COURSE TITLE: NATURAL BUILDINGS: COMPREHENSIVE HANDS-ON PROJECTS

NO. OF CREDITS: 3 QUARTER CREDITS

WA CLOCK HRS: 30
[semester equivalent = 2 credits] CEU HRS: 30**

INSTRUCTOR: JAMES HAIM, M.A.
541/488-0916 <info@cobtogether.com>

COURSE DESCRIPTION:
Today's students are more interested than ever about sustainability and hands-on learning. With the growing awareness of resource depletion, higher energy costs and building toxicity, more and more people are working together in community to produce inexpensive solutions to many of the world’s problems. Come learn how to use natural building techniques to involve your students in hands-on projects while creating functional and beautiful installations. In this course participants will learn the fundamentals of cob, straw bale and light-straw-clay. During this process participants will learn how to build a cob bench, a cob oven, and wall systems that can be integrated into a variety of structures, including greenhouses, sheds, gazebos, meeting places, etc. Course curriculum will prepare teachers to organize projects with their students while also offering diverse readings on natural building and green design. Other topics covered will include embodied energy, thermal mass, local sourcing of materials, and tensile strength vs. compressive strength. This course will prepare elementary and secondary teachers to implement hands-on projects and teach students from all ages the benefits of natural building.

This course is appropriate for all teachers K – 12, as well as individuals wanting to learn how to build with natural materials. No previous building experience required.

NOTE: This course is also offered for six (6) Antioch University CE quarter credits. For more information about that option please see course number: ED442z.

LEARNING OUTCOMES:
As a result of taking this course, participants will learn how to:
1. Assess a site for suitability of construction
2. Test soil for clay and sand content for making cob
3. Construct a foundation using a minimum of poured concrete
4. Use of a diversity of natural materials including cob, straw bale, and light-straw-clay
5. Design a structure taking into slope, aspect, weather, flow, and the passive solar available
6. Prepare and present a well thought-out design of a naturally built project

COURSE REQUIREMENTS:
Following are general course requirements weighted for determining the granting of university quarter credit. To issue credit Antioch University Seattle requires a 75% or better to issue credit at the 400 level and 85% or better at the 500 level.
1. Attendance and active participation in all class sessions 40%
2. Reading of articles, handouts, books or texts 30%
3. Satisfactory completion of all outside assignments 30%

**30 CEU Hours equals 3.0 CEUs
400 & 500 LEVEL OUTSIDE ASSIGNMENT:
Registrants must attend four (4) days of the workshop and submit one of the following:

1. Read *The Hand Sculpted House*, prior to the workshop, prepare a drawn design of a naturally built structure and submit it to your instructor at the beginning of the workshop. After the workshop resubmit your drawing with changes made and detail in writing why you made these changes.

   OR

2. Another assignment of your own design with prior approval from the instructor.

500 LEVEL OUTSIDE ASSIGNMENT:
In addition to the 400 level assignment, complete one of the following:

3. A PowerPoint presentation of a start to finish project done with student and/or community members. Please include a detailed log containing the following information:
   a. Project expenses
   b. Project timeline
   c. How materials were sourced
   d. Three biggest hurdles faced during the project
   e. Two participant reflections
   f. Drawn plan of project
   g. Also include any lesson plans that may have been created for this project.

   OR

4. Research three different types of natural building from three different climatic regions in the world. Explain the following in your 3-4 page paper:
   a. The entire process of how the particular natural building method is done.
   b. Where the materials are sourced, how much labor is required to source them and the environmental impact of obtaining these materials.
   c. If the buildings are legal structures abiding by local codes and ordinances and any information on seismic stability of structures as well as the longevity of the structures being built.
   d. What is the average size and cost of a structure being built with this material?
   e. The current trend of building in the region. Is the technique you are researching fading in popularity, gaining or remaining about the same. Why?
   f. Which of the techniques that you studied would be most appropriate in your region and why?
   g. Include a power point slideshow depicting the three natural building methods you have researched as well as a bibliography of the sources you used.

   OR

5. Another assignment of your own design with prior approval of the instructor.

ASSIGNMENT FORMAT & DUE DATE
• Papers should be word-processed, double-spaced, and mailed or emailed to the instructor.
• All assignments are due to the instructor within 2 weeks of the last class session.

