



# Enrollment Packet

## **InMindOut QEEG Certificate Course Objectives**

Thank you for choosing InMindOut's certificate course for your IQCB accredited 40-Hour didactic education. We provide the most up to date research in our course to ensure sufficient knowledge for passage of the IQCB exam and to support in obtaining board certification. By the conclusion of this course, the participants will be able to:

1. Explain the uses for qEEG assessments and resulting data;
2. List the definitions associated with the latest empirical qEEG research;
3. Explain the therapeutic relationship between the qEEG practitioner and client;
4. Demonstrate qEEG techniques necessary to pass the IQCB exam;
5. List and define terms associated with signal processing;
6. Describe the qEEG intake process including collection of medical history, psychological conditions, medications, psychosocial and family history, and relevant biographical information, etc.
7. Describe how qEEG services should be limited to the practice standards and guidelines of one's license or the license of their supervisor and also to those areas where one has: sufficient training and familiarity with the client population and disorders;
8. Describe the ethical and professional conduct of practitioners expected by the IQCB;
9. Explain basic neurophysiology and the connection to qEEG;
10. Explain basic neuroanatomy and the connection to qEEG;
11. Explain how the EEG signal is acquired;
12. Describe the non-electrical equipment involved in qEEG;
13. Describe the electronic systems involved in qEEG;
14. Explain the comparison between qEEG and other neuroimaging techniques;
15. Describe montages and their characteristics associated with qEEG;
16. Explain and recognize abnormal EEG patterns;
17. Explain and recognize normal EEG patterns;
18. List the psychopharmacological considerations when practicing qEEG;
19. Explain client rights associated with privacy, confidentiality, privileged communication, informed consent to assessment and treatment, treatment contract apprising of possible adverse effects, accepting clients, abandonment, and appropriate referrals, equal access to health care, and HIPAA compliance;
20. Explain the purposes and process of supervision and consultation in qEEG practices;
21. Describe the purposes and process of mentoring in qEEG practices;
22. Define professional relationships in qEEG practices including: dual relationships, conflicts of interest and exploitation of clients, consultations, referrals, and relationships with other

- professionals, medical and medication monitoring, procedures for dealing with unethical behavior and consumer complaints;
23. Explain the current trends in qEEG software and equipment;
  24. Demonstrate qEEG assessment protocols and implementation of qEEG assessments in treatment;
  25. Demonstrate how to edit raw EEG and artifacts;
  26. Explain database criteria and how to choose the best database for subject inclusion/exclusion;
  27. Explain the fundamental statistical considerations within databases;
  28. Describe Z-score measures;
  29. Demonstrate how to generate and interpret topographic and spectral maps;
  30. Explain the sources of brain activity and which frequency bands normally emanate;
  31. Describe developmental changes in the EEG;
  32. List which EEG signatures should be referred out to other professionals;
  33. Explain how Brodmann area functions and network connections are related to qEEG practices;
  34. Describe the general cognitive and clinical changes that take effect after neurofeedback training based on publications;
  35. Explain how clinical presentation may affect the EEG.

Again, thank you for choosing the InMindOut QEEG Certificate Course. We look forward to assisting you on your journey as you expand your education!

## **InMindOut QEEG Certificate Course Phase I Syllabus**

### **(Online)**

#### **Online Session 1: Welcome to QEEG**

##### Reading

1. Thornton 2013 - The relation between memory improvements and QEEG changes in three clinical groups as a result of EEG biofeedback treatment

