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Theresa A. Jorgensen* (jorgensen@uta.edu), Department of Mathematics, University of Texas at Arlington, Box 19408, Arlington, TX 76019-0408. *Using Precalculus and Calculus to Develop Mathematical Connections Surrounding Middle School Mathematics.*

Middle grades mathematics teachers have a unique role in the education of school children, helping students make the connections between the foundational concepts of elementary mathematics and the more sophisticated skills and understanding required in secondary mathematics. The University of Texas at Arlington has designed and implemented two capstone mathematical content courses for the preservice middle school teacher mathematics program which strive to facilitate the establishment of these crucial connections. Each course (precalculus and calculus) is designed to meet the content, pedagogy, and instructional goals of the CBMS MET recommendations for middle grades teachers, as well as the requirements laid out by the state of Texas. The structure and content of the courses will be described, including specific examples of how the connections between the mathematics leading up to and following from middle school are highlighted within each course. (Received September 18, 2007)