

## China's Ecological, Agricultural, and Environmental Challenges and Global Impacts

11:776:468 (3 credits)

Spring Semester (even years)

Tuesday (lecture) 9:15 AM – 12:15 PM 123 ENR

### CONTACT INFORMATION

Instructor: Dr. Ming Xu  
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Office Hours: by arrangement

### COURSE DESCRIPTION

This course will briefly introduce China's history, culture, religion, economy and geography in the first half of the semester. Then, it will focus on China's environmental issues, such as pollutions, soil erosion, deforestation, desertification and urbanization. Driving forces, such as population pressure, economic growth, globalization, climate change and socio-political factors, will be examined through lectures and discussions. Relevant policies and strategies will be introduced in the class. The course will also introduce the growing opportunities (e.g. business, private industry, academia, and government agents) in environment and conservation areas. The course is open to juniors and seniors and graduate students of all majors. Other students need special permission numbers from the instructor to register.

### COURSE WEBSITE, RESOURCES AND MATERIALS

- Course website: Sakai
- Textbooks (not required):
  - China at the Crossroads: Sustainability, Economy, Security and Critical Issues for the 21st Century, by Jisi Wang (2012)
  - China's Environmental Crisis: Domestic and Global Political Impacts and Responses (Environmental Politics and Theory), by Joel Jay Kassiola and Sujian Guo (2010)
  - China: Its Environment and History (World Social Change), by Marks, Robert B. (2011)
  - China's Environment and the Challenge of Sustainable Development, by Kristen A. Day (2005)

### PREREQUISITES

None

### COURSE LEARNING GOALS

(Link to Plant Biology Undergraduate Program Goals: <http://plantbiology.rutgers.edu/undergrad/plantbiology/>)

By the end of this course, the student will be able to:

1. Describe China's history, culture, and geography (addresses program goal 1)

2. Describe China's agriculture, forestry, biodiversity, and ecosystems (addresses program goal 1)
3. Discuss the status of China's ecological degradation and environmental pollution (addresses program goal 1)
4. Discuss the drivers and consequences of China's environmental issues (addresses program 2)
5. Communicate the global impacts of these issues (addresses program goals 2 and 3)

## ASSIGNMENTS/RESPONSIBILITIES AND ASSESSMENT

### Grading

- Attendance: 10%
- Classroom discussion 10%
- Position statements (4 at 5% each) 20%
- Quizzes and Midterm (multiple choice, short answer) 30%
- Final project (oral presentation and report) 30%
- Scale: 90-100 = A; 80-89 = B; 70-79 = C; 60-69 = D

**Position statements and final report:** Four position papers (20% of grade) are 3-5 page independent assignments, single-spaced, may include figures and tables to support opinions, and are appropriately referenced. Topics are listed in course schedule. The final project consists of an oral presentation and report (similar format), due at the end of the semester.

**Learning goals assessment:** Student attainment of the learning goals will be assessed through classroom discussions, the quizzes and mid-term exam (all learning goals), position papers (course learning goals 3 to 5), and final project (presentation and report) (course learning goals 3 to 5). The percentage score on these assessments will determine the level of mastery: >90% outstanding; 80-89% good; 70-79% satisfactory; <69% unsatisfactory.

## PARTICIPATION GRADE AND ABSENCE POLICY

Attendance is mandatory and constitutes 10% of the student grade. Students unable to attend may contact the instructor via e-mail prior to the missed class or may use the University absence reporting website (<https://sims.rutgers.edu/ssra/>) to indicate the date and reason for the absence. An e-mail is automatically sent to the instructor.

