressing issue	30
Illustrative case study of video	20
Discussion, Q&A	15
References	5

Upload the presentation to Collab at the end of each day using the following format: YYMMDD_G1G2-X

- *For example: a presentation on SDG Goals 3 and 4 by Group Y on June 2 would be uploaded to Collab in the Presentations Folder as: 170602_G3G4-Y. Only upload 1 copy per group.*

CASE STUDIES

The case studies are mostly based on the Iceland text, “Poverty in America.” **All members of the class will work collectively on this presentation and discussion.**

It must be uploaded to Collab at the end of the day, labeled as follows:

YYMMDD_Iceland m-n

- *For example, the readings from Iceland Chapters 2 and 3 on May 31st would be labeled: 170531_Iceland 2-3.*

GROUP PROJECT: REPORT & PRESENTATION

The group project is a term-long activity done in a group of 2 students depending on class size. The group should select an SDG issue of interest. They will conduct a detailed analysis of the issue, including options for its resolution. The report will include a description of the issue and a critique of the policies, technologies and actions proposed or taken so far to address the issue. The report must clearly identify the affected country(s), or global region(s), and the role of U.S. and other international policies in the issue:

- Include:
 1. What is the issue
 2. Why is it relevant/important to U.S. Foreign Policy
 3. What is the system; the essential components, goals and functions.
 4. Who are the major stakeholders and what are their roles in the issue
 5. What has been done and what are alternatives for addressing the issue
 6. What are the criteria for evaluating these alternatives
 7. What is the status of the issue relative to these efforts and alternatives
 8. What is your recommended course of action based on the alternatives
 9. Conclusion
 10. Bibliography (\leq 50% non-internet resources)

The report will be no more than 10 pages in length (additional pages allowed for title page, bibliography and appendices), typed in 12 point Times New Roman font or equivalent, with 1.5 point spacing. There must be at least 10 items in the bibliography, 6 of which must come from peer-reviewed journal articles, books or reports by professional scientific and engineering societies. The report must be accompanied by a 30-minute PowerPoint or Prezi presentation that summarizes its main points.