HW: Complete Welcome to QEEG Quiz

#### **Online Session 2: Electrical Terminology & Neuroimaging Techniques**

##### Reading

1. Matsumoto 2007 - Lateral habenula as a source of negative reward signals

HW: Complete Electrical Terminology & Neuroimaging Techniques Quiz

#### **Online Session 3: Equipment**

##### Reading

1. Duffy 2012 - A stable pattern of EEG spectral coherence

HW: Complete Equipment Quiz

#### **Online Session 4: Database Analysis**

##### Reading

1. Duffy 2013 - The relationship of Asperger's syndrome to Autism

HW: Complete Database Analysis Quiz

#### **Online Session 5: Neuroanatomy Part I**

##### Reading

1. Agram 2014 - Aberrant error processing in relation to symptom severity in Obsessive-Compulsive Disorder

HW: Complete Neuroanatomy Part I Quiz

#### **Online Session 6: Neuroanatomy Part II**

##### Reading

1. Li 2018 - A brain network model for Depression

HW: Complete Neuroanatomy Part II Quiz

#### **Online Session 7: Brodmann Areas**

##### Reading

1. Ratcliff-Baird 2002 - ADHD and stuttering similar EEG profiles

HW: Complete Brodmann Areas Quiz



## **Online Session 8: Neurophysiological Processes & Terminology**

Reading

1. Makeig 2009 - ERP features and EEG dynamics

HW: Complete Neurophysiological Processes & Terminology Quiz

## **Online Session 9: Montages & Connectivity**

Reading

1. Koenig 2005 - Decreased EEG synchronization in Alzheimer's disease

HW: Complete Montages & Connectivity

## **Online Session 10: EEG Frequencies & Typical Waveforms**

Reading

1. Hermann 2005 - Human EEG gamma oscillations in neuropsychiatric disorders

HW: Complete EEG Frequencies & Typical Waveforms Quiz

## **Online Session 11: Abnormal EEG Patterns**

Reading

1. Thornton 2014 - A QEEG activation methodology which obtains 100% accuracy

HW: Complete Abnormal EEG Patterns Quiz

## **Online Session 12: Psychopharmacological Part I**

Reading

1. Salinsky 2002 - Effects of Gabapentin and Carbamazepine on the EEG and cognition in healthy volunteers

HW: Complete Psychopharmacological Part I Quiz

## **Online Session 13: Psychopharmacological Part II**

Reading

1. Gunkelman 2009 - Drug exposure and EEG QEEG findings

HW: Complete Psychopharmacological Part II Quiz

## **Online Session 14: Efficacy Criteria for QEEG**

Reading

1. Arns 2009 - Efficacy of neurofeedback treatment in ADHD

HW: Complete Efficacy of QEEG Quiz

## **Online Session 15: QEEG Ethics and Professional Conduct Part I**

Reading

1. Enoch 2008 - Common genetic origins for EEG, alcoholism and anxiety

HW: Complete QEEG Ethics and Professional Conduct Part I Quiz

### **Online Session 16: QEEG Ethics and Professional Conduct Part II**

Reading

1. Zarei 2006 - Functional anatomy of interhemispheric cortical connections in the human brain

HW: Complete QEEG Ethics and Professional Conduct Part II Quiz

### **Online Session 17: Identifying and Reducing Artifacts**

Reading

1. Dhar 2010 - Reduced interhemispheric coherence in dyslexic adults

HW: Complete Identifying and Reducing Artifacts Quiz

### **Online Session 18: Filtering EEG Brainwaves**

Reading

1. Delorme 2012 - Independent EEG Sources Are Dipolar

HW: Complete Filtering EEG Brainwaves Quiz

### **Online Session 19: Cognitive and Clinical Changes**

Reading

1. Coben 2007 - Assessment-guided Neurofeedback for autistic spectrum disorder
2. Machado 2013 - QEEG spectral and coherence assessment of autistic children in three different experimental conditions
3. Sherlin 2010 - A position paper on neurofeedback for the treatment of ADHD

HW: Complete Cognitive and Clinical Changes Quiz

### **Online Session 20: Developmental Aspects of EEG**

Reading

1. Solso 2015 - Diffusion Tensor Imaging Provides Evidence of Possible Axonal Overconnectivity in Frontal Lobes in Autism Spectrum Disorder Toddlers

HW: Complete Developmental Aspects of EEG Quiz



## **Online Session 21: Interpreting qEEG Topographic Maps (Head Maps)**

### Reading

1. Thatcher 2008 - Intelligence and EEG phase reset: a two compartmental model of phase shift and lock

HW: Complete Interpreting qEEG Topographic Maps (Head Maps) Quiz

## **Online Session 22: QEEG Analysis & How to Write a Report**

### Reading

2. Newer 1997 - Assessment of digital EEG, quantitative EEG and EEG brain mapping

HW: Complete QEEG Analysis & How to Write a Report Quiz

**InMindOut QEEG Certificate Course Phase II Syllabus**  
**(In-Person)**

**Day 1 (8:30am - 6:00pm)**

Instructor Introduction
Demonstration of QEEG Assessment (dry)
Review of QEEG Data: Including artifacting
Lunch (1 hr 15 min)
Lab: QEEG Assessment (Individual QEEGs) - Participant Viewing & Assisting of Administration of Assessment

