

NDT (USA) Certificate Course curriculum outline

The Neuro-Developmental Treatment (NDT) Certificate Course utilises principles of motor development, motor control, motor learning, and neuroscience to address functional goals of children with cerebral palsy and other neuromotor disorders. Instruction involves a mix of lectures, audiovisual presentations, master classes, movement labs and treatment practicums with children while receiving individualised feedback from accredited and experienced instructors.

The research component includes an examination and appraisal of the evidence in relation to contemporary Neuro-Developmental Treatment and principles of evidence based practice and translational research. It analyses the strengths and weaknesses of current approaches to evidence based reviews in relation to the complexity of everyday therapy practice; Provides evidence of the validity and reliability of emerging research protocols which are sensitive to clinical changes and can address the needs of heterogeneous population groups with diverse functional goals; considers standards for research findings to be applied in practice settings; and reviews of evidentiary support for specific NDT interventions, such as upper limb performance and the importance of incorporating outcome measures.

The course curriculum incorporates a minimum of 261 hours of lectures, demonstrations, and practical and clinical work. It will cover the basic content areas as follows:

1. Introduction to contemporary Neuro-Developmental Treatment

- History/philosophy
- Evolution and changes to NDT in North America
- Scientific evidence in support of NDT
- ICF Model
- Examination/Evaluation/Assessment
- Treatment planning

2. Classification of cerebral palsy

3. Postural control

4. Typical development of posture and movement for function

5. Atypical development

6. Teamwork

7. Working with families

8. Goal setting

- SMART goals
- GAS goals

9. PT Content

- Musculoskeletal system
- Locomotion
- Gait
- LE movement and function
- Components of gross motor development

- Development of postural control as it relates to transitions, locomotion & gait
- Atypical development of gross motor & postural control
- Functional goals (SMART & GAS Goals)
- Develop treatment objectives & strategies to reach functional goals
- Practice labs with partners & with children to promote posture, movement & functional outcomes
- Equipment
- Foot management
- Adjuncts
- Surgeries & other medical interventions

10. OT Content

- Typical sensory – motor, social / emotional development - & postural control, upper body & fine motor development
- The shoulder girdle and proximal relationships – functional tasks
- The lower arm and hand and proximal relationships – functional tasks
- Typical & atypical sensory processing – regulatory system, sensory systems [vestibular; proprioceptive; tactile & visual], & perception / cognition
- treatment strategies to address functional goal attainment
- Practice within treatment practicum with children with individual support, feedback & guidance from the NDTA Instructor.
- Before and after testing of functional goal performance in each session.
- Play, the development of play, & play as central to NDT in engaging children's motivation through playful intervention
- Education – preparing children for the educational setting & working within the classroom setting
- Home program ideas with families towards 'daily routine carryover'
- Contemporary and synergistic treatment approaches with NDT – for example, orthotics & taping; equipment

11. SLP Content

- Integration of speech, language, and cognitive development with the development of movement
- Typical & atypical components of oral motor, respiration, & phonation
- Assessment & treatment of oral motor, respiration, & phonation
- Communication
- Tube feedings
- AAC

12. Neuroscience content

An in-depth study of the contributions of sensation, cognition, and action to functional movement.