

Micro-credentials, a life preserver for drowning nano programs?

Anthony Dalessio – dalessio@ecc.edu
SUNY Erie Community College

Micro Nano Technology Education Special Interest Group
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A micro-credential is:

(at least as defined by State University of NY)

Micro-credentials ***verify, validate and attest*** that ***specific skills and/or competencies have been achieved*** and are ***endorsed by the issuing institution***, having been developed through established faculty governance processes and ***designed to be meaningful and high quality***.

Must appear on student transcripts.

Must be less than 24 semester credit hours, typically between 6 and 16 semester credit hours.

Micro-credentials can be issued as a stand-alone credential and/or complement a degree program

- an English major may benefit from a micro-credential in computer science
- an engineering major may benefit from a micro-credential in technical writing
- a computer science alum may benefit from a micro-credential on the newest programming language

Many Micro and Nano programs have been deactivated in recent years, even after a significant investment in facilities and equipment.

How do we keep this effort alive?

Are micro-credentials the answer?

If so, who would benefit?

What if we use *existing courses and laboratories* but offer them to other programs that would benefit? A micro-credential in MNT would help graduates stand out who want to work in this field.

Some possibilities:

- Electrical Engineering Technology
- Mechanical Engineering Technology
- Natural Science
- Engineering Science

A few examples:

An MNT micro-credential could consist of 3 courses: Environmental Health and Safety; Characterization; Fabrication

A Vacuum Technology micro-credential could consist of 2-3 courses covering topics in low vacuum, high vacuum, and leak detection

An MNT micro-credential could benefit an Electrical or Mechanical technician who would like to work in a clean room, is interested in MEMS or semiconductor fabrication, and would complement the traditional curriculum.

A Biology, Chemistry, Physics, or Engineering Science major planning to transfer to a university could benefit by getting chosen for an undergraduate research experience; or give them an advantage when applying for graduate school.

In most cases the micro-credential coursework could be used as open electives, making the micro-credential *stackable* for full-time students.

Micro-credentials can also be marketed to local industry to upskill employees that already have technology or science degrees but didn't have access to state-of-the-art equipment when they were in school.

They can also be marketed to students at private or public four-year schools without MNT facilities.

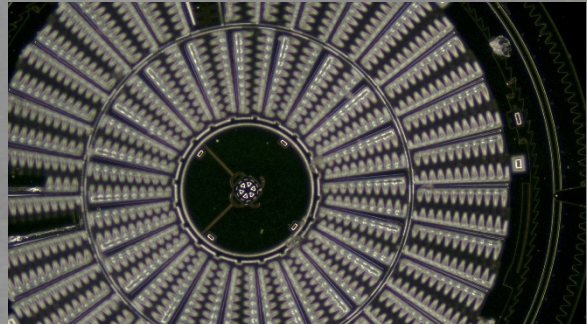
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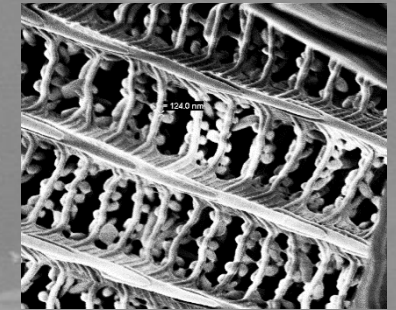
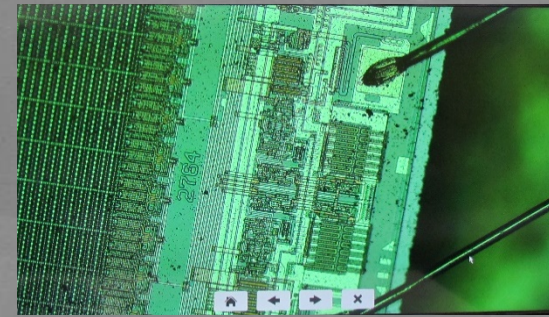
Questions ??



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