

SECOND SEMESTER SPECIALISATION COURSE

20001 / 2002

BUILDING AND MAINTAINING LIFE IN THE DEVELOPMENT PROCESS:

A critical approach to transferred science & technology ; impact of biotechnology, environmental issues, disasters and housing in “newly industrializing country” environments

Objective

The specialisation course and research opportunities offered by the Social Sciences Institute of Istanbul Technical University aims to provide an “newly industrialising country” approach to some of the major STS issues by examining the interaction between Western technology and social organisation in “newly industrialising countries” and emphasising the need to understand the cultural and social context of technology and the importance of taking into account local knowledge and importance of cultural relativity.

The course will focus on the different social, economic, political and cultural conditions of the “technology follower environments” and hence, the specificities of the science, technology and society inter-relations within these environments. It will study the specific impact of science & technology transferred from the industrialised world and the problems involved in adopting them to their “newly industrialising country” environment. It will also focus on the conditions of building scientific and technological capabilities for indigenous R&D activities in this environment in order to move forward to developing an innovation culture.

After taking the specialisation course, the students will start working on their dissertation on one of the topics related to the modules they take in the specialisation course under the supervision of one of the related teaching staff.

Specialisation Course Structure

The course involves six weeks of teaching and consists of taking 3 modules. After taking the first and second compulsory modules for two weeks each, students will choose the third module from the four optional modules offered on different issues that will also be taught for two weeks.

Course work is a mixture of lectures and seminars based on key texts and optional reading. Seminar sessions are tutor-led and student-led discussions.

1. MODULE: Non - Western Modernities (İştar Gözaydın and
Christoph K. Neumann)

The content: The concept of modernity; Agricultural and industrial revolutions, their impacts on the non-Western world: comparing the cases of Anatolia and Egypt; Constitutionalism, secularism, and nationalism: India and Turkey; the 19 th century reforms of the education system; Reactions to the “new” science, technology and the law from the 19 th century Ottoman perspective; Non-Western modernity: a gendered issue?; The emergence of the “modern” Turkish Republic, the European community and the legal systems of peripheral countries.

Key Literature:

Cyril E. Black, L. Carl Brown, *Modernization in the Middle East*, Princeton: Darwin, 1992.

Reşat Kasaba, *The Ottoman Empire and the World Economy*, Albany, NY: SUNY Univ. Pr., 1988.

İlber Ortaylı, *Studies on Ottoman Transformation*, İstanbul: ISIS, 1994.

Şevket Pamuk, *The Ottoman Empire and European Economy*, Cambridge: CUP, 1987.

Partha Chatterjee, *The Nation and its Fragments*, Princeton: PUP, 1993.

Dilip Gaonkar (ed.), *Alternative Modernities*, Duke: Duke Univ. Pr., 1999.

Ulrich Beck et al. (ed.), *Reflexive Modernization*, Stanford: Stanford Univ. Pr., 1994.

Supervisor: İştar Gözaydın – 2 students

Thesis Topics:

- Any issue concerning the concepts of modernity and alternative / non-western / multiple / local modernities especially in the framework of law and / or socio-politics

Supervisor: Christoph K. Neumann – 1 student

Thesis Topics:

- Foreign Scholars and Scientists in Turkey

Supervisor: Aydan Turanlı - 2 students

- Technology and Politics of Knowledge
- Sociology of Scientific Knowledge
- Democracy in a Technological Society
- Communication and Technology
- Technology, Philosophy, Politics and related issues.

2. MODULE: Technology Management & Innovation in the Newly-Industrialising Country Environment (Hacer K. Ansal and
Dilek Çetindamar)

The content: From Tradition to Modernity: a critical assessment of the ideas and ideologies associated with “development”, “modernisation” and “underdevelopment”; Technological Dependency and Appropriate Technology, Technology and late industrialisation; Concept of Technology Follower Environment; International

Technology Transfer & Diffusion of Innovations, Technology Foresight; Building Indigenous Technological Capabilities; New Technologies: Opportunities & Threads, Innovative Cultures and Adaptive Organisations; Building an Innovation Culture; National Organisational and Strategic Factors Associated with Success in Systems of Innovation.

Key Literature:

- Corbridge, S.(Ed.), *Development Studies: A Reader*, Edward Arnold, 1995
- Salomon, J.J. Sagasti, F.R. and Sachs-Jeantet C. (Eds), *The Uncertain Quest: Science, Technology and Development*, United Nations University Press, Tokyo, 1994.
- Mansfield, E., *Innovation, Technology and the Economy*, Edward Elgar, Brookfield, 1995.
- Tidd, J., Bessant, J. and Pavitt, K, *Managing Innovation; Integrating Technological, Market and Organizational Change*, John Wiley & Sons, Chichester, 1997.
- Rhodes, E. and Wield, D.(Eds), *Implementing New Technologies: Innovation and the Management of Technology*, Blackwell, Oxford, 1994.
- Henry, J. and Walter, D. (Eds), *Managing Innovation*, Open University Press, London, 1991.
- Dosi, G., Freeman, C., Nelson, R., Silverberg, G. and Soete L., *Technical Change and Economic Theory*, Pinter Publ., London, 1987.
- Nelson, R. R., *National Innovation Systems: A Comparative Analysis*, Oxford University Press, 1993.
- Cypher, J. M. and Dietz, J., “Endogenous Growth Theories and New Strategies for Development”, in: *The Process of Economic Development*, Routledge, London, 1997.
- Kim, L., *Imitation to Innovation*, Harvard Business School Press, 1997.
- Williams, F. and Gibson, D. V., *Technology Transfer*, Sage: London, 1992.
- Eliasson, G., Green, C., 1998, *Microfoundations of Economic Growth: A Schumpeterian Perspective*, The University of Michigan Press, Ann Arbor.
- Rosenberg, N., Landau, R., and Mowery, D. C., 1992, *Technology and the Wealth of Nations*, Stanford University Press, Stanford.

