

## Systematic, Evidence- and Data-Based Interventions

### Sample Syllabus

#### Course Description

This course provides information to students on the identification and challenge of evidence-based practices in early childhood intervention. Students will be able to understand how to design and implement evidence-based and data-based interventions to support the development and learning of infants and young children with disabilities and their families.

#### Course Learning Objectives

As a result of active participation and successful completion of course requirements, students will be able to:

1. Understand the differences between evidence-based practices (EBPs) and related terms.
2. Examine components of an evidence-based review to identify strengths/limitations and discuss findings and implications for practice.
3. Discuss considerations and challenges to supporting the implementation of EBPs.
4. Describe the key elements of systematic instruction.
5. Describe the implementation of data-based systematic instruction including enhanced milieu teaching.

#### Required Texts

- Noonan, M. J., & McCormick, L. (2014). *Teaching young children with disabilities in natural environments* (2nd ed.). Brookes Publishing.
- Pretti-Frontczak, K., & Brown, J. (2023). *Assessing young children in inclusive settings*. Baltimore MD Paul Brookes.
- Sandall, S. R., & Schwartz, I. S. (2008). *Building blocks for teaching preschoolers with special needs*. Baltimore: Brookes Publishing.

#### Readings:

- Bagnato, S. J., McLean, M., Macy, M., & Neisworth, J. T. (2011). Identifying instructional targets for early childhood via authentic assessment: Alignment of professional standards and practice-based evidence. *Journal of Early Intervention*, 33(4), 243-253
- Bruder, M. B., & Ferreira, K. E. (2021). [. State Early Learning and Development Standards: A unified curriculum framework for all young children](https://doi.org/10.1177/0271121420981130). *Topics in Early Childhood Special Education*, 42(2), 137-149. <https://doi.org/10.1177/0271121420981130>
- DeSpain, S. N., & Hedin, L. (2022). IFSP child and family outcomes: Creating clarity with a team-based approach. *Young exceptional children*, 25(4), 171-183.
- Dunlap, G., Strain, P. S., Fox, L., Carta, J. J., Conroy, M., Smith, B. J., ... & Sowell, C. (2006). Prevention and intervention with young children's challenging behavior: Perspectives regarding current knowledge. *Behavioral Disorders*, 32(1), 29-45.

- Dunst, C., Trivette, C., Hamby, D., & Simkus, A. (2013). Systematic review of studies promoting the use of assistive technology devices by young children with disabilities. Retrieved from: [https://www.ctdinstitute.org/sites/default/files/file\\_attachments/TnT-RB-V8.1-2013-AT-use-by-young-children.pdf](https://www.ctdinstitute.org/sites/default/files/file_attachments/TnT-RB-V8.1-2013-AT-use-by-young-children.pdf)
- Gatmaitan, M., & Brown, T. (2016). Quality in individualized family service plans: Guidelines for practitioners, programs, and families. *Young Exceptional Children*, 19(2), 14-32.
- Gulboy, E., Yucesoy-Ozkan, S., & Rakap, S. (2023). Embedded instruction for young children with disabilities: A systematic review and meta-analysis of single-case experimental research studies. *Early Childhood Research Quarterly*, 63, 181-193.
- Haring, T. G., & Breen, C. G. (1992). A peer-mediated social network intervention to enhance the social integration of persons with moderate and severe disabilities. *Journal of Applied Behavior Analysis*, 25, 319-334.
- Horn, E., & Banerjee, R. (2009). Understanding curriculum modifications and embedded learning opportunities in the context of supporting all children's success. *Language, Speech, and Hearing Services in Schools*, 40(4), 406-415.
- Macy, M., Bagnato, S. J., & Gallen, R. (2016). Authentic Assessment. *Zero to three*, 37(1).
- McDonnell, J., Johnson, J. W., Polychronis, S., Riesen, T., Jameson, M., Johnson, J. W., & Kercher, K. (2006). Comparison of one-to-one embedded instruction in general education classes with small group instruction in special education classes. *Education and training in developmental disabilities*, 41(2), 125-138.
- Odom, S. L., & Strain, P. S. (1986a). A comparison of peer-initiation and teacher-antecedent interventions for promoting reciprocal social interactions of autistic preschoolers. *Journal of Applied Behavior Analysis*, 19, 58-72.
- Odom, S.L. & Strain, P.S. (1986b). Combining teacher antecedents and peer responses for promoting reciprocal social interaction of autistic preschoolers. *Journal of Applied Behavior Analysis*, 19, 59-71.
- Powell, D., Dunlap, G., & Fox, L. (2006). Prevention and intervention for the challenging behaviors of toddlers and preschoolers. *Infants & young children*, 19(1), 25-35.
- Rahn, N. L., Coogle, C. G., & Ottley, J. R. (2019). Early childhood special education teachers' use of embedded learning opportunities within classroom routines and activities. *Infants & Young Children*, 32(1), 3-19.
- Salisbury, C., Woods, J., Snyder, P., Modellmog, K., Mawdsley, H., Romano, M., & Windsor, K. (2018). Caregiver and provider experiences with coaching and embedded intervention. *Topics in Early Childhood Special Education*, 38(1), 17-29
- Sawyer, B. & Campbell, P. H. (2017). Teaching caregivers in early intervention. *Infants & Young Children*, 30(3). 175-189. doi.org/10.1097/IYC.0000000000000094
- Schreibman, L., Dawson, G., Stahmer, A., Landa, R., Rogers, S., McGee, G., Kasari, C., Ingersoll, B., Kaiser, A., Bruinsma, Y., McNerney, E., Wetherby, A., & Halladay, A. (2015). [Naturalistic Developmental Behavioral Interventions: Empirically validated treatments for Autism Spectrum Disorder](https://doi.org/10.1007/s10803-015-2407-8). *Journal of Autism & Developmental Disorders*, 45(8), 2411–2428. <https://doi.org/10.1007/s10803-015-2407-8>

