



*Study Abroad in Ecovillages*

**Israel: Peace, Justice and the Environment  
at Kibbutz Lotan**

Fall Semester, 2008

**ACADEMIC CURRICULUM**



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## PROGRAM OVERVIEW

This program will explore the connections between new forms of ecological identity and stewardship, social justice and community in Israel. Student will work alongside Palestinian-Arab, Bedouin and Jewish Israelis who are striving for a just and lasting peace. Participants will gain hands-on experience in ecological design, green building and sustainable agriculture and put permaculture into action in a Bedouin Village in the Negev Desert.

Through engagement with a holistic approach to world issues that encompasses inner, cultural, and outer processes, students on this unique program will broaden and deepen their understanding of sustainability and ecology. Hands-on experience with habitat restoration, local organic food production, teaching in village schools, working with village action groups and more, help build a growing theoretical understanding of issues relating to global sustainability.

Students will learn from experts about cutting-edge ecological building techniques such as adobe, straw bale, and geodesic domes, as well as permaculture design. Participants will engage in peace dialogues with marginalized groups around their experience and ideas for creating peace and justice in the region. This program emphasizes critical thinking, open-mindedness, consensus decision-making, community living and non-violent communication in order to explore sensitive international, community and personal dynamics.

For more program details, including faculty, visit our [Israel web page](http://www.livingroutes.org/programs/p_lotan.htm).  
[http://www.livingroutes.org/programs/p\\_lotan.htm](http://www.livingroutes.org/programs/p_lotan.htm)

# Peacebuilding and Social Justice

**Program:** Israel: Peace, Justice and the Environment at Kibbutz Lotan

**Department:** Judaic & Near Eastern Studies

**Course:** Judaic 390L

**Semester:** Fall 2008

**UMass Faculty Sponsor:** Shmuel Bolozky (Judaic & Near Eastern Studies)

**Credits:** 4

## *Course Description*

Despite decades of intense work by individuals, non-profits, and governments, the Israeli-Palestinian conflict has yet to be resolved. Through engaging with a wide spectrum of conceptual models, projects and activists – all striving towards peace and social justice – students will gain insight and understanding of the past, the present, and possible futures in the Holy Land. In three stages, students will:

- (1) examine cultural narratives of the majority and minority populations in the region,
- (2) understand traditional and alternative conflict resolution theories and models, and
- (3) engage with people and projects working towards peace and social justice in Israel/Palestine.

Significant historical events will be addressed from the perspective that it is not facts that create conflict, but rather peoples' reactions to them. Students will be exposed to a number of different and often opposing narratives (e.g. Jewish vs. Arab, religious vs. secular, right wing vs. left wing, *The Jerusalem Post* vs. Al Jazeera) and be guided to move beyond dualistic thinking. What sides do we tend to take? Who do we tend to marginalize? What happens when we allow ourselves to recreate another's experience within ourselves?

This course will explore dynamics within and between individuals, among groups, and between humans and nature. Students will meet individuals and organizations from diverse "camps" and learn how their goals and methods derive from their basic understandings of what constitutes peace and social justice. Is it primarily about ending violence or supporting equal rights? Is it about economic development, intercultural understanding, a state of consciousness, or something else altogether? How does the media's portrayal of various groups compare with meeting members of these groups in real life?

Students will also experience environmental and social justice issues first hand within marginalized Bedouin communities, Jewish towns, and industrial sites in the Yatir Forest and the Be'er Sheva region in the Negev desert and explore how Israeli militarism and the military occupation of Palestine have impacted the environment and various groups of people.

## ***Course Objectives***

- Learn how to become a participant observer within diverse cultures
- Study and experience different models and tools of non-violent conflict resolution
- Gain an understanding of historical and current events in the Israeli-Palestinian conflict
- Engage with diverse Israeli and Palestinian communities
- Listen to voices currently marginalized in the international media
- Understand and experience environmental justice issues in the Negev desert

## ***Learning Modalities***

The faculty teaching this course use lectures, discussions, site visits, small group work and hands on projects as key strategies to allow each student to develop mastery of course content.

## ***Course Outline***

### **Stage 1: Cultural Observation and the Social/Physical Landscape of Israel/Palestine**

#### Week 1 – Introduction to Studying Peace and Social Justice

- An introduction to Ecopsychology – the connection between group dynamics, peace and social justice, and ecology
- Examining preconceived notions and assumptions about Israel and Palestine that block objective observations and clear encounters with individuals and groups.

