IBE 213 v1.1

Building Physics/Building Biology

Open to all, from working professionals to the general public, this seminar benefits architects, interior designers, indoor air quality consultants, home inspectors, home dwellers, and other building professionals.

The daily schedule includes lectures and group activities, with practical experience in building science principles, research assignments, demonstrations, and inter-active discussions.

INTERNATIONAL INSTITUTE FOR
BUILDING-BIOLOGY® & ECOLOGY

Table of Contents

Please direct all inquiries to:
outreach@buildingbiology.net • (866) 960-0333
Click here for more information on Building Biology

Seminar Syllabus: IBE 213

Seminar Synopsis

Building Biology, or Bau-biologie®, is a specialized branch of Building Science with human health as the central focus. This 5-day seminar explores the inter-relationships between human health, the built environment and planetary ecology. Attendees will learn about building physics, the interaction between air, moisture, toxins and humans within a built environment, and the uniquely holistic Building Biology approach to the built world. Students will learn to apply Building Biology criteria to evaluate building envelopes, and explore a number of alternative systems available in North America. Additionally, students will learn about building systems, how to improve conventional practice and best alternatives from a Building Biology perspective. The instructors are experienced architects and/or builders in the natural building field.

Topics include:

- Building Biology® history, philosophy and principles
- Building Science history and relationship to Building Biology
- Building Physics
- Biologically-sound building materials and strategies
- Building construction methods and systems, foundations, walls, roofs: best-practice for conventional construction and healthier and more ecological alternatives
- Examples of Building Biology® Principles applied to building design of and individual homes
- Building Systems: Heating, cooling, ventilating plumbing, waste/recycling

Resources*: IBE Natural, Healthy Building Course* [IBE 101], *Prescriptions for a Healthy House*, by Paula Baker-Laporte, et a;, *Natural Remodeling for the Not-So-Green House: Bringing Your Home into Harmony with Nature,* by Carol Venolia and Kelly Lerner; *Indoor Climate* [IBE 204.2] and *Natural Finishes* [IBE 205.5], *Your Home Technical Manual*, 4th edition; available from: www.yourhome.gov.au and *Keeping the Heat in*, ISBN: 0-662-36984-X, Natural Resources Canada, 2004,by permission of Minister of Public Works and Government Services Canada, 2008.

Seminar Objectives

1. Gain insight into the dynamic interaction between the climate, the built environment, and the impact of that built environment upon the occupant's health and well-being and the ecosystem.
    a. Climate effects.
    b. Building science and Building Biology responses.
    c. Building Envelope Construction, conventional and alternative.
    d. Building Systems for heating, cooling, ventilating and plumbing
2. Understand building science as it applies to conventional construction as practiced in North American home building.
3. Learn the IBE principles used to build a biological and ecological home.
4. Learn the IBE principles used to remodel a biological and ecological home.
5. Learn how to improve the health supporting nature of the built environment.
    a. Biologically effective: client receives a healthy living environment.
    b. Technically sound: available, sustainable, and effective.
    c. Aesthetically acceptable: well designed, supportive of ecologically sound lifestyle.

Seminar Schedule

IHM Retreat/Conference Center
Santa Fe, New Mexico

Monday, 29 February, Day One: Physics affecting the building envelope as it interacts with the natural environment and its occupants; Building Science and Building Biology perspective.

1. Student introductions; IBE Introduction
2. Building-Biology® Principles – A comparison of conventional and natural building
3. Building-Biology/Building Science
4. Building Physics

Tuesday, 01 March, Day Two: Building Physics continued, Building for Climate

1. Review of Day One
2. Building Physics continued
3. Healthy Indoor Climate
4. Daily quiz

Wednesday, 02 March, Day Three: The Building Envelope: Building Biology wall system evaluation, alternative wall systems

Review of Day Two

1. Wall system evaluation: 25 criteria
2. Wall systems: best practice conventional, natural alternatives.
3. Field trip: visit to 3 or 4 homes of straw clay, straw bale, log, AAC, Pumice crete or adobe

Thursday, 03 March, Day Four: The Building Envelope Continued

1. Day Three review
2. Team exercise: small group assignment - comparative analysis of wall types, continued
3. The rest of the Building Envelope: Best practice conventional and alternatives for foundations, basements, attics and roofs
4. Daily quiz

Friday, 04 March, Day Five: Alternative Mecha; review of week, and final exam

1. Day Four review
2. Alternative mechanical technologies – heating, cooling, ventilation, plumbing
3. Conclusions
4. Final review
5. Final Exam

Meet The Instructors

IBE 213: Natural Healthy Building & Remodeling Practices

Paula Baker-Laporte FAIA was graduated from the University of Toronto, School of Architecture in 1978 and from The International Institute of Bau-Biologie and Ecology in 1995. In 2007, she was elected into the College of Fellows of the American Institute of Architects. She has headed a wide-ranging architectural practice based in Santa Fe, New Mexico since 1986 and now lives and works in Ashland Oregon. Since 1992, Paula has dedicated her practice to the precepts of environmentally sound and health-enhancing architecture and her firm continues to lead in the fields of healthy and natural design and design and consultation for the chemically sensitive. She was selected as one of our nation's top 10 green architects in Natural Home's July/August 2005 edition.

