

*Draft Guidance from ASI WISE for Module 1 Ulster University while Blackboard is down.  
Subject to change.*

## **MODULE RATIONALE**

The latest advancements in neuroscience support the application of the theory of sensory integration as an approach for children, adolescents, adults, and older adults. This module will provide the therapists with a theoretical basis for the application of the theory of sensory integration for clinical practice.

The focus of the first module will be on the theory of sensory integration, the central nervous system, the neuroscience of sensory systems, modulation, praxis, and the principles of evaluation and intervention in sensory integration. This online module provides in-depth lectures accompanied by supplemental videos and assignments to enhance your experience.

## **AIMS**

The aim of this module is to enable students to understand the theory and practice of Ayres sensory integration and processing and to relate sensory integration to the underlying neuroscience and evidence base of Ayres Sensory Integration.

## **LEARNING OUTCOMES**

Successful students will be able to:

- 1 Define and appraise the scientific theory, model and frame of reference in order to apply the core principles and concepts of Ayres Sensory Integration® Theory
- 2 Describe, evaluate and analyse the common patterns of sensory integration dysfunction and their proposed neural correlations, with reference to the neurological structures and their functions involved in the process of sensory integration
- 3 Describe and appraise the relationship between sensory integration and participation in everyday activities and occupations; including the functional implications and occupational factors in relation to changes of sensory impairments.
- 4 Describe and consider praxis and its role in performance and behaviour. Synthesis of this knowledge and its application in practice.

## **CONTENT**

1. Ayres Sensory Integration History of Jean Ayres; Tenets of Sensory Integration; Concepts related to Ayres' SI
2. The Science: Neuroscience Science- Introduction to Neuroscience; Neuro Physiology and Anatomy; Human Growth and Development; Consideration of emerging concepts in Neuroscience.
3. Sensory Systems
4. AYRES Sensory Integration Constructs and Sensory Patterns
5. Introduction to assessment, clinical reasoning and intervention; The application of the Data Driven Decision Making Process.

## LEARNING AND TEACHING METHODS

1. Theoretical material is introduced through lectures, and developed and reinforced through directed reading and workshops.
2. Lectures will provide an overview of the main topic areas, develop the student's understanding of the key issues, guide the students on how to find out more about the subject and the reading they need to undertake.
3. Online video-material initiated workshops and tutorials will involve students in online group discussions.
4. Where required, tutorials will also involve one-to-one online tutoring between tutors and students.
5. Students will be expected to undertake self-study. This will be, in part, preparation for the assignment.
6. Students will also be expected to identify and follow up their own learning needs.
7. Practical exercises will give the opportunity for students to work to consolidate the knowledge learnt within the lectures.
8. Students will be directed to read key texts, integrated into the core content of the lectures. Students will be encouraged to participate actively in the module.
9. Students are encouraged to use online communication tools such as online discussion board/forums to as part of a community of practice, providing mutual support and advice from the lecturers.
10. The module is offered fully on-line.

## **ASSESSMENT AND FEEDBACK**

### **Presentation [30%]**

Neuro presentation

During the live and interactive taught Module 1, (4 days taught in 2 blocks of 2 days each via Zoom) students will work in allocated groups. Each group will prepare a group presentation on an assigned topic related to neurological structures and functions. Each group will present on a different structure with the brain and its contribution to sensory integration and processing and function. Prior examples and advice about the content will be provided and described in more detail on day 1 of the onsite module. The approximate duration of content prepared and offered will be 10 -15 minutes each and will include preparation of relevant handouts correctly referenced as per Ulster University Referencing Guidelines supplied. Each student will prepare and present a unique aspect of during this group work.

There is a requirement for additional research, reading and group work participation to ensure a cohesive and relevant presentation, that meets broader supplied learning outcomes for the presentations between teaching days.

The marks will be allocated 60% for overall group presentation and 40%for the individual input. Instructor and tutor monitoring via google drive or other shared folder system will facilitate formative feedback as required.

