

# IBE 214: Indoor Environmental Quality For Architects & Builders



This seminar focuses on the Building Biology principles and their relevance and practical applications in the electromagnetic and indoor air quality of our buildings in North America today. Through an in depth understanding of these concerns, we can create healthy indoor environments for ourselves and clients.

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



INTERNATIONAL INSTITUTE FOR  
**BUILDING-BIOLOGY® & ECOLOGY**

# Seminar Syllabus: IBE 214

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The International Institute for Building Biology & Ecology (IBE) does not and shall not discriminate on the basis of race, color, religion (creed), gender, gender expression, age, national origin (ancestry), disability, marital status, sexual orientation, or military status, in any of its activities or operations. These activities refer to any and all interactions involving our potential or current students and our alumni; these operations include, but are not limited to, hiring and firing of staff, selection of volunteers and vendors, and provision of services. We have been and remain committed to providing an inclusive and welcoming environment for all.

IBE does however reserve the right to deny enrollment, whether first-time or continuing, of students it deems to present the risk of being or becoming disruptive of our program presentations, and/or a distraction for our students from what they have come to us to learn and experience.



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

## Seminar Syllabus: IBE 214

### Cancellation Policy

Seminar students who paid their tuition in full, and then cancel at least thirty (30) days before the first day of classes, will receive a tuition/tuition deposit refund in full (100%). Those who cancel less than thirty days out, but more than ten days out, and had paid their tuition in full, will receive a fifty percent refund; the amount they forfeited will be considered on deposit for one year, and may be applied toward any subsequent IBE event or online course. Those who cancel ten or fewer days out will not receive a refund, but their entire forfeited payment will be considered on deposit for one year.

If a student cancels out of a seminar after having received a digital and/or hard-copy of that seminar's manual, and elects to apply their tuition credit to a seminar *other* than the one for which they cancelled out, their tuition credit will be reduced by the value (\$375.00 USD) of the course manual for the seminar out of which they cancelled.

Regarding seminar lodging, please see Hotel Santa Fe, Hacienda & Spa's cancellation policy.

### Extended Policy Stipulation

IBE does not endorse products, methods, practices, services and/or business opportunities (hereafter referred to as “offerings”) that are extraneous to IBE’s policies, practices, and/or curriculum, regardless of whether they are vended/sponsored by our alumni, students, or by outside third parties or organizations.

This policy extends to our seminars, our biennial conference, and all other live or interactive events. And while participants in our events are not restricted by IBE from apprising their fellow participants of any offerings, regardless of whether they are or may be or may not be in conflict and/or in competition with IBE, they may in no way solicit or otherwise “pitch” their fellow attendees during said event(s). Subsequent to said event(s), neither offerings nor follow-up appraisals of offerings may be made or attempted by any means - telephone, e-mail, or snail-mail - without the expressed *prior* consent of their intended recipient(s).

IBE reserves the right to deny/rescind enrollment, whether first-time or continuing, to students it deems to present the risk of being or becoming disruptive of our program presentations, and/or a distraction for our students from what they have come to us to learn and experience.

### Discrimination: Zero Tolerance

The International Institute for Building Biology & Ecology (IBE) does not and shall not discriminate on the basis of race, color, religion (creed), gender, age, gender expression, national origin (ancestry), disability, marital status, sexual orientation, or military status, in any of its activities or operations. These activities refer to any and all interactions involving our potential or current students and our alumni; these operations include, but are not limited to, hiring and firing of staff, recruiting/selecting of vendors, volunteers, and providers of services. We have been and remain committed to providing an inclusive and welcoming environment for all.

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## Seminar Syllabus, IBE 214

### Seminar Synopsis

This 4-day seminar condenses and combines the current 211 (IAQ) and 212 (EMR) seminars. It contains the practical information that design and building professionals require for new construction and renovations in order to assure that their clients receive optimal healthy environments. The information is also relevant for anyone interested in creating their own healthy spaces with a solid understanding of both air quality and electromagnetics.

Topics include:

- EMR understanding
- EMR installations for new construction and renovation
- IAQ understanding
- IAQ improvements for new construction and renovation
- Lighting and color for health
- Acoustics

Resources: *IBE Natural, Healthy Buildings Course* [IBE 101], *Prescriptions for a Healthy House*, by Paula Baker-Laporte, et al.

### Seminar Objectives

To gain a solid understanding of indoor environmental quality concerns, as they relate to the design and construction of residential buildings. The areas of focus include, biological, chemical and particulate.

To gain a solid understanding of electromagnetic radiation concerns, as they relate to the design and construction of residential buildings. The areas of focus include AC, DC and high frequencies.

To gain an understanding of lighting and daylight and the health concerns of both, as they relate to the design and construction of residential buildings.

To gain an understanding of colour in the built environment and the potential health impactors, as they relate to the design and construction of residential buildings.

To gain an understanding of acoustics and the concerns, as they relate to the design and construction of residential buildings.

