ARCADIA UNIVERSITY
THE COLLEGE OF GLOBAL STUDIES

Arcadia Center for Hellenic,
Mediterranean and Balkan Studies
Arcadia University

GREA EVST 380 Conserving Biodiversity and Ecosystems in Greece and Europe

Teacher's name *: Dimitrios Dimopoulos, PhD*

Course Description: The course investigates:

- the values of biodiversity and ecosystems
- the impacts humans have upon biodiversity
- the implications of global warming on ecosystems and human societies
- the importance of nature conservation and sustainability
- major political, social and economic issues related to nature conservation and sustainability in Greece and the European Union.

Rationale and Impact of Course: Education abroad is all about broadening horizons. It is about getting to know, and most importantly, to appreciate how people outside the USA deal with local or global issues. Biodiversity and climate change are high on the political agenda and are now entering our daily jargon. It is these issues that the specific course aims to address and investigate. The nature conservation course aspires to raise a higher level of awareness on biodiversity, climate change and sustainability and also to instil in students a whole set of environmental ethics.

Learning Outcomes and Expected Student Competences:
Students will:

- Learn the natural features of Greece and the European Union and discover the work of national and international organizations to conserve biodiversity
- Understand the complex relationship between humans and the natural environment and how this affects their lives
- Realise the impacts climate change has on our planet, society and economy
- Comprehend the fundamental principles of sustainable development and green business
- Be exposed to new experiences and acquire appreciation of diversity as a natural and social attribute
- Develop positive attitudes toward learning in different settings
- Develop a sense of responsibility for our planet.

Course Requirements

Class participation and attendance

Attendance to all classes and field trip (s) are obligatory. Attendance and active participation are very important and account for 30% of the final grade. Participation is not just about talking, giving opinions or exercising critical capacities. It should also involve giving evidence of reading either the material assigned or other sources relevant to the subject matter.

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One unexcused absence is permitted. After that, 2.5 grade points will be deducted for every unexcused absence. If you are ill, you must inform me, as well as Jan or Joanna, before class meeting time for your absence to count as excused.

Essays - Exams
Six short essays/assignments on given subjects will account for 40% of final grade.
The Final exam accounts for 30% of the final grade.

Each student is responsible for performing academic tasks in such a way that honesty is not in question. All tests, term papers, oral and written assignments, and other academic efforts are to be the work of the student presenting the material.

Syllabus

Class 1

- **The evolutionary tree of life**
- **What is biodiversity? The levels of biodiversity**
- **What are ecosystems? Types of ecosystems**
- **Types of ecological interactions**

Resources:

- Primack, B. R. (2002). Essentials of conservation biology. Published by Sinauer Associates, Inc., USA. (pp 28-29 & pp39-43).
- Purves, K.W., Sadava, D., Orians, G.H., and Heller,H.C. (2004). Life, the science of Biology, pp 1-9, pp 1040-1041 and pp1055-1063
- R. Dawkins (209). The greatest show on earth-the evidence for evolution. London, Transworld Publishers. Pp 3-18.

Class 2

- **Biodiversity in Europe**
- **European policies and legislation for the protection of biodiversity**
- **Natura 2000 network of ecologically sensitive areas in the European Union**

Resources:

- European Environmental Agency (2005). The European Environment: State and outlook 2005, pp 182-210
- European Environmental Agency (2002). An inventory of biodiversity indicators in Europe. pp 6-9.
- The European Commission website on biodiversity and Natura 2000 (http://ec.europa.eu/environment/nature/index_en.htm)
- European Environment Agency (2010). The European Environment-State and outlook 2010-Biodiversity. Copenhagen, EEA. pp 4-11 and 25-31.
- European Environment Agency (2010). Assesing biodiversity in Europe-the 2010 report. EEA, Copenhagen. pp 6-8.
- European Commission (2011). Our life insurance, our natural capital: an EU biodiversity strategy to 2020. Brussels, COM (2011) 244 final.

Class 3

- **Biodiversity in Greece: major features**

Resources:

- National report of Greece for the Rio Summit 1992 (Athens, 1991), (pp15-24)
- First National Report on the Convention on Biological Diversity (Ministry of Environment, Greece, January 1998) (pp 10-16)
- Preparation of a Strategic Action Plan for the conservation of Biological Diversity in the Mediterranean Region - SAP BIO, July 2002 (pp3-4).
- Environmental signals (2003), A Report on Sustainability Indicators, Greece, pp 42-48
- Valavanidis A. and Vlachogianni Th. (2011). The most important and urgent environmental problems in Greece in the last decade (2000-2010). Report from Department of Chemistry, University of Athens.

