



Health Sciences Education Guide

For individuals interested in becoming International Board Certified Lactation Consultants®

As an International Organisation, IBLCE uses British English in its publications.

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Contact Information

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IBLCE has offices in Austria, Australia and the United States. You may reach the IBLCE office that serves your country of residence by using the form found on the Contact IBLCE page of our website.

Required Health Science Subjects

Prior to applying for the IBLCE exam, all candidates must complete education in 14 health science subjects.

All first-time candidates must demonstrate completion of education in 14 subjects that are typical of the education required of health professionals. This general education must be completed **prior** to applying for the exam.

The rationale for requiring all exam candidates to complete education in these subjects is to establish that they have the foundational education necessary to function as valued, respected members of the maternal-child health care team.

In each of the following 8 subjects, candidates must complete a minimum of one course. Candidates must demonstrate a passing grade in each of the courses and the courses must be a minimum of one academic credit session (e.g. semester, trimester, quarter, etc.) in length and provided by an accredited institution of higher learning.

- Biology
- Human Anatomy
- Human Physiology
- Infant and Child Growth and Development
- Introduction to Clinical Research
- Nutrition
- Psychology or Counselling Skills or Communication Skills
- Sociology or Cultural Sensitivity or Cultural Anthropology

For the remaining 6 subjects, candidates may complete courses offered by an institution of higher learning or they may complete continuing education courses.

- Basic Life Support
- Medical Documentation
- Medical Terminology
- Occupational Safety and Security for Health Professionals
- Professional Ethics for Health Professionals
- Universal Safety Precautions and Infection Control

Definitions and General Information

- Higher education refers to education acquired after completion of compulsory education and is typically provided at academies, universities, colleges, vocational schools, institutes of technology, trade schools and career colleges that award academic degrees or professional credentials.

- The names used to describe academic credit sessions vary from country to country and often depend upon how the institution of higher learning divides the academic year. Here are some of the more commonly used names for academic credit sessions.
 - **Semester:** One of 2 divisions of an academic year that are typically 16-18 weeks long.
 - **Trimester:** One of 3 divisions of an academic year that are typically 14-16 weeks long.
 - **Quarter:** One of 4 divisions of an academic year that are typically about 12 weeks long.
 - **Mini-mester:** Name used to describe an intensive study period between semesters. In a mini-mester, students may earn the same credit they would earn during a regular semester.
- Candidates are expected to complete basic or introductory coursework in each health science subject. Advanced coursework is not required; however, it will be accepted. For example, an introductory course in psychology is all that is necessary but, if you have completed more advanced studies in the topic, you may use your advanced coursework to fulfil the psychology requirement.
- Coursework that is specifically designed to focus on the health science subjects as they relate to human lactation and breastfeeding is **not** required; but it will be accepted. For example, you do not need to take a nutrition course that is specifically designed to discuss nutrition as it relates to human lactation; however, such a course will be accepted.
- The College Level Examination Program (CLEP®) allows you to receive credit for knowledge that you gained through independent study. CLEP transcripts will be accepted as credit for any of the CLEP exams that you pass. CLEP exams are primarily available to individuals living in the United States.
 - For more information, visit <http://www.collegeboard.com/student/testing/clep/about.html>
- DSST® exams allow you to receive credit for knowledge that you gained through independent study. DSST transcripts will be accepted as credit for any of the DSST exams that you pass. This option is primarily available to candidates living in the United States.
 - For more information, visit <http://www.getcollegecredit.com/>
- Military personnel **may** be able to receive credit for health science courses they completed during their training so long as they are documented by transcripts.
- If you took courses in secondary school that were designed to be used for college/university credit (sometimes called advanced placement courses), you **may** be able to use them to meet some of the health science requirements. You must be able to provide transcripts that document completion of such advanced placement courses. Please note that this option may not be available worldwide.
- To help you fit the health science courses into your schedule, you may take courses online and through other means of distance learning. Online and distance learning courses may not be available in all countries.
- Courses recognized by ACE Credit or equivalent college credit equivalency services will be accepted as being from an accredited institution. Courses must also continue to meet all other aspects of IBLCE requirements described in this guide.
- You are **not required** to take courses that have an associated laboratory component.
- Some courses may meet more than one requirement. Please see the description of courses for more information.

