

# Including Students with Developmental Disabilities and ASD in STEM Using a Universal Design for Learning (UDL) Framework

VICKI KNIGHT, Ph.D

Family Conference  
April 14, 2023

9 am - 4:30 pm  
Fantasyland Hotel, Edmonton

**\$210** / per person

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## WORKSHOP

### Including Students with Developmental Disabilities and ASD in STEM Using a Universal Design for Learning (UDL) Framework

Presenter: Vicki Knight, Ph.D., Associate Professor, Researcher, Director of The Centre for Interdisciplinary Research and Collaboration in Autism (CIRCA), University of British Columbia

This interactive workshop by Dr. Knight will focus on practical methods for teaching Science, Technology, Engineering, and Math (STEM) across grade levels to students with developmental disabilities and ASD in inclusive classrooms through the lens of Universal Design for Learning (UDL). The “three block model” of UDL includes methods for building classroom climate and school-based social and emotional skills, including developing students’ sense of belonging / connectedness, social skills and understanding related to interpersonal connections, and ability to work collaboratively with others.

Vicki will demonstrate how to include students with disabilities in STEM courses and curriculum within the planning, instructional, and assessment stages, using both innovative and “tried and true” methods. She will highlight a step-by-step model of instruction that can be used throughout all grade levels and inclusive classrooms. Teachers, educational assistants, administrators and parents will walk away with a deeper understanding of how UDL can be applied to enable inclusion in STEM, from developing the “big ideas”, essential questions, and goals for all students in the classroom using unit and lesson plans. Ready-made resources, lesson plans, and assessments/rubrics will be shared along with videos, discussions, and role-playing.

## PRESENTER

**Victoria (Vicki) Knight, Ph.D.**, is an Associate Professor in Special Education at the University of British Columbia and Director, Centre for Interdisciplinary Research and Collaboration in Autism (CIRA). Vicki has more than 25 years of experience working with students who have autism spectrum disorder (ASD) and other developmental disabilities (DD). Dr. Knight began her career as an educational assistant in a fully inclusive setting and then obtained her master’s degree from the University of Northern Colorado so she could become a teacher working in inclusive environments. Dr. Knight became especially interested in the strength-based approach and witnessed how students with ASD and DD could excel in science, technology, engineering, and math (STEM). Wanting to better understand how students with ASD and developmental disabilities could be successfully included in STEM related subjects and what teachers could do to enable that success, Vicki obtained her doctoral degree. Her research interests include: (a) promoting learning of academic content, especially in the areas of science, technology, engineering, and math (STEM); (b) evaluation of the collateral benefits of inclusion in academics and applies sciences, and (c) evaluation and dissemination of evidence-based practices for students with disabilities. Dr. Knight was recently presented with a Research Award by the Council for Exceptional Children, Division of Autism and Developmental Disabilities for her impact and innovation in the field of ASD. She has published over 40 peer reviewed articles and presents internationally on these topics.

Two of Dr. Knight’s published research papers are: Knight, V., Wood, A. L., McKissick, B., & Kuntz, E. (2019). Teaching science content and practices to students with intellectual disability and autism. *Remedial and Special Education*, 1-14. Advanced online publication [doi.org/10.1177/0741932519843998](https://doi.org/10.1177/0741932519843998) and Knight, V., Collins, B., Spriggs, A., Sartini, E., & MacDonald, M. J. (2018). Teaching scripted and unscripted science lessons to children with intellectual disabilities and autism. *Journal of Autism and Developmental Disorders*, 48(7).

Register online at [inclusionAlberta.org](https://inclusionAlberta.org)