- Sheply, C., Lane, J.D., Ayres, K., & Douglas, K.H. (2017). Assistive and instructional technology: Understanding the differences to enhance programming and teaching. *Young Exceptional Children*, 20(2). 86-98.
- Siller, M., Landa, R., Vivanti, G., Ingersoll, B., Jobin, A., Murphy, M., Pellecchia, M., Boyd, B., D'Agostino, S., Zierhut Ursu, C., Stapel-Wax, J., Fuhrmeister, S., & Morgan, L. (2023). [Bridging priorities between Naturalistic Developmental Behavioral Interventions for autism and educational practice in inclusive early childhood education](https://doi.org/10.1177/02711214231213285). *Topics in Early Childhood Special Education*. <https://doi.org/10.1177/02711214231213285>
- Steed, E.A & Roach, A.T. (2017). Childcare providers' use of practices to promote young children's social emotional competence. *Infants & Young Children*, 30(2), 162-171.
- Windsor, K. S., Woods, J., Kaiser, A. P., Snyder, P., & Salisbury, C. (2019). Caregiver-implemented intervention for communication and motor outcomes for infants and toddlers. *Topics in Early Childhood Special Education*, 39(2), 73-87.

### **Accommodations**

Section 504 of the Rehabilitation Act of 1973 and the American with Disabilities Act of 1990 require the institution to provide academic adjustments or accommodations for students with documented disabilities. Students seeking academic adjustments or accommodations must self-identify with the Coordinator of Services for Students with Disabilities on the appropriate campus.

### **Attendance**

Since many of the classes involve activities, videotapes, discussion, etc., regular attendance is vital to gain maximum benefit. Because this is a 15 weeks course, each class member needs to make every effort to be in attendance at each class. Anyone who misses more than one class will lose 5 points for each class missed after the first absence. Significant tardiness or early departure beyond 15 minutes will count as an absence. If you know ahead of time you will not be in class, please contact the instructor the day before the class.

### **Communicating with the Instructor**

All correspondences from the instructor to the students by way of announcements, updates, assignments, and so forth, will be communicated via school email or online learning management system if not verbally in class. It is the student's responsibility to ensure their university e-mail is corrected, provided, and valid. Failure to do so may result in missing important information that could negatively impact your grade. Please be mindful of professionalism.

### **Course Outline**

The following schedule is subject to change. For any course syllabuses posted prior to the beginning of the semester, the course instructor reserves the right to make changes prior to or during the semester. The course instructor will notify students, via e-mail or verbal

announcements when changes are made in the requirements and/or grading of this course. ***The course instructor reserves the right to revise the schedule/assignments if needed.***

Week	Topics and Readings	Reading	Activities
1	Introduction of class  Perspectives, Policies, and Practices	Noonan & McCormick (2014) Ch 1  Sandall et al., (2024) Ch 2 & 3  Pretti-Frontczak et al., (2023) Ch 8	<b>Discussion Prompt:</b> Describe the elements of a <i>seamless system</i> of services delivery in ECSE.
2	IEP & IFSP Planning	Noonan & McCormick (2014) Ch 3  DeSpain & Hedin (2022)  Gatmaitan & Brown (2016)	<b>Discussion Prompt:</b> Collaboration among professionals and families is essential for delivering effective early childhood special education services. The readings explore strategies for building strong partnerships, facilitating team-based decision-making, and ensuring that services are family-centered and culturally responsive. What barriers to collaboration are discussed across the readings, and how might educators work to overcome them?
3	Data-based – Authentic Assessment	Pretti-Frontczak et al., (2023) Ch 2 Bagnato et al., (2011)  Macy et al., (2016)	<b>Discussion Prompt:</b> Authentic assessment is a cornerstone of high-quality early childhood education, especially for children with developmental delays or