Supervisor: Hacer Ansal – 1 student

Thesis Topics:

- Problems of Technology Transfer, Management & Innovation in Developing Country Environment

3. MODULE - will be selected from the following options:

A) Environmental Issues in the Development Process (Fatoş Germirli Babuna and Barbara Pusch)

The content: Fundamentals of ecology; Population increase, food and hunger; Energy alternatives and the environment; Mineral resources; Impact of human activities on the environment; Global change and ecological crisis; Environmental sociology; Ecological risks and modern society; The environmental issue in developing countries; Environmental movements; Environmental ethics; Environmental law; Environmental politics.

Key Literature:

- Hayward, T., *Ecological Thought*, Polity Press, 1995.
- Weston, A. & Abram, D., *An Invitation to Environmental Philosophy*, Oxford University Press, September 1998.
- Re Velle P. & Re Velle, C., *The Global Environment-Securing a Sustainable Future*, Jones & Barlett Publishers, 1992.
- Jordan, C. F., *Conservation-Replacing Quantity With Quality as a Goal for Global Management*, John Wiley and Sons, 1995.
- Hughes, D., *Environmental Law*, Butterworths, London, 1999.

Supervisor: Barbara Pusch - 1 student

Thesis Topics:

- Case Studies on Environmental Issues

B) Social and Environmental Impact of Biotechnology (Ayşe Gözen, Benan Dinçtürk, Artemis Karaali and Fatoş Germirli Babuna,)

The content: Introduction to Genetics & its manipulation/ Regulations in Europe & USA, Major problems in bioethics: People's side, nature's side or politician's side; Consumer concerns on biosafety and Cartagena Protocol, Agricultural applications of transgenic crops and Genetically modified ingredients in food; Applications of biotechnology in environmental pollution control; Biotechnology from developing country perspective, Strategic targeting in biotechnology.

Key Literature:

- Acharya, R., (1990) *The Emergence and Growth of Biotechnology*, Edward Elgar Publishing Ltd., Cheltenham.
- OECD (1989) *Biotechnology. Economic and Wider Impacts*, Paris.
- OECD (1992) *Biotechnology, Agriculture and Food*, Paris.
- Brenner, C.,(1996) *Integrating Biotechnology in Agriculture. Incentives, Constraints and Country Experiences*, OECD, Paris.
- Snustad D.P., Simmons M.J. (2000) *Principles of Genetics*, 2nd edition, John Wiley and Sons.
- Suzuki D., Knutson P. (1989) *Genetics: The ethics of engineering life*, New Data Enterprises Ltd.
- Appleyards B (1999) *The brave new worlds: Genetics and the Human Experience*, Harper Collins.
- Buchanan A., Brock DW, Daniels N, Wikler D (2000) *From chance to choice: Genetics and Justice*, Cambridge University Press.
- Mahowald MB, Verp MS, Anderson RR (1998) *Genetic Counselling: Clinical and Ethical Issues. Annual Review of Genetics*, 32, p. 547-59.
- Russo E, Cove D (1998) *Genetic Engineering: Dreams and nightmares*, Oxford University Press.
- P. A. Vesilind, J. J. Peirce & R. F. Weiner (1990) *Environmental Pollution and Control*, 3rd edition, Butterworth Heinmann, pp 104-112, 169-173.
- P. ReVelle & C. ReVelle (1990) *The Global Environment-Securing a Sustainable Future*, Jones and Bartlett Publishers, pp. 308-310, 400-401.
- D. G. Kaufman & C. M. Franz, *Biosphere 2000-Protecting our Global Environment*, Harper Collins College Publishers, 1993, pp. 306-308, 429-432, 435- 436.

- David, S. & Knudtson P., *Genetics : The clash between the new genetics and human values*, Cambridge, Mass. : Harvard University Press, 1990.
- Falconi, C.A.(1999)“Agricultural Biotechnology Research Capacity in Four Developing Countries”, Briefing Paper 42, ISNAR, The Hague.
- Gözen, A. (1992) “Industrialisation Through Plant Biotechnology! An Assessment of Opportunities and Constraints in the Case of Turkey”, *Recent Advances in Biotechnology* (Eds.Vardar-Sükan, F., Sükan, Ş.S.), NATO ASI Series, Kluwer Academic Publishers, Dordrecht.
- Pistorius, R. and van Wijk, J. (1999) *The Exploitation of Plant Genetic Information*, Print Partners Ipskamp, Amsterdam.
- Zilinskas, R.A. (1995) “Biotechnology and the Third World: The Missing Link Between Research and Applications” in *The Biotechnology Revolution?* (Eds. Fransman, M., Junne, G. and Roobeek, A.), Blackwell, Cambridge, 1995.

