

# Grant Proposal – MEMS Coventor Design Scholarship

## Intended Applications:

Greg Thompson will be participating in the development of our MEMS225 MEMS Manufacturing Technology Theory and MEMS226L MEMS Manufacturing Technology Theory courses. Under the direction of Dr. Matthias Pleil, he will be modeling the actual components to be constructed as part of the lab which will include:

- MEMS Actuated Cantilever
- MEMS Pressure Sensor

Additional components will be considered as we proceed.

It will be Mr. Thompson's responsibility to accurately model the materials in the materials data base, layout the actual devices, model in 3D, and perform FEA on the components. A final paper will be authored.

It is the intention to initially use CoventorWare to model the actual components to be built as part of the laboratory course. The model output will be used to:

- Develop supplemental materials to be used in several of TVI's MEMS courses and will be included in materials for our SCME (Southwest Center for Microsystems Education). This is a regional ATEC (Advanced Technology Education Center) sponsored by an NSF grant.\
- Correlate theory with actual device
- Use Coventor output to produce rapid prototyping model (TVI has rapid prototyping equipment)
- Coventor output will also be used as a basis for computer simulation/animation as part of curriculum development of the center

Note: CoventorWare will be referenced in all materials produced as a result of this.

## Statement of Qualifications:

### Mr. Greg Thompson:

Current Status: Full time student at TVI Community College in the Advanced Manufacturing Technologies Program. Working on a Associates degree in Advanced Manufacturing with a concentration in MEMS Design and Fabrication. Have completed the following MEMS courses:

- Introduction to MEMS (MEMS101)
- MEMS Fabrication Theory (MEMS220)
- MEMS Design I (MEMS221)
- MEMS Design II (MEMS223)

GPA for all courses completed at TVI: 4.0/4.0

Background Experience Includes:

Lucent Technologies/Agere Systems – 5yrs as a Photonics Lab Process and Equipment Technician, responsibilities included Process Control, Lithography, Laser Exposure, Package Testing (Quality Control) and associated equipment.

**School:**

TVI Community College  
525 Buena Vista SE  
Albuquerque, NM 87106

**Professor:**

Matthias W. Pleil; Ph.D.  
Technologies – MEMS/SMT Faculty  
SCME NSF Grant – Principal Investigator

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