UC | UNIVERSIDAD DE CONGRESO

P R O G R A M A P U E N T E

Water Resource Management in an Arid Climate

Class Meeting Information

16 Weeks long
3 hours per week

Course Description

Regulation of Public Water in an Arid Climate – The Case of Mendoza-Argentina
Colonial period of the use of water. Organization of the use of water period. The works of dams and reservoirs of the rivers period. Institutional Issues. The future of water in Mendoza. Mendoza and other arid areas such as Israel.

Economy
Water as an economic good. Determining the value of water. Supply and demand: producer and consumer behavior. Valuing water in various uses. Economic incentives. Policies and programs for managing water resources. Water makets. Taxes and subsidies.

Regulation
Economics of Regulation. Economic regulation of urban water and sanitation services. Private and Public Providers. Approach to regulatory design. Defining the Problems and Sector Objectives . Assessing Whether Regulation Can Solve the Problems. Defining Specific Regulatory Functions.
Choosing Legal Instruments and Organizations. Improving regulatory design. Limiting the Discretion Given to Regulatory Decision Makers. Trading Off Sophistication in Favor of Simplicity

Economics of Water in an Arid Climate
Economic appraisal and allocation of water. Cost-benefit analysis. Economically efficient allocation: the theory. Reasons for inefficient allocation. Water allocation systems. Pricing and cost recovery in the irrigation sector. Pricing, opportunity costs and economic benefits. Opportunity costs of resource depletion and degradation. Economic benefits

Bibliography

- Chambuleyron, J.; La Cultura del agua. De las acequias coloniales a los grandes embalses; en Roig, A. A.; Lacaste, P. y Satlari, M.C. (Comps.); MENDOZA, Cultura y Economía; Colección Cono Sur; Caviar Blue; Mendoza; 2004.
- Dinar, Ariel; The Political Economy of Water Pricing Reforms. Oxford University Press. Published for the World Bank. 2000
- Ehrhardt, D., Groom, E., Halpern, J., O'Connor, S. Economic Regulation of Urban Water and Sanitation Services: Some Practical Lessons. Water Sector Board Discussion Paper Series. Paper nº 9. April 2007.
- INDP – Capnet – Economics in Sustainable Water Management – March 2008
- Houston, L., Kline, J., Alig R.; Economics Research Supporting Water Resource Stewardship in the Pacific Northwest. Pacific Northwest Research Station. General Technical Report PNW-GTR-550. July 2002
- Loehman, E.; Water Utility Pricing and Local Collective Action. Department of Agricultural Economics. Purdue University
- Muller, M., Simpson, R., Ginneken, M.; Ways to improve water services by making utilities more accountable to their users: A review. The World Bank. Water Working Notes nº 15. May 2008.
- Pandit, A., Crittenden, J., Ming Xu; US Water infrastructure Economics. Georgia Institute of Technology. 2009
- Roig, Arturo; Lacoste, Pablo y Satlari, María Cristina, compiladores; Mendoza: Economía y Cultura. Mendoza, 2004, Caviar Blue.
- Roig, Arturo; Lacoste, Pablo y Satlari, María Cristina, compiladores; Mendoza a través de su Historia. Mendoza, 2004, Caviar Blue.
- Turner, K., Georgiu, S., Clark, R., Brouwer,R., Burke, J.; Economic Valuation of Water Resources in Agriculture. Centre for Social and Economic Research on the Global Environment – FAO Land and Water Development Division. 2004

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Prerequisites — Classes or Knowledge Required for this Course

Basic economics recommended.

Course Sequencing

No course sequencing is necessary.

Course Objectives

At the end of this course, students will be able to:

- How Mendoza solved the allocation of water through history. Challenges for the future.
- Understand the basics of economics of water: determining the value of water in alternative uses. The notion of optimal resource allocation.
- Understand how to allocate water as a scarce resource in an arid climate
- What could be done to improve water management in arid climate areas.

Course Text or Online Resources

Required texts for this course are:

- Chambuleyron, J.; La Cultura del agua. De las acequias coloniales a los grandes embalses; en Roig, A. A.; Lacaste, P. y Satlari, M.C. (Comps.); MENDOZA, Cultura y Economía; Colección Cono Sur; Caviar Blue; Mendoza; 2004.
- Roig, Arturo; Lacoste, Pablo y Satlari, María Cristina, compiladores; Mendoza: Economía y Cultura. Mendoza, 2004, Caviar Blue.
- INDP – Capnet – Economics in Sustainable Water Management – March 2008

Optional Text Resources (which may be assigned by your instructor):