Description of Health Science Courses

The course descriptions that follow are examples of the education that is expected in each of the 8 subjects that must be completed at an accredited institution of higher learning.

You may find it helpful to use a course catalogue from your institution of higher learning, to compare the following course descriptions against the courses you have already completed or courses in which you plan to enrol.

Biology

Candidates are expected to complete an introductory course of study in the growth, structure and function of living organisms.

- Coursework in zoology, cell biology, genetics, microbiology, immunology and other sub-categories of the biological sciences will be accepted.
- If accompanied by study of human anatomy and physiology, coursework in botany will be accepted.

The following table provides typical names and descriptions for courses that will satisfy the biology requirement.

Typical Course Name	Typical Course Description
Introductory Biology	Survey course suitable for any major. Topics include animal (including human) structure, function, homeostatic mechanisms, organ systems, behaviour, higher plant systems, and major concepts in ecology.
General Biology	An introduction to the principles of biological science. Will cover the cell from its chemical composition, structure, and function to the nature of information coding and transmission. This course also surveys the major phyla of animals, plants and fungi. Covers broad principles of cell biology, genetics, and evolution; physiology, ecology, and population dynamics of plant and animal systems.
Fundamentals of Biology	An introduction to the principles of biological science. Will cover the cell from its chemical composition, structure, and function to the nature of information coding and transmission. This course also surveys the major phyla of animals, plants and fungi.
Life Science	This course examines the biological hierarchy of organisation, emergent properties, the cellular basis of life, the correlation between structure and function, evolutionary adaptation, cellular order, reproduction, growth and development, energy utilisation, and response to the environment.

Human Anatomy & Physiology

A basic course of study in the structure and functions of human body systems is required. **Study in both human anatomy and human physiology is required.**

- It is not unusual for both of these subjects to be offered as one course. If the course you completed is a combined course, you may use the same course to fulfil both requirements.

- If the course you completed does not combine both subjects, you will need to complete 2 courses.

The table below describes typical courses that will meet the human anatomy and physiology requirements.

Typical Course Name	Typical Course Description
Introductory Human Anatomy	Introduction to the gross anatomy of the human body. Covers the spatial arrangement and appearance of structures throughout the body, including visual identification of these structures. Musculoskeletal relationships, and the anatomy of major organ systems, are emphasised. (Meets the anatomy requirement only. You would need to take a human physiology course as well.)
Principles of Human Physiology	An introduction to the physiological and biochemical processes and general physiological principles necessary to sustain life. Organ and organ system processes are emphasised. Intended for students majoring in allied health or sports related curricula who require a course in human physiology. (Meets the physiology requirement only. You would need to take a human anatomy course as well)
Fundamentals of Human Anatomy & Physiology	The basics of human anatomy and principles of physiology are covered in this course. Some prerequisite knowledge in basic biology, chemistry, and cell structure and function is needed to enrol in the course. (Meets both the anatomy and physiology requirements.)
Human Biology	The principles of biology with particular reference to the human body (anatomy and physiology). Laboratories include selected experiments on organ physiology and general anatomy. (Meets the biology, anatomy and physiology requirements.)

Infant and Child Growth and Development

IBCLC certificants need to understand and recognise the developmental milestones in physical, cognitive, emotional, social, movement, hearing, vision and language skills normally expected of infants and young children.

- Although coursework in the development of humans across the life span will be accepted, you are encouraged to take courses that focus on the development of young children.

The table below describes typical courses that meet the infant and child growth and development requirement.

Typical Course Name	Typical Course Description
Childhood Growth and Development	A study of the physical, emotional, social and cognitive factors of growth and development of children from birth through adolescence. Topics covered include principles, stages and theories of growth and development.

