SEMESETR-VII SPECIALIZATION: REGIONAL PLANNING

GEOG. 627: ENVIRONMENTAL IMPACT ASSESSMENT (EIA) 3(2-1)

Course Objectives

The objectives of the course includes to explain and assess the process, and underlying principles and concepts, of environmental impact assessment (EIA), explore the methods and techniques used in the stages of the EIA process and evaluate the operation of EIA, with examples from different countries.

Learning Outcomes

On completion of the course, students will be able to fully comprehend:

- The key principles of the EIA process and terminology and methods used in EIA
- The role of EIA in relation to the planning and decision-making process
- EIA trends and practices in an international perspective
- The methodological issues related to the performance of EIA
- Quality requirements concerning the EIA process and the Environmental Impact Statement (EIS)
- Interdisciplinary in relation to the performance of EIA

Course Outline

1. **Introduction to Environmental Impact Assessment (EIA)**
   - Aims/objectives of EIA
   - Concepts and philosophy, and history of EIA
   - EIA as a management tool
   - Principles of EIA process
   - Methods/techniques in EIA process
   - Sages of EIA Process: screening, scoping, preparing an environment statement making a planning application and consultation, decision making
   - Issues of EIA
2. **Policy, Legislation and Administration of EIA**
   - At Local Level
   - At Provincial Level
   - At Federal Government Level
3. **Environmental Risk Assessment and Risk Management**
   - Risk and uncertainty
   - Hazardous events
   - Impact probabilities
4. **Impacts and Mitigation Measures in EIAs**
   - Social impacts
   - Health impacts
   - Economic impacts
   - Fiscal impacts
   - Mitigation measures
5. **Methods & Techniques for Impact Prediction**:
   - Ad-hoc, Check Lists
   - Environmental Evaluation System
   - Matrices
   - Network

- Overlays
- Environmental indices
- Cost -benefit analysis and Models

6. Case Studies and Specific Sectoral EIA

- EIA in developed and developing Countries
- EIA in Pakistan
- EIA in mining and processing, power plants
- EIA in water resources,
- EIA in nature conservation and biodiversity,
- EIA in agriculture and aquaculture
- EIA in infrastructure development, tourism, petro-chemical industry.

7. Public Involvement and Consultation

- Aims and objectives of public involvement and consultation
- Role of stakeholders in the EIA process
- Types of public involvement and consultation

8. EIA and International Agencies:

- EIA and World Bank, UNDP, WHO, USAID and NEPA etc.
- EIA and Bilateral Development AID

9. Preparing EIA reports

10. The future for EIA

Lab. Work

Practical exercises to provide students with the knowledge and skills necessary to enable them to undertake environmental impact assessment;

Recommended Books

1. Wathern, P. (2013) "Environmental Impact Assessment: Theory and Practice. Rutledge.
2. Glasson, J., Therivel, R. and Chadwick, A. (2012) "Introduction to Environmental Impact Assessment", 4th edition, Rutledge, London.
3. Harvey, N and Clarke, B (2012) "Environmental Impact Assessment", Oxford Press.
4. Morris, P. and Therivel, R. (2009) "Methods of Environmental Impact Assessment", 3rd edition, Rutledge, London.
5. Elliot, M. and Thomas, I (2009) "Environmental Impact Assessment in Australia", The Federation Press.
6. Holder, J. and McGillivray, D. (2007) "Taking Stock of Environmental Assessment: law, policy and practice", Rutledge, London.
7. Noble, B. (2006) "Introduction to Environmental Impact Assessment: A Guide to Principles and Practice", OUP, Oxford.
8. Hanna, K.S. (2005) "Environmental Impact Assessment: Participation and Practice", Oxford, UK.
9. Institute for Environmental Management & Assessment (2004) Guidelines for Environmental Impact Assessment, IEMA, Lincoln.
10. Lawrence, D.P. (2003) "Environmental Impact Assessment: Practical Solutions to Recurrent Problems, Wiley-Inter science, New York.
11. Wood, C. (2003) "Environmental Impact Assessment: A Comparative Review", 2nd edition, Longman, Harlow.
12. UNEP. (2002) "EIA Training Resource Manual", 2nd Edition, In B. Sadler & M. McCabe (Eds.). Geneva: United Nations Environment Program.
13. Lee, N. and George, C. (eds.) (2000) Environmental Assessment in Developing and Transitional Countries, Wiley, Chicester.