



# Enrollment Packet

## **InMindOut Neurofeedback Certificate Course Objectives**

Welcome to the InMindOut Neurofeedback Certificate Course,

Thank you for choosing InMindOut's certificate course for your BCIA accredited 36 Hour didactic education. We provide the most up to date research in our course to ensure sufficient knowledge for passage of the BCIA exam and to support in obtaining board certification. By the conclusion of this course, the participants will be able to:

1. Explain the uses of Neurofeedback training;
2. List the definitions associated with the latest empirical Neurofeedback research;
3. List the pioneer researchers in neurofeedback and explain their findings;
4. Describe the history and progression of empirical Neurofeedback research and training;
5. Explain the therapeutic relationship between the Neurofeedback practitioner and client;
6. Explain the assumptions underlying Neurofeedback research and training;
7. Demonstrate Neurofeedback techniques necessary to pass the BCIA exam;
8. List and define terms associated with signal processing;
9. Describe the Neurofeedback intake process including collection of medical history, psychological conditions, medications, psychosocial and family history, and relevant biographical information, etc.
10. Describe how Neurofeedback 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;
11. Describe the pre and post-treatment assessments such as neuropsychological tests, continuous performance tests, and EEG/QEEG, appropriate to your practice and licensure;
12. Explain the methods associated with ongoing Neurofeedback assessment;
13. Explain how learning theories can be applied to Neurofeedback;
14. Describe the ethical and professional conduct of practitioners expected by the BCIA;
15. Explain basic neurophysiology and the connection to Neurofeedback;
16. Explain basic neuroanatomy and the connection to Neurofeedback;
17. Explain how the Neurofeedback signal is acquired;
18. Describe the non-electrical equipment involved in Neurofeedback;
19. Describe the electronic systems involved in Neurofeedback;
20. Explain the comparison between QEEG and other neuroimaging techniques;
21. Describe montages and their characteristics associated with Neurofeedback trainings;
22. Explain and recognize normal EEG patterns;
23. Explain and recognize abnormal EEG patterns;
24. List the psychopharmacological considerations in Neurofeedback;
25. 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;
26. Describe the frequency of appropriate consultation and supervision in Neurofeedback;
  27. Explain the purposes and process of supervision and consultation in Neurofeedback;
  28. Describe the purposes and process of mentoring in Neurofeedback;
  29. Define professional relationships in Neurofeedback 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;
  30. Explain the current trends in Neurofeedback software and equipment; and
  31. Demonstrate treatment protocols and implementation of Neurofeedback labs.

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

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

### **(Online)**

#### **Online Session 1: Introduction to Neurofeedback**

HW: Complete Introduction to Neurofeedback Quiz

#### **Online Session 2: History & Development of Neurofeedback**

Reading:

1. What is neurofeedback?

HW: Complete History Quiz

#### **Online Session 3: Principles of Human Learning**

Reading:

1. Alpha-theta neurotherapy as a multi-level matrix of intervention

HW: Complete Principles of Human Learning Quiz

#### **Online Session 4: Electrical Terminology**

Reading:

1. Improvement of EEG signal acquisition: An electrical aspect for state of the art of front end

HW: Complete Electrical Terminology Quiz

#### **Online Session 5: Neurophysiological Processes**

Reading:

1. A brief introduction to the use of event-related potentials in studies of perception and attention
2. Long-term potentiation and long-term depression: a clinical perspective
3. Neurophysiologic basis of EEG

HW: Complete Neurophysiological Processes Quiz

#### **Online Session 6: Neuroanatomy Part 1**

Reading:

1. Simultaneous EEG and fMRI of the alpha rhythm

HW: Complete Neuroanatomy Part 1 Quiz

#### **Online Session 7: Neuroanatomy Part 2**

Reading:

1. Gating of sensory input at subcortical and cortical levels during grasping in humans

HW: Complete Neuroanatomy Part 2 Quiz

**Online Session 8: Brodmann Areas**

Reading:

1. Habituation of auditory evoked potentials: The dynamics of waveform morphology

HW: Complete Brodmann Areas Quiz

**Online Session 9: Frequencies & Developmental Aspects of EEG**

Reading:

1. Effects of an EEG biofeedback protocol on a mixed substance abusing population

HW: Complete Frequencies & Developmental Aspects of EEG Quiz

**Online Session 10: Waveforms & Artifacts**

Reading:

1. The impact of goal-oriented task design on Neurofeedback learning for brain-computer interface control

HW: Complete Waveforms & Artifacts Quiz

**Online Session 11: Psychopharmacological Part 1**

Reading:

1. Risks and benefits of marijuana use: a national survey of US adults

HW: Complete Psychopharmacological Part 1 Quiz

**Online Session 12: Psychopharmacological Part 2**

Reading:

1. Biopsychosocial approach to understanding resilience: Stress habituation and where to intervene

HW: Complete Psychopharmacological Part 2 Quiz

**Online Session 13: Mental Health Disorders & Neurofeedback**

Reading:

1. EEG and behavioral changes in a hyperkinetic child concurrent with training of the sensorimotor rhythm (SMR)
2. Synaptic plasticity and dynamic modulation of the postsynaptic membrane

HW: Complete Mental Health Disorders and Neurofeedback Quiz

**Online Session 14: Equipment**

Reading:

1. Foundation and practice of Neurofeedback for the treatment of epilepsy

HW: Complete Equipment Quiz

**Online Session 15: Pre-Training Methods & Client Monitoring**

Reading:

1. Alterations in EEG amplitude, personality factors, and brain electrical mapping after alpha-theta brainwave training: A controlled case study of an alcoholic in recovery

HW: Complete Pre-Training Methods & Client Monitoring Quiz

**Online Session 16: Coaching & Relaxation Techniques**

Reading:

1. Neurofeedback training for opiate addiction: improvement of mental health and craving

HW: Complete Coaching & Relaxation Techniques Quiz

**Online Session 17: Neuroimaging Techniques & Montages**

Reading:

1. EEG source localization for brain-computer-interfaces

HW: Complete Neuroimaging Techniques & Montages Quiz

**Online Session 18: Case Studies**

Reading:

1. Dissociable intrinsic connectivity networks for salience processing and executive control

HW: Complete Case Studies Quiz

**Online Session 19: Research Evidence & RCTs**

Reading:

1. EEG-Neurofeedback for optimizing performance. I: a review of cognitive and affective outcome in healthy participants
2. Standards of practice for neurofeedback and neurotherapy: A position paper of the International Society for Neurofeedback & Research

HW: Complete Research Evidence & RCTs Quiz

**Online Session 20: BCIA Guidelines Part 1**

Reading:

1. Template for developing guidelines for the evaluation of the clinical efficacy of psychophysiological interventions

HW: Complete BCIA Guidelines Part 1 Quiz

**Online Session 21: BCIA Guidelines Part 2**

Reading:

1. The evidence-base for Neurofeedback as a reimbursable healthcare service to treat attention deficit/hyperactivity disorder
2. The potential of neurofeedback in the treatment of eating disorders: a review of the literature

HW: Complete BCIA Guidelines Part 2

**Online Session 22: Developing a Treatment Plan Part I**

Reading:

1. Wired for miracles

HW: Complete Developing a Treatment Plan Part I Quiz

**Online Session 23: Developing a Treatment Plan Part II**

Reading:

1. On the efficiency of individualized theta/beta ratio Neurofeedback combined with forehead EMG training in ADHD children
2. Abreaction-Catharsis: Stirring Dull Roots with Spring Rain

HW: Complete Developing a Treatment Plan Part II Quiz

**Online Session 24: Developing a Treatment Plan Part III**

Reading:

1. Z-score Neurofeedback and heart rate variability training for adults and children with symptoms of attention-deficit/hyperactivity disorder: A retrospective study

HW: Complete Developing a Treatment Plan Part III Quiz

**Online Session 25: Developing a Treatment Plan Part IV**

HW: Complete Developing a Treatment Plan Part IV Quiz

**InMindOut Neurofeedback Certificate Course Phase II Schedule  
(In-Person)**

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

Introduction: Instructor and Participants
Demonstration: 3 Site Assessment
Lab 1: 3 Site Assessment
Demonstration: HRV & Respiration
Lab 2: HRV & Respiration
Lunch (1 hr 15 min)
Demonstration: Single Channel (Monopolar Placement) at Cz - SMR Training
Lab 3: Single Channel (Monopolar Placement) at Cz - SMR Training
Demonstration: Single Channel Bipolar Placement at Fz-Pz
Lab 4: Single Channel Bipolar Placement at Fz-Pz