Supervisor: Ayse Gözen - 1 student

Thesis Topics:

- Technological Capacity Building in Biotechnology in Developing Countries - Priority setting, Technology transfer, Technology actors, etc.

Supervisor: Artemis Karaali - 1 student

Thesis Topics:

- Convention on biological diversity - biosafety protocol / The CARTAGENA PROTOCOL: Debates - politics behind and developments after

C) Disasters, Science, Technology and Society (Engin Yıldırım)

The Content: Concepts of and risk society and reflexive modernization, Major theoretical approaches in the field of disaster studies: Technological determinism and vulnerability; Disasters as a social phenomena, Human attitudes and behaviour in the face of disasters, Interaction between, human, nature and society; Scientific and traditional mentality in the interpretation of disasters; Examining the Northridge (USA) and Marmara (Turkey) earthquakes as case studies; ‘claim-makers’ and politics of earthquake prediction.

Key Literature:

Beck,U, **Risk Society: Towards a New Modernity**, London:Sage, 1992.

Bolin, R. **The Northridge Earthquake**, London: Routledge, 1998.

Clarke, L., and J.F. Short, “Social Organization and Risk: Some Current Controversies” **Annual Review of Sociology**, No:19, pp. 375-399, 1993.

Gavrilis, G. “Covering Disasters, Natural or Otherwise: Media, Politics and the Public Sphere in Post-Earthquake Turkey”, *New Perspectives on Turkey*, spring 2001, p.141-164

Giddens, A.**The Consequences of Modernity**, Cambridge:Polity, 1990.

Komut, E. M. , **Urban Settlements and Naural Disasters**, Ankara: Chamber of Architects of Turkey, 1999.

Klinenberg,E., “Denaturalizing disaster” **Theory and Society**, Vol. 28, No.2,1999.

Nigg, J.M.,**The Issuence of eathquake “predictions”:**Scientific approaches and

public policy strategies, University of Delaware, Disaster Research Center Papers, 1998.

Quarantelli, E.L., **Disasters: Theory and Research**, London: Sage, 1978.

..... **What is a Disaster?** London: Routledge, 1998.

Russell, L.A. and J.D. Goltz, "Preparedness and Hazard mitigation actions before and after two earthquakes", **Environment & Behaviour**, Vol. 27, No.6, pp 744-771, 1995.

Smith, A.O and S.M. Hoffman, **The Angry Earth**, London: Routledge, 1999.

Stallings, R.A., **Promoting Risk: Constructing Earthquake Threat**, New York: Aldine de Gruyter, 1995

Supervisor: Engin Yıldırım - 2 Students

Thesis Topics:

- Politics of earthquake prediction and knowledge claims
- Civil society and earthquakes
- Development, social change and vulnerability
- Local interest groups and disaster mitigation

D) Housing, Technology and Society (Yıldız Sey and Şule Özüekren)

The Content: Interdisciplinism, housing and social theory; Epistemological grounds of housing studies; What is a housing problem?; Political science and housing research; The convergence thesis in comparative housing research; Housing and comparative welfare research; Economics of housing; Social structures and housing; The social construction of housing; Residence as a socio-spatial focus; Housing culture and technology; Historical perspective of housing development in western and non-western countries.

Key Literature:

Kemeney, J., *Housing and Social Theory*, Routledge, London, 1992.

Arnott, R., *Economic Theory of Housing*, in Edwin S. Mills (ed.), *Handbook of Regional and Urban Economics*, Vol.2, North-Holland, Amsterdam, 1987.

Mills, E. S., *An Analysis of Appropriate Government Housing Policies in Market Economies*, in R. Hjerpe (ed.), *Urbanization : Its Global Trends, Economics and Governance*, Paino Oy, Helsinki, 1998.

Wells, J., *The Construction Industry in Developing Countries and in Countries that are not Developing*, in R. Hjerpe (ed.) *Urbanization: Its Global Trends, Economics and Governance*, Paino Oy, Helsinki, 1998.

Ball, M., Harloe, M. & Martens, M., *Housing and Social Change in Europe and the USA*, Routledge, London, 1998.

Herbert, G., *The Dream of the Factory-Made House*, MIT Press, Cambridge, Mass., 1984.

Supervisor: Yıldız Sey – 1 student

Thesis Topics:

Technology transfer in housing production and its relation with the organization of production process

Post - disaster housing and the role of NGO's

The impact of social and economic policies on housing sector

Supervisor: Şule Özüekren– 1 student

Thesis Topics:

The impact of global changes in production on social exclusion –
the case of immigrants on the housing market

The impact of developments in information and communication
technologies on the integration of immigrants in western Europe