#### Week 2 - Becoming a Participant Observer within Diverse Cultures

- Ken Wilber's matrix (inner-personal, outer-personal, inner-collective, outer-collective).
- Spiral Dynamics – a model for understanding individual and societal evolution
- Cultural observation and analysis: skills and techniques to study unfamiliar cultures.
- Social justice: a Jewish perspective

### **Stage 2: Diverse Models for Understanding Conflict**

#### Week 3

- Mapping the human diversity of Israel/Palestine (weeks 3-5)
- Classical and alternative models of conflict resolution/transformation
- Jewish responses to modernity 1: Reform Judaism

#### Week 4

- Peace begins within: Thich Nhat Hanh's model of individual transformation
- Jewish responses to modernity 2: Political Zionism, Cultural Zionism, Reform Zionism

#### Week 5

- Entering the enemy's shoes: Understanding the "other", multiple perspectives coexisting.
- The concept of Kibbutz

#### Week 6

- The impact of cultural differences on conflict resolution
- Jewish environmental ethics

#### Week 7

- Towards a holistic model of conflict resolution – integrating various models

### **Stage 3: Projects and Individuals Working to Make a Difference in Israel/Palestine**

#### Week 8

- Overview and analysis of Israeli and Palestinian peace projects through the Just Vision Project, which interviewed and catalogued over 180 peace organizations and individuals
- Eco-Zionism

#### Week 9- Service Learning with Bustan L'Shalom

- Learning about Bedouin history, culture and current challenges
- Political planning and development between cultures
- Environmental health issues and greening efforts within Bedouin culture
- State of education within Bedouin community
- Service learning project within Bedouin community

#### Week 10

- Overview and analysis of Israeli and Palestinian peace projects (continued)

#### Week 11 –Weekend at Ambassador Hotel, Jerusalem (Israeli-Palestinian gathering place)

- Day of rest for Islam, Judaism, and Christianity – encounters with the three religions
- Meetings with leading peace organizations and individuals
- Media and conflict and meetings with international journalists:
- Humanizing extremists, beyond simple images presented in the media

#### Week 12 -Marginalized communities

- Encounters with ultraorthodox Jewish community's social justice projects, the Ethiopian community, Darfur refugees
- Shlichut (mission) and Tikkun Olam (repairing the world).

Week 13 • Israel’s international involvement in social justice

- IsraelAid and tsunami relief,
- Tevel B’Tzedek – social justice work in Nepal, involvement
- Utilizing creative movement and visual arts to process Peace and Social Justice program

Week 14

- Final project presentations

***Course Requirements***

- 8-10 page paper/project on selected topic
- Presentation of paper/project
- Presentation of interviews and photographs from the *Mapping of human diversity* project
- Reflection journal

***Summary of Course Grade Criteria***

Students will be evaluated on the following criteria:

- 1) Participation in all activities and discussions ..... 35%
- 2) Overall mastery of course content ..... 25%
- 3) Execution and presentation of the term paper or project..... 25%
- 4) Quality and presentation of Mapping project ..... 15%

***Required Readings***

Dershowitz, Alan, (2003). The Case for Israel. John Wiley and Sons Inc, Hoboken, NJ.

Nhat Hanh, Thich. (2005). Peace Begins Here: Israelis and Palestinians Listening to Each Other. Parallax Press.

Said, Edward. (1995) Peace and its Discontents: Essays on Palestine in the Middle East Peace Process. New York: Vintage Books.

Please also become familiar with the information on the [www.justvision.org](http://www.justvision.org) website

***Selected Bibliography***

Alfred, Robin and Joubert, Kosha Anja. (2007). Beyond You and Me: Inspiration and Wisdom for Building Communities. Permanent Publications.

Avineri, Shlomo (1981). The Making of Modern Zionism: Intellectual Origins of the Jewish State. Basic Books.