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## Seminar Syllabus, IBE 214

### Seminar Schedule

Hotel Santa Fe, Hacienda & Spa  
Santa Fe, New Mexico

Day One, Sunday, 02 December 2018

#### **INTRODUCTION TO BUILDING BIOLOGY AND INDOOR ENVIRONMENTAL QUALITY**

- Introduction to Building Biology
- Introduction IEQ
- Building science basics
- Moisture, temperature, air movement
- Biological concerns
- Biological solutions

Day Two, Monday, 03 December 2018

#### **CHEMICALS, PARTICULATES, EXPOSURES**

- Chemical exposures/solutions
- Particulate exposures/solutions
- Radioactive exposures/solutions

Day Three, Tuesday, 04 December 2018

#### **INTRODUCTION TO ELECTROMAGNETIC RADIATION**

- Low frequencies
- Low frequencies, concerns and solutions
- Introduction to Alternative Wall Systems
- High frequencies
- High frequencies, concerns and solutions
- DC electric and magnetic fields
- DC electric/magnetic fields, concerns and solutions

Day Four, Wednesday, 05 December 2018

#### **LIGHTING AND COLOR FOR HEALTH**

- Daylighting, concerns and solutions
- Electrical lighting, concerns and solutions
- Color: natural and synthetic
- Acoustics, definitions and types
- Acoustics, concerns and solutions
- Final Exam

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## Seminar Syllabus, IBE 214

### Meet Your Instructor

The author of this seminar

#### IBE 214: EMR & IEQ for Architects and Builders



**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](http://www.yourhealthyhouse.ca)

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## Seminar Syllabus, IBE 214

### Venue

IHM Retreat & Conference Center  
50 Mount Carmel Road, Santa Fe, New Mexico 87505

*All students who are not local to Santa Fe, New Mexico are asked to please lodge overnight and dine on campus for the duration of this event. Our caterer stands ready to meet or exceed extraordinary dietary requests.*

**IBE arranges your lodging and your food via contracts with two separate vendors, and your contract is with IBE, not with its vendors. We must ask that any issues, concerns, or needs you may have regarding your room or your food be addressed to Erik Rosen, our Administrative Director, who will be on-site and available to serve you 24/7.**

We make every effort to ensure that the classroom, dining room, commons areas, and overnight guest rooms at this venue meet Building Biology Standards for a health-supporting environment, and this venue's management joins us in our efforts. The main building, Santa Maria Hall, has no WiFi service. The nearest cellphone tower is nearly a mile away. The few magnetic fields in Santa Maria Hall are very localized, fall off quickly, and do not exceed a level for concern. The secondary residential building, San Miguel Hall, *does* have a WiFi signal that emanates from the Archbishop's residence therein. We house only those students who are not sensitive to WiFi in San Miguel Hall. This WiFi signal of course is password protected, and not available for our guest's use.

Nonetheless, please note that no venue situated "on the grid" is entirely ideal. While we have served nearly one hundred IBE students at this venue over the past eighteen months, two of those students did find their guestroom experience incompatible with their environmental sensitivities, and were moved to off-campus accommodations for the remainder of the seminar.

**Overview:** Tuition and room & board must be paid in advance, please, 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). To pay by check, please mail your payment to: IBE, P.O. Box 8520, Santa Fe, New Mexico 87504.

You are required to arrive the day before classes begin (Saturday, 1 December) and remain on site through your completion of the final exam. You may opt to arrive earlier and/or depart later, at an additional cost (\$112 per night, USD), based upon venue availability. This is a lodging fee only, as meal service is not available for those extraneous days (the nearest restaurants are one or more miles away). Check-in begins at 3:00 PM on Saturday. To arrange early arrival, or an extended departure date, please contact our administrative director, Erik Rosen, not the venue: <[erosen@buildingbiology.net](mailto:erosen@buildingbiology.net)>. (the nearest restaurants are one or more miles away).

There will be a Meet & Greet Saturday evening at 6:30 PM in the venue lobby. At this time, attendees arrange among themselves for an off-site meal or snack, all together or breaking into groups according to their individual dietary and culinary preferences. The nearest restaurant is one mile from the seminar venue. Downtown Santa Fe, with its broad selection of restaurants and cuisines, is situated two miles from the seminar venue.

**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 (8:15 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.



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**Rooms:** Each student will be provided a private room with private bath. Those who might want to share a two-bed room will save \$20 each per room per night, but you must arrange this with your fellow student and then alert IBE. We cannot coordinate room sharing for you. Students wishing to share must alert IBE's administrative director at least two weeks in advance, at [erosen@buildingbiology.net](mailto:erosen@buildingbiology.net). WiFi will be turned off in all guest rooms, as well as the classroom and dining room; 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.

**NOTE:** The building directly adjacent Santa Maria Hall, to the west, is the private residence of cloistered nuns, and the building directly east of Santa Maria Hall is the private residence of the Archbishop of the Santa Fe. We ask that you please consider all outdoor areas to be a quiet zone.

**Meals:** All meals are prepared from scratch, on-site using mostly organic and/or locally sourced free-range ingredients. Vegan, vegetarian, carnivore/omnivore, and gluten-free options are available daily. Meal service (breakfast, lunch, dinner, and between-meal snacks) begins with breakfast Monday morning and ends with Friday lunch. All meals will be prepared and served on-site by Piñon Catering of Santa Fe. Seminar tuition includes daily lunch; breakfast and dinner are included in the room & board charge (\$785.00 USD).

**Attire:** While Santa Fe is located at a somewhat southerly geographic latitude, it is situated 7,500 feet above sea level. Expect nighttime temperatures dropping as low as 18°, Fahrenheit. Average daytime temperature is 42°. 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 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](mailto:mconn@buildingbiology.net).