BBEC Certification

Building Biology Environmental Consultant

Bringing together technology and design methods to provide the information needed to create healthy homes and workplaces

Building Biology Institute
The science of healthy buildings

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We are a registered continuing education credit provider for the American Institute Of Architects, Indoor Air Quality Association, and the International Association of Certified Home Inspectors.

Building Biology Institute
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Building Biologists:

A Building Biologist is trained to view the holistic relationship of all life, and become an environmental advocate in the global effort to solve the problems that arise from modern methods of creating the built environment including community planning, buildings and wireless communication technology. Many of these modern "advances" disregard nature and humanity with the result of degradation of our health and the health of the natural environment. By understanding and applying the laws of nature to the built environment Building Biologist are uniquely trained to become leaders in finding the solutions to the problems that modern mankind has created through the misuse of chemistry and technology.

Building Biology is a creative education that is pertinent to many disciplines and its graduates includes health practitioners, architects, planners, builders, and expert building accessors. It brings together dynamic, visionary individuals to work for a better, more sustainable and truly Green world. The practice of Building Biology is an extraordinary, valued, necessary, and satisfying career. The goal is:

- to regain order and harmony in our surroundings
- to restore the balance between nature, our buildings, and ourselves
- to help build bridges for the realization of a world that is ecologically oriented
- Building-Biology provides a holistic approach to healthy homes and workplaces while always maintaining people, the building's occupants, as its focus.

As Building Biologists, we strive to change the built world to make it healthier for all. And as we set practical, real-world examples and disseminate solid advice based on Building Biology Principles, we *are* making positive change.

Building Biology Environmental Consultant Certification:

This program will thoroughly equip you with practical, real-world, hands-on experience in identifying, assessing, and mitigating or eliminating pollutants, airborne toxins, and electromagnetic emissions in homes, schools, offices, and commercial buildings. You will also become an expert in prevention, certified to advise homeowners, as well as architects, builders, inspectors, engineers, and medical professionals in methods and practices that create and maintain an ecological and environmentally healthy home or commercial building. Throughout the program we will concentrate on teaching you the skills needed to make a genuine positive impact in your community and in the world at large.

The requirements for this certification program include our mentored correspondence course, IBE 101, Natural Healthy Building, which we encourage you (though we do not insist) to complete before attending you first seminar. Your certification studies will be comprised of a battery of 200-level online courses; our three, 200-level, instructor-led, 5-day seminars; and a Final Project. Our seminars and required courses can be attended in any order. Our EMR Seminar (Electromagnetic Radiation) is preceded by prerequisite online course that is designed to thoroughly prepare you for the seminar's experience.

A great many alumni of this certification are now running successful environmental businesses, based on their Building Biology expertise; many more came to us as already working professionals, among them are architects, green builders, engineers, building inspectors, medical practitioners, interior designers, city planners, etc., who use their

coveted BBEC certification to further their credentials.

You will have up to 2 years to complete this program; most students complete it within one year. By selecting our advance purchase option and paying $5,355 USD for the entire certification track, which includes all of your online courses, seminars, and final project, you will save $950 off the total price of our BBEC Program tuition.

Requirements for Certification* (an overview):

1. IBE 101Natural Healthy Buildings (our mentored correspondence course)
2. Sign the IBE ethics statement (included with your IBE 101 course materials)
3. Successfully complete a battery of 200-level online courses, and their exams
4. Attend three 5-day seminars (IBE 211, IBE 212, IBE 213), and complete each seminar's proctored exam successfully.
5. Successfully complete the Final Project (IBE 221).

**IBE 101, our three BBEC seminars, and required online courses are designed to be taken in any order. All required curricula must be completed successfully before a candidate may undertake their BBEC Final Project. You have up to two years to complete the program (requests for extensions are considered individually).*

Seminars: IBE 211, IBE 212, IBE 213

IBE seminar instructors and guest lecturers are all accomplished indoor environmental experts. A portion of each 200-level seminar is devoted to a field trip, guided by certified instructors. On the fifth morning, there is a Q&A and an oral review of the previous four days' material, followed in the afternoon by a proctored written exam. Seminar Syllabi, including instructor bios, can be found on the seminar pages of our website, available for download. Each 5-day seminar is staged once per calendar year.

Students enrolled in the Building Biology Professional Certification tracks (BBNC, BBEC, and/or EMRS) will present reports of their own case studies as their Final Project toward Professional Certification.

IBE 211: Indoor Air & Water Quality:

This seminar is focused on pollutants that are present in our indoor air, tap water and in building materials. Allergies, immune system suppression, fatigue, nervous system complaints, and many other conditions are triggered or made worse by such substances. Emphasis is placed on how to identify problems, what their health impacts are, and how to take effective action. The viewpoint is holistic – we are concerned with the wellbeing on all levels of the people who occupy the building.

Topics include:

- Biological contaminants i.e., mold, bacteria etc.
- Volatile organic compounds (VOC's), such as formaldehyde
- Pesticides
- Combustion gases, such as carbon monoxide
- Water pollution
- Dust and particulates
- Environmental stressors, such as humidity and temperature

IBE 212: Electromagnetic Radiation:

Due to a great number of practical experiences, we have learned that electromagnetic radiation (EMR) influences the wellbeing of people both at home and at work. It is of great importance to understand the basics of EM radiation, and learn the potentially harmful effects associated with EMR. The theory of EM radiation is demonstrated with practical examples and case studies, based on real-life home inspections. Particular emphasis is placed on the bedroom, as well as EM radiation that may enter the house via the public water supply system. The various instruments used in the detection procedure are demonstrated.