- Armstrong, Karen. (2000) The Battle for God. Ballantine Publishing Group/Random House.
- Ben-Ami, Shlomo. (2007) Scars of War, Wounds of Peace: The Israeli-Arab Tragedy . Oxford University Press.
- Berry, Mike and Greg Philo. (2004). Bad News from Israel. London: Pluto Press.
- Bregman, Ahron. (2000). Israel's Wars: A History Since 1947. New Jersey: Princeton University Press.
- Buber, Martin; Godman, Stanley (Translator). On Zion: The History of an Idea (Martin Buber Library). Syracuse Univ Pr (Trade); 1997.
- Butler, J. (2004). Precarious life. London and New York: Verso.
- Chomsky, Noam. (1999). The Fateful Triangle: The United States, Israel and the Palestinians. Boston: South End Press.
- Chomsky, Noam. (2003). Middle East Illusions. Oxford: Rowman and Littlefield Publishers.
- Devine, G. P., Plant, E.A & Blair, I.V. (2001). Classic and contemporary analysis of racial prejudice. . In R. Brown & S. L. Gaertner (Eds.), Blackwell handbook of social psychology: Intergroup processes. Malden, MA & Oxford: Blackwell publishers.
- Fanon, F. (1967). Black skin white masks. New York: Grove Press.
- Fisher, Rodger, Ury, William and Patton, Bruce. (1991). Getting to Yes: Negotiating Without Giving In. Penguin Books.
- Freire, P. & Macedo, D. P. (1995). A dialogue: Culture, language, and race. In Harvard Educational Review, 65, 3.
- Grossman, David. (2002). The Yellow Wind. Picador.
- Halabi, R. (2004). Israeli and Palestinian identities in dialogue: The School for Peace approach. New Jersey, New Brunswick and London: Rutgers University Press.
- Hertzl, Theodore. (2006) The Jewish State. Filiquarian Publishing.
- Herzl, Theodore. The Jewish State. Federation of American Zionists, New York. 1917. Dover Pubns; 1989.
- Israel/Palestine: The Black Book. (2003) Ed. Reporters without Borders. London: Pluto Press.

- Kimmerling, Baruch. (2005). The Invention and Decline of Israeliness: State, Society, and the Military. University of California Press.
- Lerner, Michael. (2003). Healing Israel/Palestine: A Path to Reconciliation. N Atlantic Books.
- Levine, Peter (1997) Waking the Tiger : Healing Trauma : The Innate Capacity to Transform Overwhelming Experiences. North Atlantic Books
- Meir-Levy, David. (2007) History Upside Down: The Roots of Palestinian Fascism and the Myth of Israeli Agression. Encounter Books.
- Memmi, A. (1965). The colonizer and the colonized. Boston: Beacon Press.
- Morris, Benny. (2001) Righteous Victims: A History of the Zionist-Arab Conflict, 1881-2001. Vintage.
- Morrison, David. (2004). The Gush: Center of Modern Religious Zionism. Gefen Publishing House, Jerusalem.
- Netanyahu, Benyamin. (2000) A Durable Peace: Israel and its Place Among the Nations, Grand Central Publishing.
- Nhat Hanh, Thich. (1992). Peace is Every Step: The Miracle of Mindfulness. Bantam Books
- Nusseibah, Sari. (2007). Once Upon a Country. Farrar, Straus and Giroux
- Pappe, Ilan. (2004) A History of Modern Palestine: One Land Two Peoples. Cambridge: Cambridge University Press.
- Peres, Shimon and Avi-Yonah, Michael. (2005). A History Of Israel and The Holy Land. Continuum.
- Ravitzky, Aviezer; Swirsky, Michael (trans); Chipman, Jonathan (trans). Messianism, Zionism, and Jewish Religious Radicalism (Chicago Studies in the History of Judaism). University of Chicago Press; 1996.
- Reinhart, Tanya. (2002). Israel/Palestine: How to End the War of 1948. New York: Seven Stories Press.
- Rosenberg, Marshall.(2004) The Heart of Social Change: How to Make a Difference in Your World. Puddledancer Press.
- Rosenthal, Donna. The Israelis: Ordinary People in an Extraordinary Land
- Ross, Gina. (2003). Beyond the Trauma Vortex: The Media's Role in Healing Fear, Terror, and Violence. North Atlantic Books.

- Said, E. W. (1979). Orientalism. New York: Vintage Books.
- Said, Edward. (1979) The Question of Palestine. New York, Vintage Books.
- Shahak, Israel. (2004) Jewish Fundamentalism in Israel. Pluto Press
- Sidanius, J., Devereux, E. & Pratto, F. (1992). A comparison of symbolic racism theory and social dominance theory as explanations for racial policy attitudes. Journal of Social Psychology, 132, 377-395.
- Tajfel, H. & Turner, J.C. (1986). The social identity theory of intergroup behavior. In S. Worchel and W.G. Austin (Eds.), Psychology of Intergroup Relations, Chicago: Nelson Hall.
- Wilber, Ken, (2006). Integral Spirituality: A Startling New Role for Religion in the Modern and Postmodern World. Shambala Press.