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

Demonstration: Single Channel Bipolar Placement at Fz-Pz
Lab 5: Single Channel Bipolar Placement at Fz-Pz
Demonstration: 2-Channel Sum Training
Lab 6: 2-Channel Sum Training
Lunch (1 hr 15 min)
Demonstration: iSyncBrain
Demonstration: Adjunct Devices & Manuals
Discussion / Q&A
Closing



## **BCIA Neurofeedback Essential Skills List**

A beginning neurofeedback practitioner should be able to demonstrate mastery of the following basic skills, as attested by their BCIA-approved Mentor.

### **Client/Patient Orientation**

- In Layman's language, explain to a new client EEG biofeedback, self-regulation concepts, and operant condition of brainwave activity
- Explain the major stages in the neurofeedback treatment/training process, from initial intake and assessment to progress monitoring and reporting
- Explain client's role and responsibilities in the neurofeedback process..
- At initial session, explain how the neurofeedback session process and equipment works, including:
  - Purpose and steps involved in skin preparation
  - Steps in electrode attachment and selection of site placements; assure client about safety of "sensors"/electrodes
  - Meaning of primary features of the feedback screens and concepts of amplitude and frequency and/or z-scores
  - Relationship between client activity and on-screen feedback changes
  - Session recording and progress monitoring screens
- Obtain written client permission for treatment/training 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 electrodes to selected assessment sites or attach an electrode cap if doing a full-cap quantitative EEG
  - Correctly perform all steps to collect a qEEG recording or multi-channel EEG 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.)
  - Identify recordings indicating spike and wave activity requiring consultation with a neurologist or qEEG expert



- Use all intake, psychometric, and baseline EEG assessment data to select target electrode placement sites and montages for neurofeedback treatment/training
- Select an initial neurofeedback protocol and explain rationale to client

## **Use and Maintenance of Neurofeedback Equipment**

- Demonstrate thorough knowledge of operation of neurofeedback equipment of choice:
  - 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 neurofeedback treatment/training software.
  - Identify components, applications, and limitations of selected software package.

## **Neurofeedback Session Management and Reporting**

- Conduct neurofeedback treatment/training sessions involving the following procedures:
  - Provide initial orientation and instructions to client at first treatment/training session.
  - Prior to subsequent sessions, query client (and/or parent) verbally and/or via pre-session questionnaire on client's positive and negative reactions to previous session.
  - Maintain basic hygiene procedures in attaching (and cleaning) electrodes.
  - Remind client of the training objectives for session and their role in attending to and responding to feedback.
  - Start treatment/training software program, set up selected protocol parameters, and run basic feedback functions.
  - As appropriate, set initial training thresholds and adjust as needed.
  - Identify and remove sources of artifact appearing in session recordings.
  - Monitor session recordings and provide coaching and supplemental verbal feedback to client during sessions, as appropriate.
  - Save session data per equipment guidelines and review session results with client.
  - Assign homework to client that supports and supplements session training goals.
  - Consult with client's prescribing physician and/or providers of other concurrent treatments as necessary to avoid treatment complications and maximize treatment outcomes.
  - Identify as soon as possible in the treatment/training process when neurofeedback is not working for a client; identify cause(s) for lack of progress; make necessary protocol or other training program adjustments; or, when necessary, recommend termination of neurofeedback.



- In collaboration with client, determine when neurofeedback treatment/training goals have been met and mutually plan for treatment termination and follow-up.
- Conduct all aspects of neurofeedback treatment and training in accordance with BCIA, AAPB and ISNR codes of ethical practice.
- Maintain orderly and up-to-date client files, including
  - Session-by-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 training and demonstrate skills required to use appropriate counseling/therapy methods to supplement neurofeedback with clients having mental health diagnoses
- Document adequate training in use of alpha-theta neurofeedback protocols. Demonstrate ability to select appropriate clients for alpha-theta training as well as apply appropriate therapy methods when using these protocols
- Document adequate training in other neuromodulation modalities (such as HRV biofeedback, AVS, CES, etc.) for use in conjunction with neurofeedback, and demonstrate ability to select and use appropriate adjunctive modalities with individual clients