REQUIRED MATERIALS:
• *The Hand-Sculpted House* by Michael Smith, Ianto Evans and Linda Smiley. $23.10 plus shipping from Amazon.com
• Articles and handouts prepared by the instructor will be available at class.
MATERIALS FEE:
$23.10 for required course text, *The Hand Sculpted House.*
Plus additional fees listed on website: www.COBTogether.com

WHAT TO BRING:
SEE WEBSITE: www.COBTogether.com

LOCATION INFORMATION:
SEE WEBSITE: www.COBTogether.com

INSTRUCTOR EVALUATION OF WORK:
Please send your assignments via email and indicate that you would like the instructor’s feedback.

QUALIFICATIONS FOR TEACHING THE COURSE:
**James Haim, M.A.,** brings over 14 years of educational experience as a high school teacher and natural builder. In 1995 he co-founded the Wilderness Charter School (WCS), a high school program in Ashland, Oregon, whose mission is to study and practice community, self-reliance and ecological connection with the intention of creating a sustainable future. The small school is housed in a straw bale classroom on a third of an acre property that has been designed using perma-culture principles. Students study perma-culture, natural building, sustainable forestry, ecological foot printing, sustainable agriculture, local natural history, communication and team building skills, while also participating in four weeks of backpacking, local internships and a diversity of field trips.

In addition to teaching at the WCS James has been a builder most of his adult life and has been teaching natural building the past six summers with his business COBTogether (www.COBTogether.com), which he and his wife Katherine, founded in 2004.
NATURAL BUILDING
BIBLIOGRAPHY

BOOKS

Potts, Michael. The New Independent Home. Chelsea Green Publishing 1993. This book covers a lot of information on energy systems for homes, a diversity of natural building techniques, and also discusses retrofits you can do on your existing home. The author also details the many costs of poorly designed conventional homes and energy systems.


Kennedy, Joseph and Smith, Michael. The Art of Natural Building. New Society Publishers 2002. This book is a compilation of articles by many authors covering from home design to ecovillage design. The book touches on many forms of natural building including wattle and daub, living roofs, straw-clay, thatch, earthbags as well as straw bale, cob and natural plasters.

Chiras, Daniel. The Natural House. Chelsea Green Publishing 2000 A great book that covers rammed earth, straw bale, earthenships, adobe, cob, corwood, log and stone building techniques. In addition, it details passive solar energy design, site selection, site protection, and independent energy systems from sun, wind and water.

Callahan, Tim and Snell, Clarke Building Green: A Complete How-To Guide to Alternative Building Methods Earth Plaster, Strawbale, Cordwood Cob Living Roofs. Lark Books 2006. An incredible compendium of a single small cottage that was painstakingly documented. The book details cordwood, cob, straw bale, plastering, flooring as well as the framing that goes into almost all buildings. With over 500 pages and well over 500 photos this is a great buy.

WEBSITES
www.cityrepair.org
This website features videos and ideas for “placemaking sites.” The website discusses sustainable projects that repair school grounds, neighborhoods and communities

http://www.naturalbuildingnetwork.org/workshops.htm
Provides information about natural building organizations that can provide help in creating benches, sheds and even homes made of cob, earth and other materials. Suggestions for acquiring materials and advice on how to create these earth friendly structures for schools and neighborhoods is discussed.

www.cobprojects.info
An excellent site to get inspired and linked to the world of cob and natural building,

www.potkettleblack.com/natbild/
Natural Building Photo Gallery
NATURAL BUILDING
COURSE SCHEDULE

Course Schedule is subject to change.

DAY 1
8:00 a.m. – 9:00 a.m. Registration (or evening prior if arriving early)
9:00 a.m. Hands-on Building and Instruction
12:00 p.m. Lunch/Siesta/Swimming
3:30 p.m. Lecture, Hands-on Building and Instruction
7:00 p.m. Dinner, followed by discussion/slide show/music/. . .

DAYS 2-4
7:00 a.m. Breakfast
8:00 a.m. Hands-on Building and Instruction
12:00 p.m. Lunch/Siesta/Swimming
3:30 p.m. Lecture, Hands-on Building and Instruction
7:00 p.m. Dinner, followed by discussion/slide show/music/. . .

NOTE: Snacks are served during the morning and afternoon sessions.