# Group Dynamics & Creating Sustainable Communities

**Program:** Israel: Peace, Justice and the Environment at Kibbutz Lotan

**Department:** Communications

**Course Number:** Comm 352

**Semester:** Fall 2008

**UMass Faculty Sponsor:** Leda Cooks (Communications)

**Credits:** 4

## *Course Description*

Participants in this course will create their own learning community to experience for themselves what it is like to live, work and learn as a community. Participants will have the opportunity to practice skills needed to learn in community like group facilitation, non-violent communication and consensus based decision making. They will work as a group on several hands-on building projects and learn tools for conflict resolution. Through their experience learning and living in community students will be encouraged to reflect on the role of the individual in community.

Through these overlapping experiences we are challenged to recognize and think critically about the physical, social, economic, ethical, political, and spiritual elements that make up sustainable communities. We see the similarities and contrasts between the different intentions that have brought us together: we as a learning community (with a diversity of goals and backgrounds even within our small group) and the goals of these other quite different communities that are working to build a life together and/or accomplishing social /cultural reform.

For this course we also strive to deconstruct the idea that humans are autonomous, self-directing individuals living within a human-centered universe, and attempt to stimulate in students a sense of identity as a part of an interdependent community that includes the entire biota, thereby encouraging treatment of all living beings with respect and consideration.

The semester will be spent living in 2 intentional communities, where students will get to see first hand what life in community is like. The majority of the semester will be spent in Kibbutz Lotan, a reform Jewish community with a focus on ecological living in the Arava Valley. During this stay, students will take day trips to other area kibbutzim in order to gain a deeper understanding of the kibbutz movement and learn how different communities organize their economic and decision making structures. Students will also visit Jewish, Arab and Bedouin villages and cities throughout the country.

A total of three weeks will be spent at the Eco-Arts Village community, an emerging intentional community situated within Kibbutz Netiv Halamed Heh in the Ella Valley of

central Israel about 45 minutes from Tel Aviv and Jerusalem. It developed out of a contemporary dance company called Vertigo, which formed in 1992 and began educational activities in 1997. The vision of the community is to be a center for creative research and cross-disciplinary exchange with focus on the arts, healing, personal development and working with the Earth.

### ***Course Objectives***

- To recognize and understand the foundations of sustainable communities and to distinguish between unsustainable features and practices and their sustainable alternatives
- To gain an understanding of the Kibbutz movement in Israel and compare and contrast visions and day-to-day functioning of various communities, recognizing that different approaches are appropriate for different circumstances
- To create and engage in the Living Routes learning community, as well as the various host communities where we will be staying during the semester, thereby becoming aware of the vital role that active participation plays in sustaining community, and of the reciprocal relationship between freedom and responsibility
- to open oneself to experiencing the different educational methodologies that underlie and support the Living Routes learning community environment
- To acquire effective collective decision-making, facilitation, conflict resolution, and other skills for living and working within diverse communities
- To explore the dynamic tension, and find the balance, between individual and community needs
- To realize that deep cultural change begins with the individual and consequently that one must be willing to explore the self, and to challenge ingrained personal patterns of thought and behavior in order to foster sustainability and peace
- To strive to promote right relationships with oneself, others, and the earth

### ***Learning Modalities***

The faculty teaching this course use lectures, discussions, site visits, small group work and hands on projects as key strategies to allow each student to develop mastery of course content.

### ***Course Outline***

#### **Weeks 1 & 2 – Getting started: Building our Unique Living Routes Learning Community**

- Agreeing on community values and vision
- Defining and distribute community responsibilities
- Sharing our stories
- Gaining experience with facilitation and leadership skills
- Actively participating in community meetings and sharings
- Exploring the use of collective decision making methods
- Acquiring and actively work with conflict resolution skills

- Learning to speak and listen effectively
- Seeking out, attempting to understand, and respecting our diverse viewpoints
- Appreciating the role of check-ins, logistics meetings, ritual and celebration, music, & play

#### Weeks 3 & 4 - Engaging with Kibbutz Lotan and other Israeli kibbutzim

- Understanding the history and development of the kibbutz movement
- Orientation to Kibbutz Lotan and its vision, values, and practices
- Intentional communities as living laboratories for applying principles of sustainability in technologies, practices, and relationships
- Contemplating the cultural context of Kibbutz Lotan
- Investigating community governing structures and design
- Meeting our neighbors: starting to learn about and visit other kibbutzim in the Arava region

