



## Bio-Nano Material Science & Engineering

DEPARTMENT OF INDUSTRIAL SYSTEMS ENGINEERING

### ABOUT THE PROGRAM

"*Bio-Nano Material Science & Engineering (BNMSE)*" is a rational fusion of the disciplines of Nanotechnology and Bioengineering, which is highly interdisciplinary in nature and a unique program in AIT. It is an emerging field in science and technology developing innovative materials, devices, and processes, and creating wide range of opportunities encompassing physics, chemistry, biology, applied sciences, various engineering fields and biomedical technology. The program is designed to address the needs of future industry that require continuous development of their workforce and highly skilled leadership to direct and innovate research and development. It has a curriculum that is developed in collaboration with top researchers, industry experts and innovative educators that work in this field.

#### What We Offer?

The program will enhance a student's education experience and career by offering:

- ✓ A **multidisciplinary** learning environment
- ✓ **Integrated** classroom-lab experience
- ✓ **Application-based** curriculum and research
- ✓ **Vision** towards improving society through sustainable development
- ✓ An **international** environment
- ✓ **Experienced** faculty and staff
- ✓ Access to **opportunities** in the emerging job market

### RESEARCH FOCUS

The BNMSE program is designed to find technological solutions from the materials science and engineering perspective to address complex problems with a unique approach of unified understanding of the physical world from the nanoscale to the planetary scale. We do multidisciplinary research, inspired by nature and employing nanotechnology as a tool for innovation. Some of our current research topics are:

- Biosensors
- Plasmonics for health monitoring
- Self-healing materials
- Opto-electronic devices
- Self-cleaning nanostructured surfaces
- Energy harvesting
- Photocatalysis for air/water purification
- Biomimicry & smart devices
- SERS design for biomedical applications
- Optical thin film coatings
- Nanoscale agrochemical carriers





## WHO CAN APPLY

The BNMSE program is geared towards students with Science and/or Engineering backgrounds, but most importantly, aims to attract students who wish to make difference and try to change our world through bio-nano way.

The program is open to all **Science & Engineering** students.

- **Science** – any fields of physics, chemistry, biology, biochemistry, applied science, materials science, engineering sciences
- **Engineering** – electrical, electronics, chemical, mechanical, industrial, instrumentation, materials engineering, biomedical & other related fields
- **Professionals** – with experiences as teachers, lecturers, researchers from the above fields, data scientists, technology analysts etc.



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## OUR PROGRAMS

- 2-Years Master's degree program
- 3.5-Years Doctoral degree program
- 4-Years Dual-Doctoral Degree Program
- 5-Years Unified Bachelor-to-Master degree program
- Diploma degree program
- Certificate program

## CONTACT US

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