



L	T	P/S	SW/ FW	TOTAL CREDIT UNITS
3	1	-	-	4

Course Title: Assistive Intervention and Technology

Credit Units: 4

Course Code: SPED

Level: UG

Course Objectives:

After studying this course the pupil- teachers will be able to

- Develop an understanding of etiological aspects of autism spectrum disorder
- Comprehend and develop suitable interventions of language and communication for children with autism spectrum disorder
- Describe the sensory processes and comprehend the role of sensory integration therapy for children with autism spectrum disorder
- Explain the need and types of assistive technology suitable for children with autism spectrum disorder
- Assess children's need for assistive technology and integrate technology in teaching and learning

Student Learning Outcome

- Pupil-teachers will be able to explain the etiological aspects of different phases of life.
- Pupil-teachers will be able to formulate various components: Semantics, Syntax, Pragmatics
- Pupil-teachers will be able to describe various methods of Sensory integration therapy
- Pupil-teachers will be able to describe basic elements of Assistive Technology for positive behaviour support and recreation: visual schedules, social stories; use of social media, electronic musical instruments
- Pupil-teachers will be able to do assessment of environmental support: visual clutter, lighting, computer operating

Course Contents/Syllabus:



	Weightage (%)
MODULE I : Etiological Aspects	15
Descriptors/Topics 1.1 Genetic factors 1.2 Prenatal factors 1.3 Perinatal factors 1.4 Postnatal factors 1.5 Early Signs and Screening for ASD	
MODULE II : Communication Aspects	20
Descriptors/Topics 2.1 Language, Communication, Speech: concept and definition 2.2 Language 2.2.1 Components: Semantics, Syntax, Pragmatics 2.2.2 Disorders: Echolalia, Perseverance, Neologism 2.3 Communication: Process and Types 2.4 Speech Disorders: Articulation, Fluency and Voice Disorders 2.5 Interventions: AAC, PECS, Makaton, and Visual Strategies	
MODULE III : Sensory Motor Aspects	15
Descriptors/Topics 3.1 Sensory processes: underlying concepts 3.2 Sensory processes in ASD 3.3 Executive function deficits 3.4 Sensory integration therapy 3.5 Sensory integration: aids and devices	
MODULE IV : Assistive Technology (AT) and Assistive Devices (AD)	20
Descriptors/Topics 4.1 AT and AD: Concept and definition 4.2 AD Categories: Low-Tech devices, Mid-Tech devices, High-Tech Devices 4.3 AT for communication: Dynavox, Avaz, Kathamala 4.4 AT for positive behaviour support and recreation: visual schedules, social stories; use of social media, electronic musical instruments 4.5 AT for academic learning: i-pad applications, computer assisted instructions	
MODULE V : Need Assessment and Planning for Assistive Technology	15



Descriptors/Topics

- 5.1 Assessment areas: Communication, Academic, Motor, Behaviour, Organization, Social Interactions, Transitions, Other concerns
- 5.2 Assessment of environmental support: Visual clutter, Lighting, Computer Operating System, Staff placement, Other concerns
- 5.3 Preparation for AT: Selection of devices, Training for device usage
- 5.4 Selection of goals: Verbal communication, written communication, Academic participation, Social interaction, Transition
- 5.5 Integration of AT and AD in teaching-learning environment

Pedagogy for Course Delivery:

- Lectures
- Presentations
- Project
- Workshops/ Seminars

Practicum/ Field engagement

- Seminar on environmental factors for ASD in India
- Assessment for selection of suitable Assistive Technology for a given child with ASD
- Develop a low-tech assistive device for communication
- Plan an educational unit that integrates usage of AT

Assessment/ Examination Scheme:

Theory L/T (%)	Lab/Practical/Studio (%)	End Term Examination
20	N.A	80

Theory Assessment (L&T):

Components (Drop down)	Continuous Assessment/Internal Assessment			End Term Examination
	Class Test	Project	Attendance	
Weightage (%)	10	5	5	80

Lab/ Practical/ Studio Assessment:



	Continuous Assessment/Internal Assessment				End Term Examination		
Components (Drop down)							
Weightage (%)							

Text & References:

- Beukelman, D., & Mirenda, P. (2004). *Augmentative and Alternative Communication: Management of Severe Communication Disorders in Children and Adults*. Baltimore, MD: Paul H. Brookes Publishing Co.
- Boser, K.I., Goodwin, M.S., & Wayland, S.C. (2013). *Technology Tools for Students with Autism: Innovations that Enhance Independence and Learning*. Brookes Publishing.
- Cormier, C., & Natale, N. (2014). *Assistive Technology Guide to Maximize Learning for Children with Autism*. Create Space Independent Publishing Platform. UK.
- Culp, S. (2011). *A Buffet of Sensory Interventions: Solutions for Middle and High School Students With Autism Spectrum Disorders*. AAPC Publishing, Kansas.
- Frost, L. A., & Andrew S. B. (1996). *The Picture Exchange Communication System Training Manual*. Cherry Hill, NJ: Pyramid Educational Consultants, Inc.
- Koomer, J., & Kranowitz, C. (2007). *Answers to questions teachers ask about sensory integration*. Future Horizons, Texas.
- Moyes, R.A. (2010). *Building Sensory Friendly Classrooms to Support Children with Challenging Behaviors: Implementing Data Driven Strategies!* Sensory World.
- Shattock, P., & Whiteley, P. (2002). "Biochemical aspects in autism spectrum disorders: updating the opioid-excess theory and presenting new opportunities for biomedical intervention" "Autism Research Unit, University of Sunderland, UK.

Suggested Readings

- Accardo, P.J., Magnusen, C., & Capute, A.J. (2000). *Autism: Clinical and Research Issues*. York Press, Baltimore.
- Howlin, P., & Rutter, M. (1991). *Treatment of autistic children*. Chichester: John Wiley & Sons.
- Kathleen, A. Q.(1995). *Teaching Children with Autism: Strategies to Enhance Communication and Socialization*. Albany, NY. Delmar Publishers, Inc.
- Kendel, E., Schwartz, J., & Jessell, T. (2000). *Principles of neural science*. New York: McGraw-Hill.
- Twachtman-Cullen, D. (2000). *How to be a para pro: A comprehensive training manual for paraprofessionals*. Higganum, CT. Starfish Speciality Press.