#### Weeks 5 & 6 - Exploring Self & Relationships within a Community Context

- Polishing tools for self-inquiry
- Discovering who we are through the mirror of relationships
- Challenging and supporting one another to “step out of the box”; experimentation with new ways of being in the world
- Exploring the tension between inclusivity and exclusivity in community relationships
- Respecting and (when appropriate) challenging personal boundaries
- Critically reflecting upon the roots and appropriateness of our thoughts, language, and humor
- Developing awareness of our social, cultural, and institutional contexts: recognizing that we are a part of the whole

#### Weeks 7 & 8 - Learning Communities as Schools-- Living & Learning Centers

- Recognizing our teacher as guide, mentor, and facilitator of learning
- Redefining student/teacher relationships
- Exploring alternative educational methodologies
- Providing constructive feedback for one another
- Diving into the process of personal self-assessment

#### Weeks 9 & 10 – Glancing at a wider context

- Eco-activism and community
- Educating the next generation
- Looking at economic issues and how they effect communities large and small
- Globalization

#### Weeks 11 & 12 - Engaging with Bedouin communities

- Green activism across cultural borders
- Cross-cultural communication and conflict facilitation
- Cross-generational communication and conflict facilitation

Weeks 13 & 14 – Where to go from here?

- Evaluating how our individual values have been shaped by the semester’s experiences
- Exploring how to hold on to our experiences when we go home
- Learning how to find our selves within and ‘without’ the context of community

***Course Requirements***

**“Morning pages” reflection journal:** All students will be expected to keep a journal of personal reflections which will be added to daily throughout the course and handed in at the end of the course (although not graded). This assignment will be explained in detail during the first few class sessions.

**Weekly selections:** Selections from student journal will be polished and handed in weekly. These selections will be chosen during weekly meetings where students will, as a group with a faculty facilitator, discuss the writing process and how to develop a free-form journal entry into a polished essay.

**Sustainability presentation:** In the pre-semester materials, all students were requested to bring materials for a presentation some aspect of sustainability. The presentation itself (about 30 minutes) will be part of students' grade for this course. Faculty will consider presentation style, teaching materials used, and content in the evaluation of this assignment.

**Sustainable community design:** Students will be learning about how communities work throughout the semester. Small groups will be meeting to create a design for a workable, sustainable, ecological community and will present this design to the group at the end of the course. Designs will be evaluated based on how well the design addresses the various elements of community that will be learned during the course.

***Summary of Course Grade Criteria***

Students will be evaluated on the following criteria:

- 1) Active participation in all activities and discussions.....30%
- 2) Weekly journal submissions.....30%
- 3) Content, creativity and execution of the sustainability presentation.....10%
- 4) Sustainable community design .....30%

***Required Readings***

Cameron, Julia, (1992). The Artist’s Way. Penguin Putnam, New York, NY.

Fritjof Capra (1982), The Turning Point: Science, Society, and the Rising Culture, Simon and Schuster, Bantam paperback

Fuegelman, Andrew (1981). More new games. The New Games Foundation. Main Street Books New York: Dolphin Books/Doubleday & Company.

Joubert, Kosha Anja & Robin Alfred (2007). Beyond You and Me: Inspiration & Wisdom For Building Community Permanent Publications, East Meon, Hampshire, UK.

Meadows, Donella (1999) *Leverage Points: Places to Intervene in a System* The Sustainability Institute Press, Hartland, VT  
(available online at [http://www.sustainabilityinstitute.org/pubs/Leverage\\_Points.pdf](http://www.sustainabilityinstitute.org/pubs/Leverage_Points.pdf))

Rosenberg, Marshall B. (2005). Nonviolent Communication: A Language of Life. California: PuddleDancer Press.

### ***Selected Bibliography***

Butler, J. (2004). Precarious life. London and New York: Verso.

Freire, P. & Macedo, D. P. (1995). A dialogue: Culture, language, and race. In Harvard Educational Review, 65, 3.

Halabi, R. (2004). Israeli and Palestinian identities in dialogue: The School for Peace approach. New Jersey, New Brunswick and London: Rutgers University Press.

Halabi, R. & Zak, M. (2006), Palestinian-Jewish Youth Encounters at the School for Peace, The School for Peace Research Center, Israel. (it is on the [www. sfpeace.org](http://www.sfpeace.org) web site)

Rosenberg, Marshall B. (2005). Nonviolent Communication: A Language of Life. California: PuddleDancer Press.

Tajfel, H. & Turner, J.C. (1986). The social identity theory of intergroup behavior. In S. Worchel and W.G. Austin (Eds.), Psychology of Intergroup Relations, Chicago: Nelson Hall.

