

HWRM-306:WATER RESOURCES LAWS AND TRANSBOUNDARY ISSUES (02 Credit hrs)

PRE-REQUISITE: HWRM-101

LEARNING OUTCOMES

Following are the learning outcomes of the course:

- Students will be trained with Water Laws and Transboundary Issues
- Student will learn International River systems and Global issues
- Student will learn water conflicts and management
- Student will be trained about water scarcity issues
- Student will learn economic perspective of water infrastructure
- Student will learn hydro politics and United Nation (UN) Conventions
- Student will learn international river basin agreements

CONTENTS

This course provides of global water resource problems, laws and transboundary issues.

Unit-1 Water Laws and Transboundary Issues

- 1.1. Water Laws and Transboundary Issues
- 1.2. Introduction to international water law
- 1.3. The Evolution of the International Regulation on Fresh Water Resources
- 1.4. The Principles of the Law on Transboundary Water Resources I
- 1.5. The Principles of the Law on Transboundary Water Resources II
- 1.6. Prevention and Resolution of Water-Related Disputes

Unit-II International River Systems and Global Issues

- 2.1. International rivers system (selected)
- 2.2. Rivers systems and transboundary issues of south Asia
- 2.3. The World Bank, Global Water Partnership
- 2.4. United Nations (UN)
- 2.5. International water policy
- 2.6. Global water issues

Unit-III: Water Conflicts and Management

- 3.1. Water and resource conflict theories,
- 3.2. Organization of the course,
- 3.3. Introduction to basic principles and the problem of transboundary waters,
- 3.4. The conflict-environment position
- 3.5. The natural resource curse theory applied to water,
- 3.6. Water as a catalyst for cooperation, Systematic ways of thinking about water conflict and cooperation
- 3.7. Type of evidence used for systematic analyses

Unit-IV: Water Scarcity Issues

- 4.1. Transboundary Freshwater Dispute Database (TFDD) and other river basin event data
- 4.2. Quantitative assessments of conflict and cooperation; and challenges
- 4.3. Water and scarcity: definitions and dimensions of depletion

- 4.4. Concepts of water scarcity (and relevance to well-being and conflict processes)
- 4.5. Models of resource use and depletion
- 4.6. Scarcity in the future

Unit-V: Economic Perspective of Water Infrastructure

- 5.1. Climate, technology and adaptation
- 5.2. Water infrastructure, development and well-being
- 5.3. Investments in water resources: drivers or correlates of economic development
- 5.4. What do we know about the impacts of infrastructure?
- 5.5. Linking water resources to health and well-being, Economic perspectives
- 5.6. The challenging economics of water, Benefit-sharing
- 5.7. Virtual" water, trade, and general equilibrium, Water and security

Unit-VI: Hydro politics and UN Conventions

- 1.1. Hydro politics and securitization
- 1.2. The effects of water variability and disasters
- 1.3. International legal frameworks for dealing with water and institutional perspectives,
- 1.4. International water law
- 1.5. Helsinki rules and UN Convention

Unit-VII: International River Basin Agreements

- 7.1. Noteworthy river basin agreements and institutions,
- 7.2. Management of commons property resources and institutional resilience,
- 7.3. Water competition,
- 7.4. Political economy
- 7.5. Power asymmetries, issue salience, negotiation,
- 7.6. Internal politics and discourse
- 7.7. Game theory Weeks Student presentations and discussions.
- 7.8. Indus water treaty and transboundary issues of Pakistan.

TEACHING – LEARNING STRATEGIES

- Lecture based examination
- Presentation/seminars
- Class discussion
- Quizzes

ASSIGNMENTS – TYPE AND NUMBER WITH CALENDAR

It is continuous assessment. The weightage of Assignments will be 25% before and after midterm assessment. It includes:

- classroom participation,
- attendance, assignments and presentation,
- homework
- attitude and behavior,
- hands-on-activities,
- short tests, quizzes etc.

ASSESSMENT AND EXAMINATIONS:

Sr. No.	Elements	Weightage	Details
1.	Mid Term Assessment	35%	It takes place at the mid-point of the semester
2.	Formative Assessment	25%	It is continuous assessment. It includes: classroom participation, attendance, assignments and presentation, homework, attitude and behavior, hands-on-activities, short tests, quizzes etc.
3.	Final Assessment	40%	It takes place at the end of the semester. It is mostly in the form of a test, but owing to the nature of the course the teacher may assess their students based on term paper, research proposal development, field work and report writing etc.

RECOMMENDED TEXT BOOKS / SUGGESTED READINGS

1. Wu, X. and Whittington, D. (2006). *Incentive compatibility and conflict resolution in international river basins: A case study of the Nile Basin* Water Resources Research 42, W02417, doi:10.1029/2005WR004238, 2006.
2. Olmstead, S. & Sigman, H. (2015). "Damming the Commons: An Empirical Analysis of International Cooperation and Conflict in Dam Location." *Journal of the Association of Environmental and Resource Economists* 2(4): 497-526.
3. Wolf, A., Stahl, K., Macomber, M. (2003). *Conflict and Cooperation within International River Basins: The Importance of Institutional Capacity*. Water Resources Update. Pp.1-6.
4. Ostrom, E. (1999). "Revisiting the Commons: Local Lessons, Global Challenges." *Science* 284 (5412), 278-282. 5.
5. Deets, S. (2009). "Constituting Interests and Identities in a Two-Level Game: Understanding the Gabcikovo-Nagymaros Dam Conflict." *Foreign Policy Analysis* 5: 37- 56. 6.
6. PCA Press Release (2013). "Indus Waters Kishenganga Arbitration (Pakistan v. India)" Permanent Court of Arbitration.
7. Burke, M.; S. Hsiang; & Miguel, E. (2015). "Climate and conflict." *Annual Review of Economics* 7:577-617.
8. Guariso, A. & Rogall, T. (2015). "Rainfall inequality, political power, and ethnic conflict in Africa." Working Paper.
9. Rijsberman, F. (2006). "Water scarcity: Fact or fiction?" *Agricultural Water Management* 80: 5-22.
10. Kumar, M.D. (2018) *Water Policy Science and Politics*, Elsevier Publishers