			disabilities. The readings emphasize the importance of gathering meaningful data in natural environments, engaging families, and using assessment results to guide instructional decisions. How do the authors define authentic assessment, and what distinguishes it from traditional assessment approaches?
4	Data-based – Curriculum Planning	<p>Sandall et al., (2024) Ch 4</p> <p>Pretti-Frontczak et al., (2023) Ch 6</p> <p>Grisham-Brown et al., (2005) Ch 2 &amp; 4</p> <p>Noonan &amp; McCormick (2014) Ch 4</p> <p>Bruder &amp; Ferreira (2021)</p>	<p><b>Discussion Prompt:</b> What could be challenging about balancing developmental goals and family priorities? Use the readings to support your thoughts.</p>
5	Instructional Strategies: Curriculum Modifications and Environmental Arrangement	<p>Sandall et al., (2024) Ch 5</p> <p>Grisham-Brown et al., (2005) Ch 7</p> <p>Horn &amp; Banerjee (2009)</p>	<p><b>In-Class Activity:</b> Using the readings, design three types of curriculum modifications:</p> <ul style="list-style-type: none"> <li>• Environmental supports (e.g., physical arrangement, sensory tools)</li> <li>• Material adaptations</li> </ul>

			<p>(e.g., simplified visuals, alternative formats)</p> <ul style="list-style-type: none"> <li>Instructional strategies (e.g., peer-mediated support, scaffolding)</li> </ul>
6	Instructional Procedures: Specialized Instructional Strategies	<p>Sandall et al., (2024) Ch 7</p> <p>Noonan &amp; McCormick (2014) Ch 6 &amp; 7</p> <p>Handout: <a href="#">Welcome to Early Intervention</a></p> <p>Handout: Family 5Q - <a href="#">5 Questions</a></p> <p>Handout: <a href="#">Using SS-OO-PP-RR</a></p> <p>Handout: <a href="#">SS-OO-PP-RR Plan</a></p> <p>Handout: <a href="#">Family-Guided SS-OO-PP-RR Home Visiting</a></p>	<p><b>In-Class Activity:</b> Role Play</p> <p>Use the 5 Questions to guide a conversation with the caregiver:</p> <p>What does a typical day look like for your child?</p> <p>What routines are most successful or enjoyable?</p> <p>What routines are challenging or stressful?</p> <p>What are your goals or hopes for your child during these routines?</p> <p>How can we work together to support learning and development in these routines?</p>
7	Instructional Procedures: Embedded Intervention	<p>Sandall et al., (2024) Ch 6</p> <p>Gulboy et al., (2023)</p> <p>Rahn et al., (2019)</p> <p>Handout: <a href="#">Building Routines with Children and Caregivers</a></p>	<p><b>Embedding Intervention into a Toddler Class</b></p>
8	Interventions: Natural Developmental Behavior	<p>Siller et al., (2023)</p> <p>Windsor et al., (2019)</p>	<p><b>Discussion Prompt:</b> What are the core components of NDBIs, and how do they</p>

	Intervention (NDBI)		differ from more traditional behavioral or developmental approaches?
9	Instructional Procedures: Small Group Instruction	<p>Grisham-Brown et al., (2005) Ch 8</p> <p>Noonan &amp; McCormick (2014) Ch 11</p> <p>McDonnell et al., (2006)</p>	<p><b>Discussion Prompt:</b> Small group instruction is a powerful strategy for supporting diverse learners in early childhood settings. The readings explore how small groups can be used to promote individualized learning, peer interaction, and inclusive practices. They also highlight the importance of intentional planning, data-based decision making, and embedding instruction within meaningful activities. How can educators ensure that learning opportunities are both intentional and naturalistic?</p>
10	Data-Based – Progress Monitoring	<p>Sandall et al., (2024) Ch 8</p> <p>Pretti-Frontczak et al., (2023) Ch 7</p> <p>Grisham-Brown et al., (2005) Ch 5</p> <p>Noonan &amp; McCormick (2014) Ch 5</p>	<p><b>Progress Monitoring Planning Assignment</b></p>

