

**Southwest Center for Microsystems Education (SCME)  
University of New Mexico**

# **History of MEMS Learning Module**

This booklet contains five (5) units:  
History of MEMS Knowledge Probe (KP)  
History of MEMS Primary Knowledge (PK)  
Activity: History of MEMS  
Activity: New Innovations in MEMS  
Final Assessment

A Learning Module Map is included as a suggested outline on how to use this learning module.

*This learning module provides a timeline of the progression of microtechnology through a series of innovations that starts with the first Point Contact Transistor built in 1947 and ends with the optical network switch in 1999. Activities provide the opportunity to build on this timeline and to identify innovations of the 21st century that have contributed to current advancements in both micro and nanotechnology.*

Target audiences: High School, Community College, University

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# Learning Module Map for History of MEMS

*This learning module provides a timeline of the progression of microtechnology through a series of innovations that starts with the first Point Contact Transistor built in 1947 and ends with the optical network switch in 1999. Activities provide the opportunity to build on this timeline and to identify innovations of the 21st century that have contributed to current advancements in both micro and nanotechnology.*

Learning Module units (5):

- History of MEMS Knowledge Probe (KP)
- History of MEMS Primary Knowledge (PK)
- History of MEMS Activity
- New Innovations in MEMS Activity
- History of MEMS Assessment

**Following is a suggested map on the implementation of this learning module.**

IMPORTANT STEPS	KEY POINTS	REASONS
<u>Knowledge Probe (KP)</u> (Pre-Quiz)	This KP will determine the participant's knowledge of the history of MEMS prior to completing the learning module and related activities.	By giving the participants both the KP and the final assessment, you can determine the amount of learning that took place as a result of completing this learning module.
<u>Unit Presentation:</u> Present the <u>History of MEMS PK</u>	Participants should read the PK.  A PowerPoint presentation can be downloaded from <a href="http://scme-nm.org">scme-nm.org</a> and presented to all participants.	An introduction into the history and evolution of MEMS will enhance the learning in the activities related to this learning module.
<u>Activity:</u> Assign the "History of MEMS Activity."	This is a crossword puzzle and short research activity.	This activity will enhance the participants' MEMS terminology as well as their knowledge of MEMS history.

<p><u>Activity:</u> Assign the activity “New Innovations in MEMS”</p>	<p>A research activity to explore the newest innovations contributing to the expansion of MEMS and Micro/Nanotechnologies</p>	<p>This activity provides the opportunity for students to discover what has happened in their lifetime to contribute to the advancement of MEMS and the new technologies in micro and nano.</p>
<p><u>Assessment:</u> Complete the Assessment.</p>		<p>Participants are evaluated on what they have learned about the history of MEMS.</p>

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