Class 4

- **Sea turtles: biology and ecology of the endangered loggerhead turtle (*Caretta caretta*) in the Mediterranean**
- **ARCHELON-the Sea Turtle Protection Society of Greece**

Resources:

- Dimopoulos, D., Arapis, T., & Margaritoulis, D. (2003). Conservation perspectives of the major critical nesting habitats of *Caretta caretta* in Greece. In D. Margaritoulis and A. Demetropoulos (Eds), Proceedings of the first Mediterranean Conference on Marine Turtles. Barcelona Convention-Bern Convention-Bonn Convention (CMS). Nicosia, Cyprus.
- Margaritoulis, D. (2005). Nesting activity and reproductive output of Loggerhead sea turtles *Caretta caretta* over 19 seasons (1984-2002) at Laganas Bay, Zakynthos, Greece: the largest rookery in the Mediterranean. Chelonian Conservation & Biology, 4(4), 916-929.
- Irvine, C., Margaritoulis, D., & Arapis, T. (2000). The role of a non-governmental organisation in sea turtle conservation and management planning in Greece. Proceedings of the 19th Annual Symposium on Sea Turtle Conservation and Biology, 2-6 March 1999, pp 49-52.
- Alan F. Rees. (2005). ARCHELON, the Sea Turtle Protection Society of Greece: 21 years studying and protecting sea turtles. B.C.G. Testudo Vol. 6, No.2
- General overview of sea turtle biology, from ARCHELON website (www.archelon.gr)
- Euroturtle site (http://www.euroturtle.org)
- Casale, P and Margaritoulis D. (Eds) (2010). Sea Turtles in the Mediterranean Distribution Threats and conservation priorities. Gland,Switzerland, IUCN. pp 85-112

Class 5

- **Human impact on biodiversity**
- **What is extinction**
- **Valuing biodiversity (Part I)**

Resources:

- Primack, B. R. 2002. Essentials of conservation biology. Published by Sinauer Associates, Inc., USA, pp 87-89, p 97, p 109, p 135, pp 159-164.
- World Resources Institute (http://www.wri.org)-Mechanisms for the loss of biodiversity

Class 6

- **Visit to the ARCHELON Sea Turtle Rescue Centre**

- The Sea Turtle Rescue Centre was set up in 1994 by ARCHELON in the suburb of Glyfada in Athens. The purpose of the Centre is to treat and release sea turtles, as well as to educate the public. On average 50 wounded or sick turtles are transferred to the Centre from all parts of Greece. Students will see treated turtles and talk to international volunteers.

Class 7

- **The value of biodiversity (Part II)**

– The Economics of ecosystems and biodiversity, TEEB, Interim Report 2008

Class 8

- **Policy and legislation to conserve nature in Greece**
- **Implementation of environmental legislation in Greece**
- **The Natura 2000 network in Greece**

Resources:

- WWF, 2006: Natura 2000 in Europe. An NGO assessment. Budapest
- http://www.ekby.gr/ekby/en/EKBY_Natura2000_en.html
- http://www.ypeka.gr/Default.aspx?tabid=235&language=en-US

Class 9

- **The role of NGOs in protecting the environment in Greece**
- **The attitudes of Greeks toward the environment-Recent surveys**

- Students will present the results of their research (via internet) on the environmental organisations in Greece and their role in nature conservation. Discussion will follow in class.
- The results of surveys describing the attitudes of Greeks toward the environment will be discussed. Comparison with European surveys.

Class 10

- **Global warming-Exploring an inconvenient truth**
- **What is global warming and how it affects the planet**

– Discussing the film 'An Inconvenient Truth' by Al Gore

Class 11

- **The effects of global warming on biodiversity**
- **The economic effects of global warming**
- **The international efforts to mitigate global warming**
- **The policies of the European Union to tackle climate change**

Resources:

- Stern Review (2006): the economics of climate change
- The European Commission (2007): Limiting Global Change to 2 degrees Celsius, The way ahead for 2020 and beyond, pp 2-3
- European Renewable Energy Council & Greenpeace (2007). Energy [r]evolution-A sustainable world energy outlook (pp 7-8 & pp 10-12)
- Tapio Schneider (2008). How We Know Global Warming is Real The Science Behind Human-induced Climate Change. The Sceptic, 14 (1).
- http://www.eea.europa.eu/themes/climate/multimedia/living-with-climate-change/view
- http://ec.europa.eu/clima/policies/brief/eu/index_en.htm

Class 12

- **Establishing protected areas: objectives and principles**

Resources:
- Dudley, N. (Editor) (2008). Guidelines for applying protected area management categories. Gland, Switzerland : IUCN

Class 13
- **Protected areas in Greece: The history**
- **The National Marine Park of Zakynthos-how did we get there and what it means for nature conservation in Greece**

Resources:
-Dimopoulos, D. (2001).The National Marine Park of Zakynthos: a refuge for the loggerhead turtle in the Mediterranean. Marine Turtle Newsletter, 93, p5-9.
-Dimopoulos, D., Charalambides, N., Karavelas, D., Lalotis, N. & Venizelos, L. 2003. The role of NGOs in promoting the establishment of the National Marine Park of Zakynthos, Greece. In D. Margaritoulis and A. Demetropoulos (Eds), Proceedings of the first Mediterranean Conference on Marine Turtles. Barcelona Convention-Bern Convention-Bonn Convention (CMS). Nicosia, Cyprus.

