



A 501(C) (3) PUBLIC CHARITY; A SUPPORTING ORGANIZATION
INCORPORATED ON NOVEMBER 13, 2012.

Mission Statement

- ▶ “To certify individuals who meet education and training standards in quantitative EEG analysis and progressively recertify those who advance their knowledge through continuing education.”



Brief History

- ▶ In 1995, a small group of EEG neurofeedback practitioners began an effort to form a certification and re-certification process focused on quantitative electroencephalography. The quantitative electroencephalogram (QEEG) is a tool that compares quantitative feature extractions of the EEG to a normative database which can provide greater detail regarding central nervous functional status beyond the qualitative EEG scope. It had become more commonly used in medical and psychological settings as a compliment to other assessments regarding brain-behavior status.
- ▶ This effort was to bring recognition to the validity of QEEG by granting candidates stature and provide the necessary tools to facilitate the certification process, including developing and administering an exam, setting standards and jurying QEEG Courses for the didactic accreditation and create and facilitate mentoring partnerships.
- ▶ In 2005, the group began to more formally proceed with the process to become a nonprofit organization. The Certificate of Formation was completed in September 2008. In November 2012, the organization was granted tax exempt status as the *QEEG Certification Board*. The work and certification of applicants has grown and is now recognized internationally.
- ▶ As a result, in 2019, the Board changed the name to the International QEEG Certification Board (IQCB) to recognize this success and worldwide recognition of this professional certification.
- ▶ In 2021, the International Board of Quantitative EEG, a board created in parallel with the same mission, merged with International QEEG Certification Board.



Certification Process

- ▶ Professional certification is the voluntary process by which a non-governmental entity grants a time-limited recognition to an individual after verifying that predetermined and standardized criteria have been met. Because QEEG analysis is an unregulated technique, IQCB has asserted that certification is crucial for providing standards of care. To be viable as a professional service, standards of competence and clinical practice must be defined and measured.



Certification Process

- ▶ To be certified, one must:
 - 1) Meet minimum qualifications
 - 2) Register for an online account
 - 3) Submit an application and agree to Professional Standards and Ethical Principles
 - 4) Get a mentor and complete requirements
 - 5) Attend an approved didactic course
 - 6) Pass certification exam
 - 7) Maintain certification



IQCB Program and Services

- ▶ The primary service of the International QEEG Certification Board is to establish and improve the best quality standards of the foundational knowledge, clinical proficiency, and professional practice of quantitative EEG (QEEG), and accomplish this through successful completion of professional mentoring and a rigorous certifying examination covering all aspects and application of QEEG.



IQCB Program and Services

- ▶ There are two levels of certification based on the professional health care background of the clinician and how the different modalities will be used professionally:
- ▶ (1) **Diplomate Licensed Certification** for those holding an approved local/state licensure in an approved health care field or **Diplomate Certification** for those holding advanced degrees participating in research and
- ▶ (2) **Technologist Certification** for unlicensed individuals.





INTERNATIONAL QEEG CERTIFICATION BOARD

2023 Blueprint of Knowledge for Board Certification in QEEG

(A Study Guide Will Also Be Available)

Areas of competency required for certification in Quantitative Electroencephalography and Electrophysiology:

**The following blueprint with the required
number of hours of study as set forth by the
Board**

I. HISTORY - 1 HOUR

Basic knowledge of the history of
quantitative electrophysiology



II. NEUROSCIENCE - 8 HOURS

The following areas will be covered in the formal examination and it is recommended that the candidate review readings that encompass the following:

- A. Cortical and sub cortical structures macro and microanatomy
- B. Sensory pathways
- C. Autonomic nervous system
- D. Major networks
- E. Behavioral I correlates to brain regions and networks



III. TECHNICAL - 4 HOURS

The competent clinical neurophysiologist must acquire knowledge of electronics and instrumentation related to EEG and EPs.

- A. Topographical representation of EEG
- B. Electrodes and acquisition systems
- C. Instrumentation (Acquisition and review parameters/settings)
- D. Montages
- E. Electrical/clinical safety



IV. EEG - 8 HOURS

Fundamentals of functional neuroanatomy, including network theories, neurochemistry, neuropharmacology and neuropathology



- A. Basic knowledge of neurophysiology of EEG
- B. Editing and identifying artifacts
- C. Normal waveform patterns
- D. Standards of EEG acquisition procedures including activation
- E. Abnormal EEG waveforms and rhythms. Visual examination of EEG traces to identify time and location of artifact and pathology
- F. The use of different EEG montages for wave form analysis

V. QEEG - 9 HOURS

- ▶ A. Understanding the uniqueness of QEEG analysis from other neuro imaging techniques and conventional metrics derived from the EEG signal
- ▶ B. Use of QEEG norms and methods used to derive QEEG norms
- ▶ C. The functional correlates of abnormal EEG changes
- ▶ D. The role of the qEEG metrics toward understanding and treating specific clinical presentations; and the relationship of the qEEG to other clinical examinations.
- ▶ E. Demonstrate basic knowledge of Brodmann Areas in terms of how Areas were defined and most common functional attributes to these regions
- ▶ F. Demonstrate knowledge of graph theory and definitions of terms
- ▶ G. Demonstrate knowledge of Current Source Density maps, metrics, and graphic methods of such (e.g., methods voxel representation of current course methods)
- ▶ H. Reports based on QEEG metrics should relate these to clinical history, symptoms and other clinical assessments.



VI. PSYCHOPHARMACOLOGY - 2 HOURS

Potential effects of prescribed and nonprescribed drugs on clinical presentation, potential effects of prescribed and nonprescribed drugs on EEG measure, potential effects of different drugs on learning tasks.

- A. Relationships of drugs and neurotransmitter modulation
- B. Understanding of basic principles of half-lives and impact on interpreting QEEG Guidelines for the evaluation of drug effects on brain and behavior in individual patients
- C. Understand the effects of common psychopharmaceutical agent classes on EEG/QEEG data

VII. RESEARCH – 2 HOURS

A. Basic vs. Clinical Research

B. Exploratory research vs. hypothesis testing

C. Experimental Design

D. Basic Statistics and differences between parametric versus nonparametric statistics

E. Definition of types of Validation and Reliability

F. Meta-Analysis

G. Reporting results and Publication Standards

VIII. CLINICAL PRACTICE/FORENSIC - 4 HOURS

- ▶ A. Knowledge regarding limits of interpreting QEEG regarding choice of reference databases and -recognizing statistical probability versus clinical probability
- B. Recognizing the difference in deposition as “fact/treating” witness vs “expert” witness
- C. Understand Daubert vs Frye standards and their application to QEEG interpretation and use
- D. Emphasis of correlating QEEG with other clinical diagnostic evidence
- E. Appropriateness of a QEEG referral
- F. Patient conditions related to QEEG evaluation

- G. History and prior clinical and laboratory reports review

IX. ETHICS - 2 HOURS

- ▶ Responsibilities and liability in provision of services.

EXAM

- ▶ The exam exists of 100 multiple choice questions including a demonstration in the generation of a QEEG Report based on supplied data and information
- ▶ The exam is administered through an internet access and is conducted under pre-approved proctoring
- ▶ Upon completion, certificate is issued as proof of certification
- ▶ Re - certification needs to be renewed every 3 years by demonstrating acquired participation in continuing education



www.iqcb.org

iqeegcb@gmail.com