**Day 2 (8:30am - 6:00pm)**

Demonstration of QEEG Assessment (wet)
Lab: Group Artifacting with Instructor Coaching (1st software)
Lunch (1hr 15 min)
Lab: Group Artifacting with Instructor Coaching (2nd software)
Discussion / Q&A
Closing



## **IQCB Essential Skills List**

A beginning QEEG practitioner should be able to demonstrate mastery of the following basic skills, as attested by their IQCB approved Mentor who sign off each item as completed.

### **Client/Patient Orientation**

- In layman's language, explain to a new client QEEG.
- Explain the major stages in the QEEG intake, assessment, and report analysis.
- Explain client's role and responsibilities in the QEEG process.
- At the initial session, explain how the QEEG session process and equipment works, including:
  - Purpose and steps involved in skin preparation
  - Steps in electrode attachment and selection of the conditions; assure client about safety of "sensors"/electrodes
  - Relationship between client activity and on-screen information, especially artifacts
- Obtain written client permission for QEEG using a thorough Informed Consent form.

### **Intake, Assessment and Protocol Selection**

- Document a thorough client symptom and medication history and gather background information relevant to treatment/training goals.
- Provide a thorough EEG baseline assessment, using the following skills:
  - Perform correct measurements to name and locate on the scalp each of the international 10-20 System electrode placement sites
  - Properly prepare scalp and ears and attach an electrode cap
  - Correctly perform all steps to collect a QEEG recording
  - Assessment: checking impedances, removing artifact, and collecting eyes-open and eyes-closed data
  - Demonstrate basic understanding of a QEEG assessment report, as well as the most commonly reported components of QEEG databases (absolute power, relative power, phase, coherence, z-score comparisons, etc.)
  - Demonstrate ability to identify recordings with possible abnormalities that may warrant consultation with a neurologist, such as spike and wave discharges or transient activity. If there is a medical issue refer the client to a neurologist or other appropriate medical professional. When in doubt, send it out.
  - Use all intake, psychometric, and baseline EEG assessment data to conduct analysis and assessment report
  - Select an initial neurofeedback protocol and explain rationale to client.
- Demonstrate thorough knowledge of operation of QEEG equipment.
  - Make correct hardware connections and start hardware.



- Make correct electrode connections to the hardware.
- Identify and remove (or control for) sources of common artifacts in the raw EEG signal.
- Troubleshoot common equipment failures according to manufacturer's recommendations.
- Demonstrate thorough knowledge of appropriate software for selected equipment.
  - Accurately select, install, and run QEEG software.
  - Identify components, applications, and limitations of selected software package.

## **QEEG Session Management and Reporting**

- Conduct neurofeedback treatment/training sessions.
  - Provide initial orientation and instructions to client.
  - Maintain basic hygiene procedures in attaching (and cleaning) electrodes.
  - Identify and remove sources of artifact appearing in session recordings.
  - Monitor recordings and provide coaching and supplemental verbal feedback to client, as appropriate.
  - Save session data per equipment guidelines and review session results with client.
  - Consult with client's prescribing physician and/or providers of other concurrent treatments as necessary to avoid treatment complications and maximize treatment outcomes.
  - Conduct all aspects of QEEG acquisition in accordance with IQCB codes of ethical practice.
- Maintain orderly and up-to-date client files, including
  - Session training records, significant session events and client comments
  - Changes in client medication, significant life changes, allergies, etc. that may impact treatment/training results
  - Reports of consultations with other treatment providers, family members, teachers, etc.

## **Use of Supplemental Therapeutic and Training Modalities**

- Demonstrate ability to establish positive, constructive relationships with clients and their family members, using basic counseling and communication skills.
- Document adequate skills required to use appropriate counseling/therapy methods to assist clients having mental health diagnoses.
- Demonstrate ability to select and apply appropriate therapy methods when using these protocols.
- Understand the importance of working with medical providers when appropriate.