11	Instructional Procedures: Pro-social skills	Sandall et al., (2024) Ch 10, 11 & 12  Noonan & McCormick (2014) Ch 12  Steed & Roach (2017)	<b>Discussion Prompt:</b> Steed & Roach (2017) emphasize the use of tiered supports and intentional planning. How can educators use data to identify children who need additional support in developing pro-social skills?
12	Instructional Procedures: Prevention of Challenging Behavior	Grisham-Brown et al., (2005) Ch 9  Noonan & McCormick (2014) Ch 10  Dunlap et al., (2006)  Powell et al., (2006)	<b>Discussion Prompt:</b> Which specific social behaviors (e.g., greetings, sharing, play organizing) do you think are most critical to teach in early childhood settings? Why, and how might you embed them into classroom routines?
13	Interventions: Peer-Mediated	Haring & Breen (1992)  Odom & Strain (1986ab)	<b>Discussion Prompt:</b> Peer-mediated strategies like “Buddy Play” and “Snack Captains” are used to promote interaction. Reflect on a classroom routine where you could implement a similar strategy. What would it look like?
14	Interventions: Parent-Mediated	Pretti-Frontczak et al., (2023) Ch 2  Grisham-Brown et al., (2005) Ch 2  Sawyer & Campbell	<b>In-Class Activity:</b> Design a brief EMT with a family in a home-based setting.  <ul style="list-style-type: none"> <li>Select 1–2 target communication goals (e.g., joint attention, requesting,</li> </ul>



		(2017) Salisbury et al., (2018)	commenting) <ul style="list-style-type: none"> <li>Choose strategies from EMT (e.g., modeling, expansions, environmental arrangement)</li> <li>Identify how to embed the intervention into a natural routine (e.g., snack time, play)</li> </ul>
15	Interventions: Assistive Technology	Noonan & McCormick (2014) Ch 13  Dunst et al., (2013)  Sheply et al., (2017)  Video: <u>Supporting conversations in classroom</u>  Review <u>Teaching Communication</u>	<b>In-Class Activity:</b> Myths and MythBusters
16	Final's Week		Presentation: Create a 10-15 minutes presentation in video format to highlight what you have learned about Evidence Based Practices. Include the assignments/work you have done. It will be in class or online presentation.

## Major Assignments

### 1. Progress Monitoring Plan

- a. Review the child's IEP goals or developmental needs.

Identify 1–2 target skills or behaviors to monitor.

- b. Design a progress monitoring plan that includes:
  - i. Goal(s): What specific skill(s) or behavior(s) will be monitored?

- ii. Measurement Strategy: What tool or method will be used (e.g., frequency count, rating scale, portfolio)?
- iii. Data Collection Schedule: How often will data be collected? By whom?
- iv. Decision Rules: What criteria will be used to determine if progress is adequate or if instruction needs to be adjusted?
- v. Family Involvement: How will families be included in the monitoring process?
- c. Prepare a short presentation or infographic summarizing your plan. Share with the class for peer feedback.

## **2. Designing and Embedding an Intervention in a Toddler Classroom**

- a. You will create a detailed intervention plan that embeds a targeted developmental skill into a naturally occurring classroom routine for toddlers (ages 18–36 months). Your plan should reflect evidence-based practices, including family-centered collaboration, intentional teaching, and naturalistic developmental behavioral intervention (NDBI) strategies.
- b. **Child Profile (Fictional or Based on Case Study):**
  - i. Age and developmental level
  - ii. Identified area of need (e.g., communication, social interaction, motor skills)
  - iii. Relevant family or cultural considerations
- c. **Routine Selection:**
  - i. Choose a daily classroom routine (e.g., snack time, circle time, transitions, free play).
  - ii. Justify why this routine is a meaningful context for learning.
- d. **Target Skill:**
  - i. Identify one specific developmental goal (e.g., requesting help, joint attention, turn-taking).
  - ii. Align the goal with early learning standards or IEP objectives.
- e. **Embedded Intervention Plan:**
  - i. Describe how the skill will be taught and reinforced within the routine.
  - ii. Include strategies such as modeling, prompting, reinforcement, and environmental arrangement.
  - iii. Specify materials, adult roles, and peer involvement if applicable.
- f. **Data Collection & Progress Monitoring:**
  - i. Outline how you will measure progress (e.g., frequency count, anecdotal notes, checklist).
  - ii. Include a sample data sheet or observation form.
- g. **Family Collaboration:**
  - i. Describe how you would share the plan with the family and invite input.
  - ii. Suggest ways to extend the intervention into home routines.
- h. **Reflection:**
  - i. Discuss potential challenges and how you would address them.

- ii. Reflect on how this approach supports inclusive, responsive early education.

