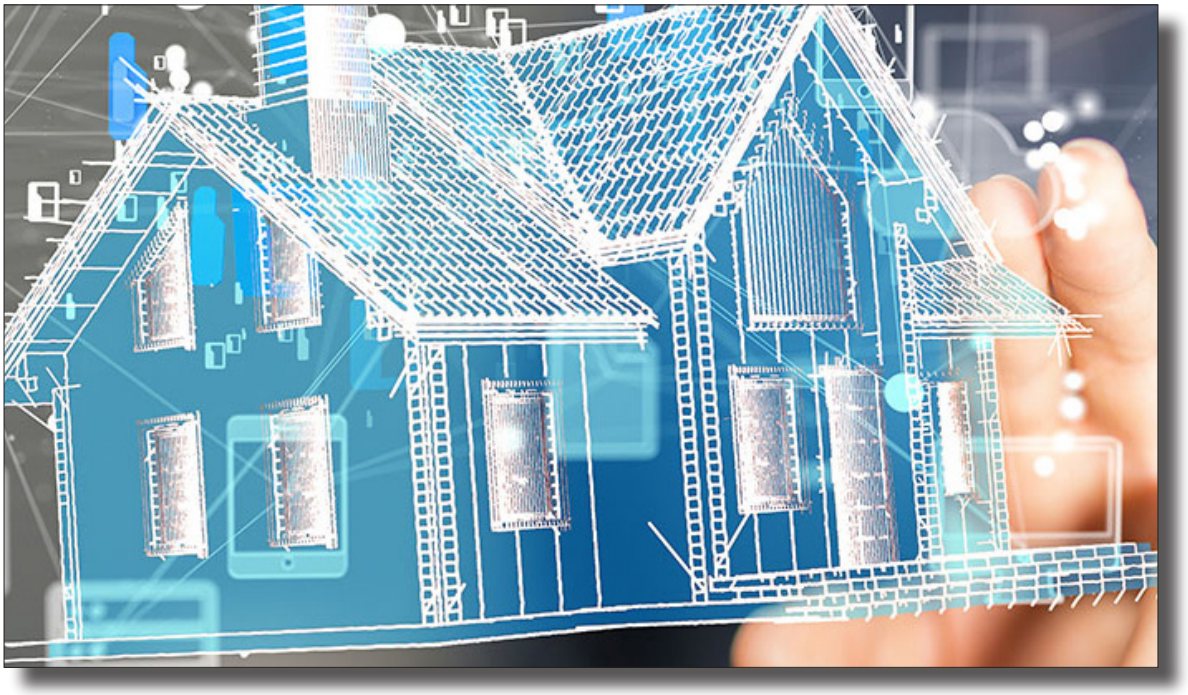
BBNC Certification

Building Biology New-build 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

Table of Contents

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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Professional Certification, Building Biology® New-build Consultant (BBNC):

A Building Biology New-build Consultant (BBNC) is trained in the art and science of renovation and newly built environments that nurture human health while contributing to ecological balance. This requires a holistic approach to designing, building, remodeling, and furnishing healthy homes and workplaces while always maintaining the building's occupants as its core focus. It also applies to the designing and planning on a community and urban scale. This approach holds Nature as the gold standard for a healthy human environment, and strives to introduce and apply, house by house, building by building, indoor environments that are compatible with, and respectful of the laws of nature; and are thereby symbiotic with the vital holistic relationship of all life.

BBI is a registered provider of Continuing Education Units (AIA, ACAC, InterNACHI). The undertaking and successful completion of this professional certification program will convey 235 CEUs. Registrants are required to complete this program within two years of enrolling. Extensions of this deadline must be requested in writing at any point during their second year of study.

Requirements for Certification* (an overview):

1. BBI 101Natural Healthy Buildings (our mentored correspondence course).
2. Sign the BBI ethics statement (included with your BBI 101 course materials).
3. Attend one 5-day seminar (BBI 213), two 4-day seminars (BBI 214, BBI 215), complete each seminar's proctored on-site exam successfully, and complete any four online course you may select from our list of nineteen elective courses.
4. Successfully complete the BBNC Final Project.

**BBI 101, our three BBNC seminars, and four elective online courses are designed to be taken in any order. All of these curricula must be completed successfully before a candidate may undertake their BBNC Final Project.*

Required Curricula for Certification (specifications for each module):

Seminars: BBI 213, BBI 214, BBI 215

BBI 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.

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

- Introduction to the physical forces that act upon buildings and the ramifications that these forces have on the longevity of those buildings and the health of their occupants.
- Both conventional construction and Building Biology favored alternative construction is examined in light of Building Physics.

- For each phase of construction best practice for conventional construction and alternative materials and protocols that safeguard occupant health are presented.

This 5-day seminar also requirement for BBEC and EMRS candidates

Student evaluation would be based on daily quizzes and class participation (20%) and a proctored final exam (80%) on the closing afternoon of classes.