Early Childhood Development	This course is the study of the physical, cognitive, and social-emotional developmental processes of children from conception to age eight. Emphasis is twofold: on understanding the sequential dynamics of growth, development, behaviour and understanding the uniqueness of each child.
Development of Infants and Toddlers	Major theories of psychosocial development are presented. Personality is traced from birth through age three. Sensorimotor developmental patterns are presented. The interrelated nature of development and the characteristics of and influence of disabilities and risk factors on development are studied.
Developmental Psychology	The developmental psychology curriculum examines the changes in personality, cognitive ability and behaviour throughout the lifespan. Therefore, in addition to preparing themselves for a rewarding career, students enrolled in developmental psychology curricula will also learn and understand more about themselves as they study the scientific conclusions made by experts in the field. (Meets both the infant and child growth and development and the psychology requirements.)

Introduction to Clinical Research

IBCLC certificants need a good understanding of basic research methodologies, critical reading skills and familiarity with statistical measurements.

- Courses that focus on research outside the health sciences will **not** be accepted.
 - For example, a research course that focuses on English literature, economics, marketing and/or legal research will **not** meet the introduction to clinical research requirement.

The table below describes typical courses that meet the introduction to clinical research requirement.

Typical Course Name	Typical Course Description
Introduction to Critical Inquiry and Research	Introduction to fundamental theories, concepts, evidence, and competencies pertaining to scientific inquiry, evidence-based and informed practice, and research utilisation in health care.
Health Sciences Research Methods	This course will cover research study design, measures of disease occurrence and disease association, the different sources of error in observational research, a conceptual approach to multivariable analysis, principles of biostatistics, with special emphasis on means, proportion, regression coefficients and contingency tables. Also covered: analytic statistics and epidemiologic research methods.
Statistics for Health Professionals	This course focuses on basic concepts of statistics such as measures of central tendency and variability; concepts of test validity, reliability, and objectivity; and on basic techniques used in inferential statistics. Emphasis will be placed on interpreting scientific peer-reviewed research.
Introductory Statistics	

	Elementary introduction to statistics. Topics include descriptive statistics, probability, and estimation and hypothesis testing for means and proportions.
Public Health Research and Methods	This introductory research course is designed to present basic concepts and methods of public health research. Emphasis is placed on critique and use of current community and public health research methods.
Ethics and the Responsible Conduct of Research	This course will cover topics related to the responsible conduct of research such as conflicts of interest, responsible authorship, policies regarding the use of human and animal subjects, handling misconduct, proper data management, research funding rules and procedures. Students will review and present case studies for class discussion.

Nutrition

IBCLC certificants need a basis understanding of the role and function of food nutrients such as carbohydrates, proteins, vitamins, minerals and enzymes. Courses in nutrition or biochemistry provide this background education.

- Personal fitness or wellness courses do **not** satisfy the nutrition requirement.

The table below describes typical courses that meet the nutrition requirement.

Typical Course Name	Typical Course Description
Principles of Human Nutrition	A comprehensive introduction to human nutrition, focusing on the anatomical, biochemical, and physiological aspects of nutrition. The essential nutrients and their role in human metabolism are covered in detail, and the course's systemic approach places a strong emphasis on integration of metabolism. Discussion sections focus on applied aspects of human nutrition, including dietary assessment.
Introduction to the Nutritional Sciences	The course provides an introduction to the principles and concepts of nutritional science. The course will emphasise human nutritional needs and encompass the fields of medicine, biochemistry, physiology, dietetics, food science, and social science as they apply to the role of nutrition on human growth, cell function and health. It is expected that you will gain knowledge of the mechanisms of nutrient functions in the body. This will include an understanding of the nutrient content of foods; the biochemical processes by which they are digested, absorbed, transported and metabolised in the body, as well as the chemical functions nutrients perform within tissues in order to maintain normal cell growth and homeostasis. You will also increase your understanding of the roles of specific nutrients in a balanced diet for the promotion of optimal health.
Biochemistry 101	A general overview for graduate and advanced undergraduate students in agricultural, biological, chemical and nutritional sciences. Chemistry of amino acids, proteins, carbohydrates, and lipids; vitamins; enzymes; protein structure; carbohydrate metabolism.

Psychology or Counselling Skills or Communication Skills

Lactation consulting is a counselling profession that involves active listening and collaborative problem-solving skills. IBCLC certificants need a thorough understanding of human personality development and the principles of effective interpersonal communication.

- Courses in public speaking, media communications, marketing and industrial or work psychology do **not** meet this requirement.

The table below describes typical courses that meet the psychology or counselling skills or communication skills requirement.