### **3. Presentation**

- Develop a 10-15 minutes presentation in video format to highlight what you have learned about Evidence Based Practices. You will need to create a 15-20 slide PowerPoint presentation you might present and record as a video. Make sure to include resources or website links where individuals can obtain more information and be sure to include references for information candidates will obtain from websites or articles related to the topic of the module. Then take a video of you presenting it as you are in the room.

### **4. Discussion Group Participation**

- To prepare for the discussion sessions, students will be required to complete the readings leading up to the discussion session. Students will be asked to respond to the discussion prompt by Friday evening and give substantive feedback to 2 (or more) classmates by Sunday evening. Submit the discussion questions by 5 pm the day before the discussion. Students receive x points for timely and in-depth discussion responses. Evidence of integrating reading and applying theory to practice is necessary to receive full points. Students will receive x point based on the quality of feedback given to peers.

### **5. Reflection**

- Review and reflect on the course assigned readings.  
Write a one-page reflection and post in Discussion. Follow the table of contents and reflect on each session. Discuss how you can apply and implement what you have learned from the materials. Provide one example of what you will use to communicate with a parent of premature infant. Respond to two peers' posts.

### **Course Grading**

Assignments are due by 11:59pm on the indicated date. Late assignments without previous written approval of the instructor will incur a 50% penalty for the first time and lost all points beyond. This instructor and learners are required to adhere to the University's Academic Integrity policy. Any plagiarism will not be tolerance and referred to the Academic Integrity Office. And the learners will be given an "F" in the course and be recommended to the Student Conduct Office.

Learners will be evaluated based upon the assignments described below. The plus/minus grading system and scale is as follows:

Letter Grade	Grade Range
A	93 and above
A-	90-92
B+	88-89
B	83-87
B-	80-82
C+	78-79
C	73-77
C-	70-72
D	60-69
F	59 and below

### Course Grading Systems

Component	Weight for final grade
Progress Monitoring Plan	30%
Discussions	20% (including responding to other peer's posts)
Presentations (in class/video, quizzes)	20%
Embedded Intervention	30%

### Resources

Resources to supplement the Syllabus:

- [IRIS Evidence-based Practice Summaries](#)
- [What Works Clearinghouse](#)
- [National Professional Development Center on Autism Spectrum Disorder](#)
- [National Center on Intensive Intervention](#)
- [Evidence--based Instructional Practices for Young Children with Autism and Other Disabilities](#)
- [Evidence Based Intervention](#)
- [Center for Early Literacy Learning \(CELL\)](#) - Research syntheses (no quality review or classification)
- [Early Childhood Technical Assistance Center](#) - Links to both EBP review sources and other reliable sources
- [The University of Kansas Life Plan Institute](#)
- [Vanderbilt University](#)
- [Early Childhood Technical Assistance Center](#)

- [Family-Guided Approaches to Collaborative Early Intervention Training Services \(FACETS\)](#)
- [Family Guided Routines Based Intervention](#)
- [Natural Environments](#)
- [Siskin Children's Institute](#) Early Intervention in Natural Environments
- [Embedded Instruction for Early Learning](#)
- [EPIC Intervention](#)
- [SS-OO-PP-RR Framework for Home Visiting](#)
- [CONNECT Module 1: Embedded Interventions](#)
- [Foundations: Routines Based Interventions: Supporting Families](#)
- [Embedded Instruction for Early Learning](#)
- [Milieu Teaching](#)
- [Natural Environments](#)
- [Vanderbilt KidTak](#)
- [Peer-Mediated Instruction and Intervention \(PMII\)](#)
- [Applied Behavior Analysis Programs](#)
- [Kansas University](#)
- [Kentucky Autism Training Center](#)

### **Journals in EI/ECSE**

Below are examples of journals that publish topics about EI/ECSE. Faculty may want to explain how to use articles to support practice and to examine current research. Clarify the difference between practitioner-based journals and research-based journals.

- |   |   |
|---|---|
| • <i>Child Development</i>                                      | • <i>Journal of Pediatric Nursing</i>                               |
| • <i>Journal of Early Intervention</i>                          | • <i>International Journal of Early Childhood Special Education</i> |
| • <i>Journal of Pediatrics</i>                                  | • <i>Pediatric Research</i>   |
| • <i>Journal of Intellectual &amp; Developmental Disability</i> | • <i>Topics in Early Childhood Special Education</i>                |
| • <i>Journal of Developmental and Physical Disabilities</i>     | • <i>Young Exceptional Children</i>                                 |

This is a product of the ECiDC 2020 Consortium and was made possible by Cooperative Agreement #H325B170008 which is funded by the U.S. Department of Education, Office of Special Education Programs. However, those contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government.