InMindOut
Emotional Wellness Center, LLC

# Enrollment Packet

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# InMindOut Advanced EEG Interpretation Course Objectives

Thank you for choosing InMindOut's course for your educational needs. We provide the most up to date research in our course to ensure sufficient knowledge for QEEG record interpretation. By the conclusion of this course, the participants will be able to:

1. List the correlations associated with different frequency bands (i.e., mental health or medical issues);
2. Describe the functions of each brain network;
3. Describe the putative biotypes associated with brain networks;
4. Identify common artifacts and abnormalities in EEG records;
5. Explain how Leaky Gut Syndrome is tied to brain functioning;
6. Describe what endophenotypes and biomarkers are;
7. Explain how endophenotypes and biomarkers are linked to EEG activity;
8. Explain the uses for QEEG assessments;
9. List the definitions associated with the latest empirical QEEG research;
10. Describe and explain the importance of neuromarkers and their relation to neuroimaging;
11. Explain basic neurophysiology and the connection to QEEG;
12. Explain basic neuroanatomy functions and the connection to QEEG;
13. Describe EEG characteristics in metabolic and endocrine disorders;
14. Explain how to detect and interpret artifacts from real EEG;
15. Explain nesting and coupling involved with brain activity;
16. Describe montages and their characteristics associated with QEEG;
17. Explain and recognize normal EEG patterns;
18. Explain the sources of brain activity and which frequency bands normally emanate;
19. Explain how Brodmann area functions and network connections are related to QEEG practices;
20. Explain how the practitioner's presentation, feelings and mental processes may affect the client's EEG (Healer and Healee)
21. Describe the differences between using phenotypes to diagnose versus the DSM-5;
22. Demonstrate QEEG editing/artifacting skills;
23. Demonstrate an understanding of QEEG processing, recording, raw and processed data, and associated correlations through editing, artifacting, and interpreting EEG records with accuracy

Again, thank you for choosing InMindOut's Advanced EEG Interpretation Course Objectives. We look forward to assisting you on your journey as you expand your education!

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# InMindOut Advanced EEG Interpretation Course Phase I Syllabus

# (Online)

**Online Session 1: Introduction to EEG Interpretation & Delta & Theta Frequency Correlation**
HW: Complete Introduction to EEG Interpretation & Delta & Theta Frequency Correlation Quiz

**Online Session 2: Alpha & Beta Frequency Correlations**
Reading

1. Gunkelman & Cripe 2008 - Clinical outcomes in addiction: a neurofeedback case series

HW: Complete Alpha & Beta Frequency Correlations Quiz

**Online Session 3: Gamma, Nestling and Coupling, Montages & Background Rhythm**
Reading

1. Van Deursen et al. 2008 - Increased EEG gamma band activity in Alzheimer's disease and mild cognitive impairment

HW: Complete Gamma, Nestling and Coupling, Montages & Background Rhythm Quiz

**Online Session 4: Brain Networks & Biotypes**
Reading

1. Williams 2016 - Precision psychiatry: a neural circuit taxonomy for depression and anxiety

HW: Complete Brain Networks & Biotypes Quiz

**Online Session 5: Leaky Gut & Thalamocortical Dysregulation**
Reading

1. Jollans & Whelan 2018 - Neuromarkers for mental disorders: harnessing population neuroscience

HW: Complete Leaky Gut & Thalamocortical Dysregulation Quiz

**Online Session 6: Artifacts Vs. Real EEG**

**Online Session 7: Diagnosing vs. Interpreting**
Reading

1. Barthélemy et al. 2017 - Online denoising of eye-blinks in electroencephalography

HW: Complete Diagnosing vs. Interpreting Quiz

**Online Session 8: Neuroanatomy**
HW: Complete Neuroanatomy Quiz

**Online Session 9: Healer & Healer & Vigilance**

Reading

1. Hendricks et al. 2010 - The Healing Connection: EEG Harmonics, Entrainment, and Schumann's Resonances

HW: Healer & Healer & Vigilance

**Online LABS: Artifacting and Interpreting a Case**

Videos

1. Artifacting the Eyes Closed Record Part I
1. Artifacting the Eyes Closed Record Part II
2. Reading the Background of the EEG Part I
3. Reading the Background of the EEG Part II
4. Artifacting the Eyes Open Record
5. Looking at Normative Database Comparisons
6. Reviewing Connectivity Metrics and Hypothesis for Protocols
7. Reviewing HRV Metrics
8. Report Sample

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# InMindOut Advanced EEG Interpretation Course Phase II Schedule

## (In-Person)

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

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|---|
| Instructor Introduction |
| What am I? EEG Game |
| 5 Case Examples EEG Review (Where's Waldo) |
| Lab: Case 1 - Group Artifacting with Instructor Coaching |
| Lunch |
| Lab: Case 1 - Group Interpretation with Instructor Coaching |
| Lab: Case 2 - Partner Artifacting and Interpretation with Instructor Coaching |
| Discussion / Q&A |
| Closing |

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# 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 signs off each item as completed. This course can aid with the learning and demonstrating aspects of these skills.

**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 the 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.