# Permaculture Design

**Program:** Israel: Peace, Justice and the Environment at Kibbutz Lotan

**Department:** Plant, Soil & Insect Sciences

**Course #:** PSIS 398B

**Semester:** Fall 2008

**UMass Faculty Sponsor:** John Gerber (Plant Soil & Insect Sciences)

**Credits:** 4

## *Course Description*

Permaculture is an ethical design method for creating human habitats that are sustainable, diverse, intensive, efficient, and small in scale. Permaculture systems are modeled on ecological systems in that they integrate community, ecology, food production and land use, focusing on the harmonious relationships between these different elements through the application of natural principles arrived at by carefully observing nature.

This course emphasizes the acquirement of practical tools and skills for permaculture design. Participants will learn in detail and put into practice the design and construction of small-scale organic food production systems, study the basics of soil science and organic gardening, and will apply these principles in designing integrated permaculture systems. In addition, participants will experience first hand permaculture ethics as applied on a broader scale within the context of the building of a sustainable community, including worldview, spiritual, social, economic as well as ecological perspectives.

The course takes place on Kibbutz Lotan, an intentional community and developing ecovillage in Israel's southern Arava desert. Social, cultural and spiritual events in the community are open to all, and participants are encouraged to become involved in these aspects of community life as part of a holistic, integrated experience. A strong emphasis is placed on an open and interactive learning environment in which participants can explore their own avenues of interest and contribute to the overall process.

Graduates of the course will receive a Permaculture Design Course Certificate according to the International Permaculture standards.

## *Course Objectives*

- Participants will acquire the knowledge, skills and philosophy pertaining to the design and maintenance of sustainable human habitats, whether urban or rural:
- Participants will acquire a variety of practical skills in small-scale organic food production that may be applied and utilized in any environment.
- Participants will develop an ability to design efficient, sustainable systems according to permaculture principles utilizing methods, techniques and processes that stress integrative and harmonious interrelationships between different elements

- Participants will gain an insight into the challenges and workings of a community taking steps towards sustainability from social, economic and ecological perspectives
- Participants will experience the spiritual and social aspects of community and gain skills in participating in a group-building process
- Participants will gain an understanding of an alternative holistic worldview, undergo a process of personal values clarification and be empowered to apply these insights to their own lives
- Participants will experience and get to know first-hand a unique desert ecosystem and gain knowledge in its geology, ecology and socio-economic fabric

### ***Learning Modalities***

The faculty teaching this course use lectures, discussions, site visits, small group work and hands on projects as key strategies to allow each student to develop mastery of course content.

### ***Course Outline***

#### Week 1

- Orientation to organic garden
- Compost I
- Sheet mulch garden

#### Week 2

- Companion planting
- The synergistic garden
- Holistic worldview
- Compost 2
- Soil 1
- Organic gardening 1
- Sowing seeds
- Planting sheet mulch garden
- Field trip: Wadi Lotan

#### Week 3

- Permaculture 1 & 2
- Soil 2
- Seed saving
- Desert ecology
- Organic gardening 2
- Seed balls
- Vermiculture
- The permaculture kitchen: soap making
- Field trip: Southern nature trail

#### Week 4

- Soil 3
- Organic gardening 3
- Forest gardening
- Permaculture design methods 1 & 2
- Drylands
- Irrigation
- Compost maintenance
- Field trip: Northern nature trail

#### Week 5

- Cutting and grafting
- Field trip: Ketura experimental orchard

#### Week 6

- Environmental ethics 1
- Permaculture design in pairs
- Field trip: Uvda valley

#### Week 7

- Environmental ethics 2
- Permaculture 3
- Permaculture design in pairs
- Permaculture design—personal projects
- Field trip: Arava valley

#### Week 8

- Permaculture 4
- Environmental ethics 3
- Right livelihood
- Permaculture design—personal projects

#### Week 9

- Organic gardening 4
- Community economics, legal and financial issues
- Permaculture design—personal projects
- Field trip: Red Canyon and Timna Park – overnight

#### Week 10

- Presentations of personal and group projects
- Bioregions
- Shifting the global economy
- Permaculture design—group projects

**Total classroom hours: 50**

**Total practical hours: 80**

**Total field trip hours: 20**

### ***Course Requirements***

During their time in the organic garden students will be required to keep a garden notebook with the information gleaned during their observation exercises and classes. By the end of the course students will be given an assignment in garden design and will be expected to use the what they have learned throughout the semester to design a small organic garden plot according to a specific scenario. One quiz related to organic gardening and basic plant biology will be given in the middle of the semester.

