



BIO-NANO MATERIAL SCIENCE AND ENGINEERING (BNMSE) INDUSTRIAL SYSTEMS ENGINEERING

ABOUT THE PROGRAM

“Bio-Nano Material Science and Engineering” is a rational fusion of the disciplines of Nanotechnology and Bioengineering, which is truly 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 industry that require continuous development of their workforce and highly skilled leadership to direct and innovate research and development.

KEY COURSES

- Characterization Tools in Nanotechnology (Required)
- Nanomaterials and Nanotechnology (Required)
- Colloids and Nanoparticles
- Nano-Micro Fabrication Technologies
- Catalysis, Enzyme Kinetics and Thermodynamics

RESEARCH FOCUS AREA

- Nanoengineering, Nanotechnology
- Bio-nano engineering, Biomedical technology, Biosensors
- Plasmonic materials and optoelectronic devices
- Bio-inspired superhydrophilic/superhydrophobic surfaces
- Energy harvesting
- Photocatalysis for air/water purification
- Biomimicry, Biomarkers, Antibiofouling
- SERS design for biomedical applications

DEGREE PROGRAMS

- Doctoral degree program
 - Master's degree program
 - Professional master's degree program*
- * Three years experience is required*



ELIGIBILITY REQUIREMENTS

To be eligible for admission to the regular Master's program, an applicant must:

- Hold a Bachelor's degree (normally from a four-year program), or its equivalent, in an appropriate field of study from an institution of good standing acceptable to AIT;
- Have undergraduate grades significantly above average; the minimum cGPA requirement for admission to the Master's Program is 2.75 or equivalent, at the Bachelor's degree level;
- English Proficiency Requirement: AIT-EET:6 or IELTS-Academic:6 (writing 6) or TOEFL Paper: 550 (writing 59-61) or TOEFL CBT: 213 (writing 25-26); TOEFL IBT: 80 (writing 21-23);
- Be in satisfactory physical and mental health, and have a record of good conduct;

To be eligible for admission to the Doctoral degree program, an applicant must:

- Have strong academic records (both undergraduate and graduate) and normally hold a four-year bachelor's degree, and a Master's degree, preferably with a combination of course and thesis work, from an institution of good standing, acceptable to AIT. The minimum cGPA requirement for admission to the doctoral program is 3.50 or equivalent, at the Master's degree level.
- Submit a brief outline of dissertation research proposal (5-10 pages) including the required research facilities, if necessary.
- Two recommendation letters.

PREFERRED BACKGROUND

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, computer, telecommunication, 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.

CONTACT US

Ms. Chaowaret Sudsaweang
(Administrative Secretary)
Industrial Systems Engineering
School of Engineering and
Technology (SET)
Asian Institute of Technology (AIT)
Email: chowaret@ait.ac.th
Tel: +66 2524 6601



DEPARTMENT OF
INDUSTRIAL SYSTEMS
ENGINEERING