Class 14
- **The 11th Hour (2007), a film by Leila Conners, Nadia Conners**

A look at the state of the global environment including visionary and practical solutions for restoring the planet's ecosystems. Discussion in class.

Class 15
- **Sustainable development**
- **The principles of sustainability**
- **Toward a sustainable society-is it feasible?**

Resources:
- Daily, G. C., & Ellison, K. (2002). The economy of nature. The quest to make conservation profitable. Washington: Island Press/Shearwater Book, pp 1-17.
- Hawken, P., Lovins, A., & Lovins, L. H. (1999). Natural Capitalism Creating the next industrial revolution. Boston: Little, Brown and Company , pp 1-21 and 49-50. (in ARCADIA library)
- McDonough, W. & Braungart M. 2002. Cradle to Cradle-Remaking the way we make thing, pp 3-16 (in ARCADIA library)
- Adams, W.M. & Jeanrenaud S.J (2008). Transition to Sustainability: Towards a Humane and Diverse World. IUCN Future of Sustainability Initiative, pp 3-4 & 71-80

Week 16
- **Exploring sustainability in business**
- **What is green business**
- **Communicating sustainability**

Resources:
- WBCSD (July 2008). Adaptation-An issue brief for business.

- UNEP-Futerra (2005). Communicating Sustainability-How to produce effective public campaigns.
- IUCN (2008). Transition to Sustainability: Towards a Humane and Diverse World, IUCN Future of Sustainability Initiative 2008
- Growing within Limits, Netherlands Environmental Assessment Agency (PBL), Bilthoven, October 2009
- UNEP (2011).Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication. pp 14-26.
- www.unep.org/greeneconomy
- UNEP/ILO/IOE/ITUC Green Jobs: Towards Decent Work in a Sustainable, Low-Carbon World, September 2008

Class 17

- **What are wetlands?**
- **The value of wetlands**
- **Wetlands in Greece-conservation status**

Resources:

- P.A. Gerakis & E.T. Koutrakis (Eds). 1996. Greek wetlands.
- P. Maragou & D. Mantziou. 2000. Assessment of the Greek Ramsar wetlands
- Barbier, E.B., Acreman, M., & Knowler D. (1997). Economic valuation of wetlands: a guide for policy makers and planners. Gland: RAMSAR Convention Bureau. (chapter 1 and 2)

Class 18

- **Communication theory**
- **Communication for nature conservation**
- **Public awareness: creating the climate for the success of protected areas.**
- **Evaluating the effectiveness of information dissemination**

Resources:

- IUCN. 1994. Parks for Life: Action for Protected Areas in Europe, pp 131-141
- Buchanan, D., and Huczynski, A. (2004). Organizational behaviour-An introductory text. Fifth edition, Prentice Hall. Pp 181-185.
- Rose, C. (2005). How to win campaigns-100 steps to success. Earthscan, London, pp3-13.
- Jacobson, S.K. (1999). Communication skills for conservation professionals. Island Press, Washington DC, pp1-19.
- Skanavis, C. and Giannoulis, C. (2010). Improving quality of ecotourism through advancing education & training of greek eco-tour guides: the role of training in environmental interpretation. TOURISMOS: AN INTERNATIONAL MULTIDISCIPLINARY JOURNAL OF TOURISM Volume 5, Number 2, Autumn 2010, pp. 49-68 UDC: 338.48+640(050) 49

Class 19

- **What is environmental education**
- **The goals of environmental education**
- **Environmental education: a long-term investment**

Resources

- Lewis-Webber, M. (1994). Young children and environmental ethics. In Wilson, R.A. "Environmental Education at the Early Childhood Level". NAAEE, USA, pp23-27
- NAAEE (2000). Environmental Education Materials: Guidelines for Excellence Workbook. p1
- Ajzen, I., and Fishbein, M. (1980). Understanding attitudes and predicting social behaviour. Prentice Hall Inc. Englewood Cliffs, N. Jersey. pp 5-9
- Skanavis C. and Giannoulis Ch. (2006). Sustainability communication as a tool for promoting responsible environmental behaviour. Conference paper in Protection and Restoration of the environment VII, Chania, Greee.

Class 20

- **Field trip to Vravrona wetland**

- Vravrona is a small wetland in Attica, but also a interesting archaeological site with a museum. Students will go bird watching and meet with the Ornithological Society of Greece.

Class 21

- **Guest speaker**

- Local government and environment

Class 22

- **Guest speaker**

- Local government and green economy

Class 23

- **Final exam**