Topics include:

- Fundamental definitions of energy and how electricity is a special class of energy
- Concepts of AC electric and AC magnetic fields
- EMF low and high frequency ranges including radio frequency and cellular phone
- Definition of AC electric and magnetic fields and DC electric and magnetic fields
- Ionizing radiation
- Static electric and magnetic fields

Prerequisite online course: 212.1 Electromagnetic Radiation

IBE 213: Building Physics/Building Biology:
(understanding the physics of building**):**

Building Biology is a specialized branch of Building Science. The 25 governing principles of Building Biology inform a holistic approach to the interrelationships between the health of the built environment, its occupants and our planetary ecology. Students learn design and construction strategies so as to avoid incurring the indoor environmental hazards so common in existing homes and workplaces; and to create optimal health conditions during construction and/or remodeling and throughout the life of the building. Additionally, students learn about available, and often economical, solutions to rectify known problems.

Topics include:

- Environmental situation and the unique Building Biology perspective
- Building Physics
- Building-Biology a broader view of the application of Building Physics with human health as the focus
- The Building Envelope: Biologically-sound building materials and strategies
- Building Technologies: alternatives for heating, cooling venting and plumbing.

IBE 101, Natural Healthy Buildings:
Topics covered include Building-Biology and the Building Culture; the Environmental Situation; Biologically-Sound Building Materials; Construction and Building Methods; Heating and Thermal Insulation; Water and Water Pollutants; Air and Air Pollutants; and Electro-Climate Issues. This is a mentored, self-study course that can be completed within the 2-year limit, as permitted by the student's convenience.

- IBE Code of Ethics (signature required)
- Course manual
- Study Progress Sheet
- Standard of Building Biology Testing Methods

- An introductory-level Gaussmeter
- Water-safe testing kit
- Radon test kit
- Additional provided reading: *Prescriptions for a Healthy House*, by Paula Baker-Laporte, et al; *7 Steps to Improving Air Quality*; *Creating a Sleeping Sanctuary*.

IBE 200-level Online Courses:

The following are self-directed home-study courses. Each course includes an online exam, which you must complete successfully. As you complete each exam, you will be presented with the opportunity to download a certificate of completion; or you may return to the course at a later date to download your certificate. Please note that your online student profile will not reflect that you completed each course until you have downloaded the certificate (our website then credits you automatically).

IBE 221.3	Smart Meters
IBE 221.4	5G Cellular Phone Systems
IBE 212.1	Electromagnetic Radiation
IBE 221.4	Electrical Home Wiring
IBE 221.11	Baby Monitors
IBE 222.9	Ventilation (prior)
IBE 223.3	Community Planning: Cities in Crisis
IBE 223.4	Community Planning: Exemplary Case Studies
IBE 223.5	Community Planning: Incorporating Building Biology
IBE 223.6	Community Planning: Roadmap For Sustainability
IBE 222.2	Chemical, Biological & Particulate Hazards
IBE 222.3	Moisture in Buildings: Humidity to Flooding
IBE 222.4	Vetting Building Materials: Is It Toxic?
IBE222.5	Water Quality & Treatment Options
IBE 223.2	Light-frame Construction & Health
IBE 223.7	Designing a Kitchen for Wellness

IBE 221: Final Project

The home stretch toward completing your Building Biology Environmental Consultant certification! It is a practical assignment designed for you to prove your understanding of the material and protocols discussed in IBE 211 and IBE 212, and your instrument proficiency. The topics your project must cover include:

- Low and high EMF frequency ranges, including radio frequency and cellular phone signals
- Static electric and magnetic fields
- Volatile organic compounds (VOC's), such as formaldehyde
- Pesticides
- Combustion gases, such as carbon monoxide
- Water pollution
- Dust and particulates

- Environmental stressors, such as humidity and temperature

Time requirement: three months from inception

Final Project: the mentored process

You will conduct a sample home assessment, and write a report of your findings. During this process you will work closely with a senior BBEC, who will mentor you through the process. The focus of this project is for you to demonstrate your thorough understanding of how to perform a home assessment—not a mitigation—and prove your proficiency in all aspects of the Building Biology Assessment protocol. Should you discover the need for mitigation, you should reach out to a certified BBEC; your instructor can advise you in this. You may not use your own home as the basis of your assessment.

The steps to begin and successfully complete your Final Project:

1. Announce your readiness to IBE, and request that a mentor be assigned to you
2. Draft a home assessment strategy proposal according to Building-Biology protocols
3. Submit your draft to your assigned mentor, who will review it for accuracy and thoroughness.
4. Upon your mentor's approval of the draft, conduct a BBEC Assessment of a home
5. Develop a written report including photos, results and mitigation suggestions.
6. Submit the report to IBE. Your will review the report and approve it, or contact you to discuss it.

IBE will provide you with a sample assessment report.

Note: At this point, you will not yet be a certified BBEC; you must not present yourself as such, and do not charge for your service should you opt to assess someone else's home.

You are welcome to contact IBE by e-mail or phone; we will do our best to contact you as soon as possible. We will be happy to discuss any questions you may, as well as provide you with encouragement and support.