1056-16-1344 **Daniel Joseph Wackwitz*** (wackwidj@uwec.edu), 510D Chancellor's Hall, 820 University Drive, Eau Claire, WI 54701, and **Michael Robert Penkava**. *Moduli spaces of low dimensional associative algebras and their deformations.*

The speaker has been studying low dimensional algebras, including Z_2-graded algebras, as an undergraduate researcher. In this talk, I will discuss how we use the ideas of extensions of algebras by algebras, and the fundamental theorem of finite dimensional algebras, to construct the moduli space of algebras of a certain dimension using a classification of the nilpotent algebras and simple algebras of smaller dimension. This method uses a classification of Z_2-graded division algebras which we have obtained in some research last year. Then I will talk about how the deformations of these algebras, in particular, the versal deformations of an algebra, give a decomposition of the moduli space into families, which at least in the examples we have studied, are unique. These families give a stratification of the moduli space by very simple orbifolds. These strata are connected by deformations which factor through jump deformations. I will show how the versal deformations can be computed using some Maple worksheets which have been developed by the professor I am working with and some of his students, including myself. (Received September 21, 2009)