### **Project [70%]**

Following the taught content and elements, each student will then create and present an introductory 30 - 60-minute presentation to a self-selected relevant clinical audience e.g. in-service, parent psycho-education or lecture on ASI to their chosen group e.g. parents, teachers, nursing staff, HCA's, MDT, community groups etc.

Slides or other prepared teaching resources/handouts will be submitted alongside formally collected feedback from the audience. The format of the feedback to be determined and pre-prepared by the therapist for this purpose (e.g. may include solution-focused questions e.g. What worked well? What didn't work well? and What could be different?, but should target specific audience).

The student will then create a 3500-word written and referenced submission. This submission will require the student select and focus on an individual client's clinical presentation, including challenges to participation in everyday life. The student will reference the theory of Ayres SI; synthesising current neuroscience related to the main sensory systems, and relevant evidence base; with consideration of their client's clinical presentation.

### **Written assignment [0%]**

Pass/Fail

The student will create a publishable, printable resource or blog post for publication with reference to your project subject area. This could include a YouTube clip or similar blog style item. The fully online assessment mode for all coursework is the same regardless of whether the mode of delivery is online or face to face via Zoom.

Formative feedback is provided to each group or student as relevant after the group presentation, thus allowing the students' learning from that to feedforward to the project.

Online Feedback will be provided in line with university policy once assessments have been completed and submitted.

100% Coursework

0% Examination

## READING LIST

### Required:

1. Ayres, A. J. (2005). *Sensory Integration and the Child, 25th Anniversary Edition*. Los Angeles, CA: Western Psychological Services.
2. Bundy, A. and Lane, S., 2020. *Sensory integration*. Philadelphia, PA: F.A. Davis.
3. Schaaf, R. A., and Smith Roley, S. (2006). *SI: Applying clinical reasoning to practice with Diverse Populations*. Austin, TX: Pro-Ed. Smith Roley, S., Blanche E. I., and Schaaf, R. C. (2001). *Understanding the nature of sensory integration with Diverse Populations*. San Antonio, TX: Pro-Ed.

### Recommended:

4. Bear, M. F., Connors, B. W. and Paradiso, M. A. (2016). *Neuroscience: Exploring the Brain 4th edition*. Philadelphia, PA: Wolters Kluwer.
5. Chang, Y, Owe, J.P., Desai, S.S., Hills, S.S., Arnett, A.B., Harris, J., Marco, E.J., & Mukherjee, P. (2014). Autism and sensory processing disorders: Shared white matter disruption in sensory pathways but divergent connectivity in social-emotional pathways. *PLoS ONE* 9(7): e 103038: doi:10.1371/journal.pone.0103038
6. Lane, S. J., Mailloux, Z., Schoen, S., Bundy, A., May-Benson, T. A., Parham, L. D., Smith Roley, S., & Schaaf, R. C. (2019). Neural Foundations of Ayres Sensory Integration®. *Brain sciences*, 9(7), 153. <https://doi.org/10.3390/brainsci9070153>
7. Schaaf, R.C., Schoen, S.A., May-Benson, T., Lane, S.J., Smith Roley, S., Mailloux, Z. (2015). The Issue Is—State of the Science: A Roadmap for research in sensory integration. *American Journal of Occupational Therapy*, 69, 6906360010. <http://dx.doi.org/10.5014/ajot.2015.019539>
8. Smith Roley, S., Mailloux, Z. Miller-Kuhanek, H. & Glennon, T. (2007). *Understanding Ayres Sensory Integration®*. *OT Practice* 12(17) CE1-CE-8

## SUMMARY DESCRIPTION

Advances in neuroscience support the application of AYRES Sensory Integration as a therapeutic approach that Occupational Therapists, Physiotherapists and Speech and Language Therapists may use in clinical practice with Clients across the lifespan.

The initial module will focus on the Theory of AYRES Sensory Integration, neuroscience including the sensory systems and concepts including sensory perception, ocular, postural and bilateral integration, praxis and reactivity. This online module provides in-depth lectures accompanied by supplemental videos and assignments to develop evidence based clinical skills and practice.

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