Participants will be also required to develop two permaculture design projects: one personal project, and one group project. Assessment is based on demonstrating knowledge and successfully applying permaculture principles learned during the course to the design. These principles will be written up in a document accompanying the drawn plans for the project, both of which are to be turned in at the end of the course.

### ***Summary of Course Grade Criteria***

Assessment is based on demonstrating knowledge and successfully applying permaculture and organic gardening principles learned during the course to the following assignments:

Students will be evaluated on the following criteria:

- |   |     |
|---|-----|
| 1) Active participation in all activities and discussions ..... | 30% |
| 2) Permaculture design project—done in pairs.....               | 20% |
| 3) Permaculture design project-- personal.....                  | 25% |
| 4) Plant biology and organic gardening quiz.....                | 10% |
| 5) Garden scenario design.....                                  | 15% |

### ***Required Reading***

Students will be provided with a reader made up of articles for this course. Weekly readings will be assigned from books available in the Lotan library, including:

#### **Organic gardening:**

Bradley, Fern Marshall and Ellis, Barbara (eds.) (1993) Rodale's All-New Encyclopedia of Organic Gardening. Rodale.

Denckla, Tanya (1994). The Organic Gardener's Home Reference. Storey Books.

Kourik, Robert and Creasy, Rosalind (2005). Designing and Maintaining Your Edible Landscape Naturally. Permanent Publications.

Findhorn Community (2003). The Findhorn Garden: Pioneering a New Vision of Humanity and Nature in Cooperation. Findhorn Press.

Tompkins, Peter and Bird, Christopher (1989). The Secret Life of Plants. Harper.

Tompkins, Peter and Bird, Christopher (1998). Secrets of the Soil: New Solutions for Restoring Our Planet. Earthpulse Press.

Fukuoka, Masanobu (1978). The One-Straw Revolution. Rodale Press.

**Permaculture:**

Mollison, Bill (1997). Introduction to Permaculture. Tagari Publications.

Mollison, Bill (1997). Permaculture: A Designer's Manual. Tagari Publications.

Bell, Graham (2005). The Permaculture Way: Practical Steps to Create a Self-Sustaining World. Permanent Publications

Bell, Graham (2005). The Permaculture Garden. Permanent Publications.

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# Sustainable Design and Construction

**Program:** Israel: Peace, Justice and the Environment at Kibbutz Lotan

**Department:** Regional Planning

**Course #:** RP 596A

**Semester:** Fall 2008

**UMass Faculty Sponsor:** Elisabeth Hamin (Landscape Architecture & Regional Planning)

**Credits:** 4

## *Course Description*

This is a practically oriented course that provides skills and techniques for ecological design and construction. The course is taught through both theoretical lessons in the classroom and hands-on experience in various building projects. A variety of methods and materials are explored, including adobe bricks, construction using recycled materials, straw bales and geodesic domes. An emphasis is placed on energy efficiency, both in terms of embodied energy of materials and their capacity for insulation, the concept of ecological footprint, environmental cost, and planning that takes into account environmental factors such as the climatic and physical conditions of a given site. Basic structural engineering concepts are explored. Sustainability values as opposed to conventional values in design and construction are examined, and ways to elicit the necessary paradigm shift when dealing with normative architecture and engineering experts are discussed. In addition, appropriate technologies are investigated such as solar ovens, composting toilets and grey water systems.

The course also explores the concept of ecological design when applied to the community as a whole. Taking place on Kibbutz Lotan, an intentional community and developing ecovillage in Israel's southern Arava desert, the course examines the challenges involved in building sustainable community on the social, spiritual and economic level as well as the ecological.

The final weeks of the course are devoted to a group building project that ties together the methods and techniques that have been investigated into a hands-on learning experience that takes the students through the various stages of the construction process from beginning to end.

## *Course Objectives*

- Participants will acquire the knowledge and skills pertaining to design and construction utilizing sustainable building methods and technologies.
- Participants will be able to analyze the specific environmental conditions of a particular site and plan construction accordingly.
- Participants will understand concepts of ecological footprint and embodied energy and be able to apply them to a design process.

- Participants will gain knowledge of basic structural engineering concepts and their application in sustainable building.
- Participants will acquire the vocabulary needed to communicate sustainability values to conventional architecture and engineering experts.
- Participants will gain practical knowledge and experience in the application of appropriate technologies as aids to achieving sustainability.
- Participants will gain insights into the challenges and processes involved in building sustainable communities.