- Dinar, Ariel; The Political Economy of Water Pricing Reforms. Oxford University Press. Published for the World Bank. 2000
- Houston, L., Kline, J., Alig R.; Economics Research Supporting Water Resource Stewardship in the Pacific Northwest. Pacific Northwest Research Station. General Technical Report PNW-GTR-550. July 2002
- Other books and resources provided by instructor

Evaluation and Grading

Evaluation of Student Performance

Attendance	10%
Class participation	10%
Final paper submission	80%
	100%

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Grading Scale

A = 90% – 100%
B = 80% – 89%
C = 70% – 79%
D = 60% – 69%
F = 59% or less

Code of Conduct

All participants in the course are bound by the Universidad de Congreso, found at http://www.ucongreso.org/institucional/la-universidad/bienvenida

Netiquette

When we have a need for communication that is private, whether personal, interpersonal, or professional, we will use individual email or telephone. Our primary means of communication is written. The written language has many advantages: more opportunity for reasoned thought, more ability to go in-depth, and more time to think through an issue before posting a comment. However, written communication also has certain disadvantages, such a lack of the face-to-face signaling that occurs through body language, intonation, pausing, facial expressions, and gestures. As a result, please be aware of the possibility of miscommunication and compose your comments in a positive, supportive, and constructive manner.

Academic Honesty Policy

The University is an institution of learning, research, and scholarship predicated on the existence of an environment of honesty and integrity. As members of the academic community, faculty, students, and administrative officials share responsibility for maintaining this environment. It is essential that all members of the academic community subscribe to the ideal of academic honesty and integrity and accept individual responsibility for their work. Academic dishonesty is unacceptable and will not be tolerated at the Universidad de Congreso. Cheating, forgery, dishonest conduct, plagiarism, and collusion in dishonest activities erode the University's educational, research, and social roles.

If students who knowingly or intentionally conduct or help another student perform dishonest conduct, acts of cheating, or plagiarism will be subject to disciplinary action at the discretion of Universidad de Congreso.

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Course Outline

Orientation Week (First Week of Course)

Orientation Week Objectives:

- Navigate around the course site
- Post self-introduction message to a discussion forum
- Describe the contents of the course syllabus

Lesson 1 - Regulation of Public Water in an Arid Climate – The Case of Mendoza-Argentina (Second week)

- **Lesson learning objective**: to learn about Colonial period of the use of water, organization of the use of water period and the works of dams and reservoirs of the rivers period.
- **Method of instruction**: traditional oral class and visit Departamento General de Irrigación

Lesson 2 - Regulation of Public Water in an Arid Climate – The Case of Mendoza-Argentina (Third week)

- **Lesson learning objective**: to learn institutional issues.
- **Method of instruction:** visit Presa Potrerillos

Lesson 3 – Regulation of Public Water in an Arid Climate – The Case of Mendoza-Argentina (Fourth week)

- **Lesson learning objective**: discussion about the future of water in Mendoza and a comparison with other arid areas such as Israel.
- **Method of instruction**: traditional oral class and a visit to Agua y Saneamiento Mendoza

Lesson 4 – Economy (Fifth week)

- **Lesson learning objective**: to learn about water as an economic good, determining the value of water, the concepts of Supply and demand: producer and consumer behavior and valuing water in various uses.
- **Method of instruction**: traditional oral class and a visit to Ente Provincial para el Agua y el Saneamiento

Lesson 5 – Economy (Sixth week)

- **Lesson learning objective**: to learn about economic incentives, policies and programs for managing water resources, water markets, and taxes and subsidies.
- **Method of instruction**: traditional oral class

Lesson 6 – Regulation (Seventh week)

- **Lesson learning objective**: to learn about de meaning of Economics of Regulation, economic regulation of urban water and sanitation services and related issues.
- **Method of instruction**: traditional oral class

Lesson 7 – Regulation (Eigth week)

- **Lesson learning objective**: to learn about legal instruments, and how to improve regulatory design.
- **Method of instruction**: traditional oral class

Lesson 8 - Economics of Water in an Arid Climate (Ninth week)

- **Lesson learning objective**: to learn how tu make economic appraisal and allocation of water, cost-benefit analysis, and other issues concerning efficient water allocation systems.
- **Method of instruction**: traditional oral class

Lesson 9 - Economics of Water in an Arid Climate (Tenth week)

- **Lesson learning objective**: to learn how to make pricing and cost recovery in the irrigation sector.
- **Method of instruction**: traditional oral class

The Course includes visits to the main water institutions in Mendoza: Departamento General de Irrigación, Aguas y Saneamiento Mendoza, Ente Provincial para el Agua y el Saneamiento, and a visit to the main hydroelectric dam, which also helps to manage the irrigation system in Mendoza. Hours estimated: 15 hours.