BBI 214: Indoor Environmental Quality for New Construction*

*Electromagnetic Radiation & *Indoor Air Quality

This 4-day seminar condenses and combines the current BBI 211 (IAQ) and BBI 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 are as follows:

EMR understanding and installations for new construction and renovation

- What is EMF/EMR and how does it work?
- How does it impact occupants?
- How is it measured?
- Discussion of both High and Low Frequencies
- Discussion of DC magnetic fields
- Exploration of DC electric fields and renewable energy systems
- Indoor electro-climate
- New construction design and installation for EMF
- When to measure what and how.
- Low and High Frequencies strategies for shielding, wiring runs, grounding, earthing, etc.
- How to specify safe wiring
- When professional testing is needed
- How to future proof

IAQ understanding and improvements for new construction and renovation

- What is IAQ/IEQ?
- What are the health concerns?
- Basics of moisture in air, materials, temperature of surfaces, and other components of comfort
- How is it measured?
- Discussion of some chemicals of concern
- Discussion of the biologicals of concern
- Discussion of particulates of concerns, and how to design and build properly to minimize these concerns
- Discussion of the radioactive elements of concern

Lighting and Color for Health

- Daylighting, understanding health concerns, efficiencies, and strategies
- Electrical lighting choices and implementation
- Natural vs synthetic color, texture and health impactors

Acoustics

- Definitions

- Physiological effects of noise
- Impact, airborne and vibrational types of noise transfer and how they are measured
- Sound attenuation strategies for all types of noise transfer

Student evaluation would be based on daily quizzes and class participation (20%) and a proctored final exam (80%) on the closing afternoon of classes.

BBI 215: Healthy Design & Community Planning

This 4-day seminar focusses on a broad spectrum of Building Biology design principles and applications for design and building professionals. It is also a beneficial course of study for homeowners with a special interest in creating healthy environments for their family. From family residence to community design, we will explore the Building Biology principles and criteria and their application to modern day North American built environments.

Site Selection: The first step to creating a healthy building is choosing a healthy site. We will study:

- Ancient traditions
- Building Biology parameters for site evaluation: Geopathic Stress, EMR and surrounding installations, existing pollution sources air, water, ground, future potential sources.

Community Design

Healthy homes and workplaces belong in healthy communities. We will explore many aspects of community design and learn from historic successes and failures as seen from a Building Biology perspective. We will take a field trip to The Commons on the Alameda. Founded in 1992 The Commons is one of the oldest and most successful co-housing communities in North America.

- Historic Context from the birth of the City to present day communities and cities.
- Building Biology principles of Community Design
- Case studies highlighting historic and modern-day applications of the recommended best practices.

Design for climate

In North America we have several distinct climate zones and each one has a unique design approach for achieving maximum health and energy efficiency while minimalizing fossil fuel consumption. Students will learn strategies for optimizing passive design in each.

- Climate zones of North America
- Indigenous responses to climate
- Conventional construction, best practice, code challenges
- Integrated design for passive climate controls, a Building Biology approach

Building Product Evaluation

Industry has responded to a growing awareness of consumers and their demands for healthy and green. But which products are truly healthy and which ones are just green-washing? In many ways making the right choices can be even more confusing now! This section will teach Building Biologists how to sort through available information to make the best choices for health.

- Our exposure to harmful chemicals in construction: the status quo
- Identification of chemicals used in construction products
- Using current and emerging evaluation tools and data banks.

- A comparative study of various systems including Cradle to Cradle, Pharos, Declare etc.

Interior Furnishings and Finishes

Building Biology has always put great emphasis on the furnishings and finishes because these are the things that will have the greatest day-to-day impact on occupant health. The Building Biology criteria for creating good "indoor climate" is unique and goes well beyond simply "non-toxic" to create environments that deeply nurture.

- Building Biology criteria for finishes
- Room by room health concerns and healthy materials selection
- Furniture sourcing and selection

Renovation

What if you or your client is not in a position to build from scratch using all of the Building Biology criteria? In truth the vast majority of building activity for most people involves renovating an existing environment. Whether one is renovating to correct building problems or get relief from chronic health issues or simply to upgrade the quality of their surroundings health should be the number one priority. It is often complex to weigh the many decisions and each project is unique. We will discuss a systematic approach to optimizing existing environments.

- Prioritizing for health.

Student evaluation would be based on daily quizzes and class participation (20%) and a proctored final exam (80%) on the closing afternoon of classes

BBI 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.

- BBI 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*.

Online Courses (electives from which to select four**):**

Elective online courses are displayed here below under three categories: Electromagnetic Radiation, Indoor Environmental Quality, Natural Healthy Building & Design. You may select your four courses from among any of the three categories, according to your areas of keenest interest. Should you wish to take more than your four required online courses, you may enroll in as many as might pique your interest for 10% off the published tuition.

BBNC Electives: Electromagnetic Radiation	
BBI 221.1	Dirty Electricity
BBI 221.2	Smart Meters
BBI 221.3	5G Cellular Phone Systems
BBI 221.4	Photovoltaic (PV) Systems
BBI 221.5	EMR: Science
BBI 221.6	EMR: Health
BBI 221.7	EMR: Solutions
BBI 221.8	EMR: Research
BBNC Electives: Indoor Environmental Quality	
BBI 222.1	Chemical, Biological & Particulate Hazards
BBI 222.2	Moisture in Buildings: Humidity to Flooding
BBI 222.3	Vetting Building Materials: Is It Toxic?
BBI 222.4	Water Quality & Treatment Options
BBNC Electives: Natural Healthy Building & Design	
BBI 223.1	Light-frame Construction & Health
BBI 223.2	Community Planning: Cities in Crisis
BBI 223.3	Community Planning: Exemplary Case Studies
BBI 223.4	Community Planning: Incorporating Building Biology
BBI 223.5	Community Planning: Roadmap for Sustainability
BBI 223.6	Designing A Kitchen for Wellness
BBI 223.7	Equipping A Kitchen for Wellness

Final Project: BBNC Professional Certification

- A mentored "thesis" based on new construction or renovation must be submitted and mentor-approved to finalize certification.
- Project can be a real time project that the candidate is working on or a theoretical design.

Building Biology Institute is a 501(c)(3) nonprofit environmental education organization.