## COURSE SCHEDULE

Schedule	Topics
<b>Introduction to China</b>	
Week 1	Introduction to China: Geography, climate, ecosystems
Week 2	China's history, culture and agriculture <b>Position 1:</b> Can China feed its people in the 21 <sup>st</sup> century? Cropland area in China has declined steadily in the past decades due to rapid urbanization. With the continuing increase of population in the coming decades as well as environmental constraints, such as soil erosion and climate change, China is facing an increasing challenge on food production and security. Meanwhile, food production per unit area has significantly boosted in the past decades as a result of advances in technology and management practices. Will the food supply continue to beat the population pressure? Why? If not, what are your solutions?
<b>Biodiversity and Climate Change</b>	
Week 3	China's natural ecosystems from tropical forests to Gobi deserts
Week 4	Biodiversity: Challenges and opportunities
Week 5	Climate change and its impacts in China <b>Position 2:</b> Will China find balance between the economic development and ecological protections? Conservation calls for more aggressive policies on protecting various ecosystems, while development needs land, water and other natural resources. Where is the trade-off? How to achieve it?
Week 6	<b>Mid-term</b>
<b>Pollution</b>	

Schedule	Topics
Week 7	Pollutions in China: Air
Week 8	Pollutions in China: Water
Week 9	Pollutions in China: Solid Waste
Week 10	Pollutions in China: Drivers and Solutions <b>Position 3:</b> Is pollution avoidable during industrialization? China's rapid development has brought tremendous pressures on its environment, which has produced severe problems and calls for immediate solutions. Both market-based and regulation-based solutions have been proposed to the Chinese government. Which approach would you take if you were the Chinese president? Or if you have other ideas, give your recommendation and explain why it is superior.
<b>Urbanization</b>	
Week 11	Urbanization in China: Positive and Negative Impacts
Week 12	Urban Environment and Ecology
Week 13	Urban Landscape and Environmental Protection <b>Position 4:</b> What are the pros and cons associated with rapid urbanization in China in terms of environmental and ecological impact? What lessons and experiences should China learn from the urbanized world, such as the US, particularly New Jersey?
Week 14	<b>Final project due</b>

## FINAL EXAM DATE AND TIME

There is no final exam for this course.

## ACCOMODATIONS FOR STUDENTS WITH DISABILITIES

Please follow the procedures outlined at <https://ods.rutgers.edu/students/registration-form>. Full policies and procedures are at <https://ods.rutgers.edu/>

## ACADEMIC INTEGRITY

The university's policy on Academic Integrity is available at <http://academicintegrity.rutgers.edu/academic-integrity-policy/>

The principles of academic integrity require that a student:

- Properly acknowledge and cite all use of the ideas, results, or words of others.
- Properly acknowledge all contributors to a given piece of work.
- Make sure that all work submitted as his or her own in a course or other academic activity is produced without the aid of impermissible materials or impermissible collaboration.
- Obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with his or her interpretation or conclusions.
- Treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress.
- Uphold the canons of the ethical or professional code of the profession for which he or she is preparing.

Adherence to these principles is necessary in order to ensure that:

- Everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments.
- All student work is fairly evaluated and no student has an inappropriate advantage over others.
- The academic and ethical development of all students is fostered.
- The reputation of the University for integrity in its teaching, research, and scholarship is maintained and enhanced.

Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students. Every member of the University community therefore bears a responsibility for ensuring that the highest standards of academic integrity are upheld.

## STUDENT WELLNESS SERVICES

**Just In Case Web App** <http://codu.co/cee05e>

Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.

**Counseling, ADAP & Psychiatric Services (CAPS)**

(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901 / [www.rhscaps.rutgers.edu/](http://www.rhscaps.rutgers.edu/)

CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.

**Violence Prevention & Victim Assistance (VPVA)**

(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / [www.vpva.rutgers.edu/](http://www.vpva.rutgers.edu/)

The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

**Disability Services**

(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 / <https://ods.rutgers.edu/>

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: <https://ods.rutgers.edu/students/documentation-guidelines>. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: <https://ods.rutgers.edu/students/registration-form>.

**Scarlet Listeners**

(732) 247-5555 / <http://www.scarletlisteners.com/>

Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.