Paula has lectured, taught and published extensively on the topic of healthy and ecological design through out the USA and Canada. She is the primary author of *Prescriptions for a Healthy House*, 1st,-3rd edition, (New Society Publishers 2008) and co-author with husband Robert Laporte, of *EcoNest: Creating Sustainable Sanctuaries of Clay, Straw and Timber*, (Gibbs Smith, 2005). She is a contributing author to several other books.

Together, Paula and her husband Robert, have developed the EcoNest® home concept. EcoNest projects have been built through out North America and featured in several books including Designing your Natural Home by David Pearson, Green by Design by Angela Dean, Sustainable Residential Interiors by Associates III, and Space Matters by Katherine Cox as well as nationally published magazines including Natural Home, Fine Homebuilding, Residential Architect, Organic Style Magazine, Yoga Journal, Inspired House and Ultimate Home. For photos of Paula's architectural designs, articles, upcoming seminars and lectures and to contact Paula please visit the website: www.econest.com

Stephen Collette is a Certified Building Biology Environmental Consultant, and Principal of Your Healthy House, based out of Lakefield, ON, Canada. Stephen is a retired straw bale builder, having worked on two dozen straw bale structures across Ontario and Quebec, from small cottages to 13,000 sq. ft structures and everything in between. Stephen has an engineering background and became passionate about healthy housing when his family became ill due to exposure to mould. Stephen carries out indoor environmental inspections on houses and other buildings to determine health impactors based on building science and environmental health concerns. Stephen is a LEED AP (Leadership in Energy and Environmental Design Accredited Professional) from Canada Green Building Council. Stephen has a Building Science Certificate from the University of Toronto and is a certified Building Science Specialist of Ontario. As a consultant Stephen helps people make healthier, more environmentally friendlier building choices. Stephen is a published author who writes and lectures across North America on healthy, natural and green buildings. Please visit his website at www.yourhealthyhouse.ca

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Venue

Immaculate Heart of Mary Retreat/Conference Center
50 Mount Carmel Road, Santa Fe, NM 87505 | (505) 988-1975
(click here to visit the retreat center's website)

Overview: Meal service begins with dinner on Sunday, 15 February, and ends with lunch on Friday, 20 February. Food and lodging is provided at a package rate of $755.00, to be paid in advance to the International Institute for Building-Biology® & Ecology. Payment may be arranged online at IBE's website (click here), or by check, or by calling IBE's executive director (505-428-0901) Students may opt to arrive earlier and/or depart later, at an additional cost ($105 per night, USD); please note that meals on-site will not be available for those extraneous days (the nearest restaurants are one-and-a-half or more miles away).

To pay by check, please mail your payment to: IBE, P.O. Box 8520, Santa Fe, New Mexico 87504.

Arrival/departure: Santa Fe is served by two airports: Albuquerque International Sunport and Santa Fe Regional Airport. Sandia Shuttle serves those arriving at Albuquerque International Sunport with hourly service (8:00 AM to midnight; click here for schedule) with drop off at the IHM Retreat Center's front door. From Santa Fe Regional Airport there is taxi service only to the IHM Retreat Center. Both airports are served by major national rental car companies, on-site.

Rooms: Each student will be afforded a private room with private bath. Those who might want to share a two-bed room will save $20 each per room per night. Students wishing to share must alert IBE's executive director at least two weeks in advance, at mconn@buildingbiology.net. WiFi will be turned off in all guest rooms, as well as the classroom; the nearest cellphone tower stands nearly a mile away.

NOTE: The venue does not permit alcoholic beverages anywhere on their property, and all indoor areas are smoke-free. We ask that all students, in consideration of attendees who may suffer from allergies, to please refrain from using/wearing scented personal products.

Meals: Vegan, vegetarian, and gluten-free available if request is submitted at least two weeks prior to the first day of classes. Seminar tuition includes daily lunch; breakfast and dinner are included in the Room & Board charge ($755.00 USD) and will be served on site, except for one group dinner to be held at a Santa Fe restaurant (yet to be selected), where each attendee will be responsible for their own meal cost. All meals on-site to be catered by Piñon Catering of Santa Fe.

Attire: While Santa Fe is located at a somewhat southerly geographic latitude, it is situated 7,500 feet above sea level. Expect wintry weather, with nighttime temperatures dropping below 32°, Fahrenheit, and snow will not be unexpected. Average daytime temperature: 45°. Please dress accordingly (layering recommended), and at your own comfort level (as casual as you please).

Rental cars: Students who drive to Santa Fe or opt to rent a car for the duration of their stay are asked to consider volunteering their driving services for transporting their fellow attendees to and from the field trip site (Wednesday afternoon, 26 February) and to/from the group's dinner in Santa Fe on Wednesday evening. if you expect to be volunteering this service, please contact IBE's executive director, Michael Conn, at: mconn@buildingbiology.net.