### ***Learning Modalities***

The faculty teaching this course use lectures, discussions, site visits, small group work and hands on projects as key strategies to allow each student to develop mastery of course content.

### ***Course Outline***

#### Week 1

- Orientation to the Center for Creative Ecology—design, master plan, zoning permits
- Orientation to Kibbutz Lotan and eco-park
- Making adobe mud bricks

#### Week 2

- The concept of kibbutz
- Restoring nature: Orientation to the bird reserve

#### Week 3

- Solar ovens theory
- Solar ovens practical

#### Week 4

- How buildings learn
- Building community: Kibbutz dreams and challenges

#### Week 5

- Ecological design 1 & 2
- Earthships 1 & 2
- Introduction to building techniques
- Mud ovens
- Building from recycled materials
- Sculpting
- Soil suitability test

#### Week 6

- Roofs
- Straw bale construction theory 1 & 2
- Ecological design 3
- Wadi El Na'am straw bale clinic project 1 & 2
- Systems of site analysis (BREDIM)
- Straw bale construction practical 1-3
- Field trip: Eco-design investigation

#### Week 7

- Geodesic domes theory
- Grey water systems
- Composting toilets
- Geodesic domes practical 1 & 2

#### Week 8

- Group building project 1-4

#### Week 9

- A-frames and water collection
- Introduction to power tools
- Group building project 5-7
- Field trip: Neot Smadar

#### Week 10

- Integrated ecovillage design

***Total classroom hours: 40***

***Total practical hours: 104***

***Total field trip hours: 6***

### ***Course Requirements***

**Waste and wastewater design assignment:** Students will be required to design an ecological waste-processing system for a house, school, or place of business. This can involve retrofitting an existing structure's system or creating a new system. The system must take into consideration ALL waste produced.

**Ecological design parameter assessment project:** Students will be required to choose a product that they currently use in every-day life and assess its ecological impact. This will include listing all raw materials and tracking them to their source as well as 'following' the product through all aspects of its production while listing all environmental impacts that product has. Following this exercise, students will be expected to provide alternative products that would serve a similar purpose while having a less detrimental impact on the environment.

**Alternative technologies assessment:** The final assignment is to be completed in conjunction with the Permaculture course. Students will be required to list all alternative technologies used in their final permaculture design and to explain how each would be used including the benefits of using each and their physical placement within the design.

### ***Summary of Course Grade Criteria***

Participants will be evaluated according to a demonstrated understanding of the methods, techniques and concepts taught throughout the course as expressed in the assignments listed above.

Students will be evaluated on the following criteria:

- |   |     |
|---|-----|
| 1) Active participation in all activities and discussions ..... | 30% |
| 2) Waste and wastewater design assignment .....                 | 20% |
| 3) Ecological design parameter assessment project .....         | 20% |
| 4) All alternative technologies full system design .....        | 30% |

### ***Required Readings***

Students will be provided with a reader made up of articles for this course. Weekly readings will be assigned from books available in the Lotan library, including:

#### **Sustainable construction:**

Home Work hand built shelter - Lloyd Kahn

Built by Hand - Bill & Athena Steen, Eiko & Yoshio Komatsu

Places of the Soul – Christopher Day

The Natural House Book – David Pearson

Earth Construction – Hugo Houben & Hubert Guillaud

The Straw Bale House – David A Bainbridge, Bill & Athena Steen, David Eisenberg

The Beauty of Straw Bale Homes – Athena & Bill Steen

The primary Small Strawbale – Athena & Bill Steen, Wayne j Bingham

Build it with Bales – version 2 – Matts Myhrman & S O MacDonald

The Last Straw – The International Journal of Straw Bale & Natural Building –  
[www.strawhomes.com](http://www.strawhomes.com)

Building with Stone – Charles McRaven

The Cob Builders Handbook – Becky Bee

The Cobber's Companion – Michael G Smith

**Grey water systems, composting toilets:**

The Humanure Handbook 2<sup>nd</sup> Edition – J C Jenkins

The Toilet Papers – Sim Van der Ryn

Creating An Oasis with Grey water – Art Ludwig

The Composting Toilet System Book – David Del Porto & Carol Steinfeld

Worms Eat My Garbage – Mary Appelhof

**Solar ovens:**

Real Goods Solar Living Source Book – John Shaeffer <http://www.realgoods.com>

Cooking with the Sun – Beth & Dan Halacy

Heavens Flame – Joseph Radabaugh