Typical Course Name	Typical Course Description
Basic Concepts in Psychology	Introduces psychology as scientific discipline. Examines concepts and methods in learning, motivation, development, personality, and measurement.
Introduction to Psychology	A general survey of selected content areas in psychology, including personality and human development, physiological psychology, learning, intelligence, heredity and environment, and motivation and emotion.
Applied Psychology	Overview of behavioural principles, strategies, and system approaches to individual, organisational, and community change.
Foundations of Interpersonal Communication	Theories and principles of interpersonal communication emphasising models of communication, verbal and nonverbal message systems, and analysis of communicative relationships.
Health Communication	Examines interpersonal communicative processes associated with health in consumer-provider, family, and health communication campaign contexts. Particular attention to understanding cultural differences in perceptions of and communication about health and disease.
Consumer-Provider Health Communication	Explores relational health communication research and practice. Examines the role of interpersonal communication in health care delivery, health promotion, disease prevention, risk communication, as well as in promoting personal and psychosocial well being.

Sociology or Cultural Sensitivity or Cultural Anthropology

Due to global mobility, IBCLC certificants must have a broad understanding of sociological concepts and be sensitive to cultural differences. An introductory course in the sociological concepts and cultural aspects of human behaviour is required.

- Courses in economics will **not** be accepted.

The table below describes typical courses that meet the sociology or cultural sensitivity or cultural anthropology requirement.

Typical Course Name	Typical Course Description
Introductory Sociology	Introduction to basic sociological concepts. Examines aspects of human behaviour in cultural framework including: individual and group interaction, social mobility and stratification, status and class, race and gender relations, urbanism, crime and criminology, and social change and reform.
Elements of Sociology	The study of social life, including how human groups are organised, how they change, and how they influence individuals. Consideration is given to a variety of human organisations and social institutions and how these groups and institutions both determine, and are determined by, human beings.
Cultural Competency	Course is designed to provide a variety of experiences using various strategies to enhance the student's understanding of the impact of culture upon clients' perception of health and the delivery of care.
Introduction to Cultural Anthropology	An introduction to the anthropological study of cultures, based on ethnographic descriptions and analyses of tribal, developing, and modern state societies. The course explores a variety of concepts and approaches to the study of culture, and participants acquire experience in critical reading, critical thinking, and analytic writing.

Basic Life Support

A variety of basic life support courses such as Cardiopulmonary Resuscitation (CPR) and Neonatal Pulmonary Resuscitation (NPR) will meet this requirement.

Medical Documentation

The ability to provide succinct, comprehensive records that accurately reflect the care provided to clients is an essential skill for IBCLC certificants.

Medical Terminology

In order to function as respected members of the health care team, IBCLC certificants must have a good understanding of basic medical terminology.

Occupational Safety and Security for Health Professionals

It is important for IBCLC certificants to have training in personal safety and security measures such as how to avoid back injuries and latex allergies, as well as how to deal with violence and stress.

Professional Ethics for Health Professionals

An understanding of principles such as confidentiality, informed consent and conflict of interest is necessary to the ethical and professional conduct of IBCLC certificants.

Universal Safety Precautions and Infection Control

IBCLC certificants must know how to protect themselves and patients/clients against exposure to disease and how to prevent spread of disease through effective sanitation measures.

Demonstrating Completion of the Health Sciences Education

All IBLCE exam candidates must be prepared to provide documentation that proves their completion of the Health Sciences Education. Applicants who are chosen for audit will be notified of the documentation that is required and a deadline by which the documentation must be submitted. The Health Sciences Education must be completed **before applying** for the IBLCE exam.

Candidates educated in one of the *Recognised Health Professions* may demonstrate completion of the Health Sciences Education by submitting a copy of their government-issued license or registration or a copy of their diploma, transcript or degree from their institution of higher learning.

All other candidates may demonstrate completion of the Health Sciences Education by submitting transcripts for the 8 subjects that require courses that were completed at institutions of higher learning and certificates of completion for the remaining 6 subjects. The transcripts and certificates of completion must demonstrate completion of education in all 14 Health Sciences Education subjects.

IBLCE staff does NOT review courses prior to application submittal.