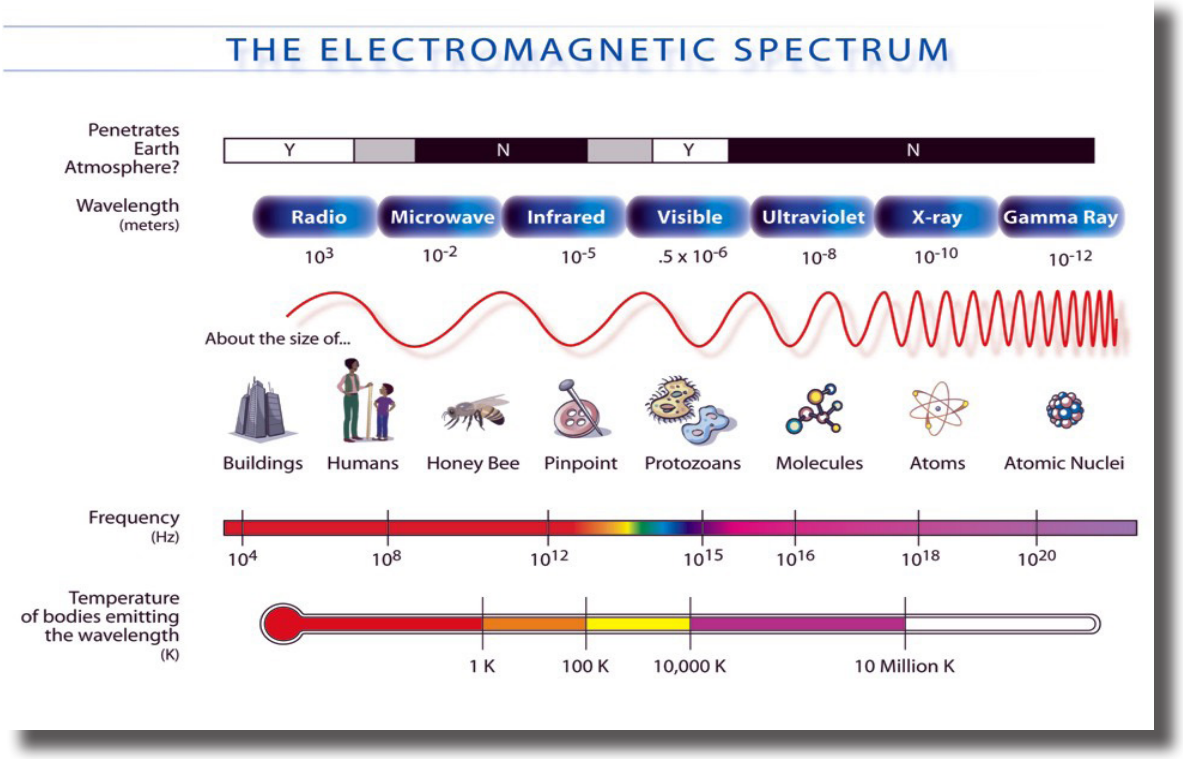
Electromagnetic Radiation
Science

Fact Sheet



In a time of drastic change it is the learners who inherit the future. The learned usually find themselves equipped to live in a world that no longer exists. – Eric Hoffer

Building Biology Institute
The science of healthy buildings

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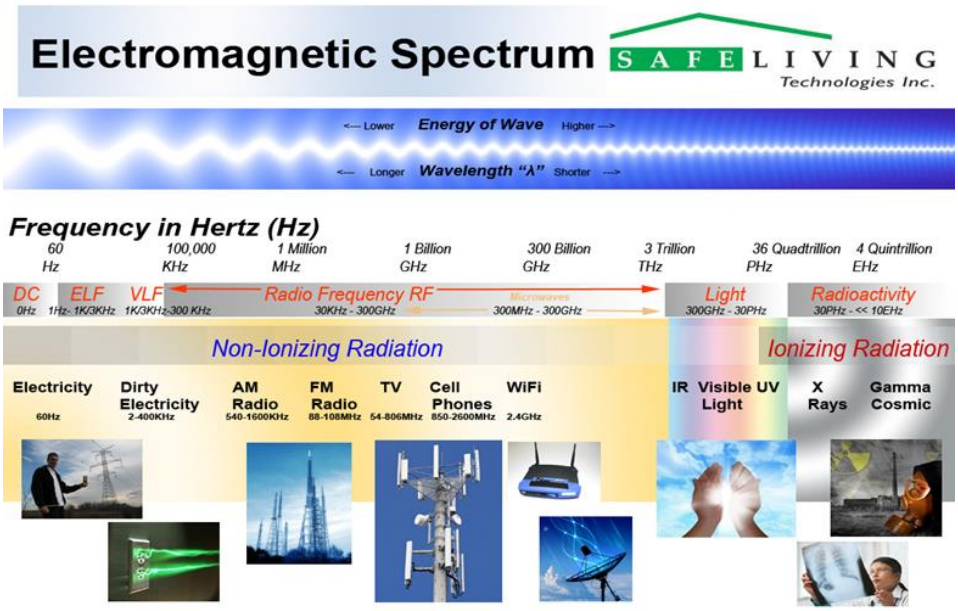
Electromagnetic Radiation: Science Fact Sheet



Course IBE 221.5 is the foundational and prerequisite electromagnetic course for Building Biology. It was translated to English, from German, by Helmet Ziehe in the 1980's. The International Institute for Building Biology and Ecology (IBE) was launched in the United States in 1987. Much of the content is based on work done by Wolfgang Maes an expert in Bau-Biologie out of Germany.

The course was reformatted and copyedited in 2012. This is the first major update of the material which is taught in the 212 Seminar on electromagnetic radiation (EMR). The original course included everything on EMR; the history, the science, the examination of health mechanisms and effects, measurement protocol and mitigations. The online course was 90 pages long. All updates to the material occurred in the 212 seminar which was evolving as the science and tools evolved. This new updated 204.3 incorporates all the new information that is relevant to a prerequisite course. The 212 Seminar remains the hands-on introduction and training for how the science presents itself in the world, how to use the equipment, and how to investigate the problems. The advanced seminar (312) goes into deeper detail about wiring errors, additional equipment and measurements, and mitigation strategies.

This module covers the science of electromagnetism and provides a thorough description of the vocabulary and concepts of electricity. It begins with a discussion of atoms and electrons, or the chemistry of our world, and then explains the physics of electricity like Ohm's law and Kirchhoff's law. It includes definitions of the various units and categorizations of the electromagnetic spectrum. From there each electromagnetic concept is explained in detail; direct current electric and magnetic fields, alternating current electric and magnetic fields including microsurge electrical pollution (also known as dirty electricity), high-frequency electromagnetic radiation (also known as radio wave and microwave frequencies), radioactivity (radon, gamma, alpha, beta), and terrestrial radiation (earth grids and geopathology).

It includes explanations of the triboelectric series of static electricity, positive and negative air ions, subtle energy, Ley lines, Hartmann lines, Curry lines, the difference between diamagnetic and paramagnetic, and the difference between analog and digital signals. We also briefly introduce various modern technologies; "smart" meters, Wi-Fi, cordless phones, 5G cellular, and fracking.

All of this is just scratching the surface of the overall electromagnetic science, but it is a comprehensive view of key concepts for understanding the complexities of the electromagnetic world we live in.

There is also an interesting section translated from the original text about the history of earth radiation. The focus of this course is electromagnetic terminology and concepts.