APPLIED ENGINEERING SCIENCES

The Applied Engineering Sciences (AES) major is an undergraduate interdisciplinary program that combines scientific and technical coursework with a complementary concentration, resulting in a bachelor of science degree awarded by the College of Engineering. The curriculum was recently updated and new concentrations were added; these changes were launched in fall 2010.

The major provides educational opportunities for students who wish to build a broad foundation in the engineering sciences and the core engineering disciplines, with a specialization in one of four concentration areas—Supply Chain Management, Technical Sales, Information Technology, or Computer Science (CS). The CS concentration is equivalent to a minor in computer science; it offers an alternative to students who would like to major in computer science, but who also want a strong background in business.

The program is designed to develop AES graduates who:

- bring to the workplace a knowledge of business, management, and logistics, with a solid foundation in calculus, basic sciences, and engineering sciences;
- can apply their education to a diverse set of problems;
- are able to work in areas where planning, design, production, and procurement interface with marketing, distribution, sales, and management;
- can communicate effectively across diverse professional disciplines; and
- are knowledgeable about contemporary technological and societal issues and can facilitate the effective deployment of new technologies.

AES graduates are uniquely qualified to function in a variety of employment settings and bring engineering skills to diverse business settings. The average salary range for Applied Engineering Sciences graduates in 2010 was $52,166.

JOB TITLES OF RECENT AES GRADUATES

Account Executive
Accountant
After-Market Expediter Analyst
Application Engineer
Commodity Manager
Consultant
Consumer Representative
Customer Account Rep.
Distribution Specialist
District Sales Engineer
District Service Manager
Expediter/Facilities Engineer
Field Technical Representative
Financial Analyst/Forecaster
Industrial Market Analyst
Logistics Engineer
Logistical Manager
Loss Prevention Engineer
Manufacturing Development Engineer
Materials Control Engineer
Operations Manager
Patent Attorney
Process Supervisor
Product Engineer
Production Supervisor
Procurement Specialist
Project Manager
Quality Assurance Engineer
Sourcing Specialist
Supply Chain Planner
Systems Application Engineer
Technical Sales Engineer
Technical Writer
Telecommunications Engineer
Test and Development Engineer
Value Analysis Engineer

“The Applied Engineering Sciences program gave me a cross-disciplinary foundation that allowed me to quickly excel in diverse corporate situations, including engineering, marketing, sales, finance, management, and legal functions.”

Monte L. Falcoff, BS ’86
Patent and Trademark Attorney
Harness, Dickey, & Pierce
SOCIETY OF APPLIED ENGINEERING SCIENCES

The Society of Applied Engineering Sciences (SAES) is an MSU student organization that promotes and fosters interest in the Applied Engineering Sciences major. The society informs engineering students of the opportunities available to them through the AES major and promotes their unique educational blend of technical/engineering knowledge, with a complementary specialization, to prospective employers. The group sponsors activities that enable AES students to get to know each other and to become aware of corporate opportunities. Membership is open to Applied Engineering Sciences and no-preference engineering majors of all class levels. For more information concerning the SAES, go to: aes.egr.msu.edu/society-applied-engineering-sciences

ENGINEERING EXPERIENTIAL EDUCATION

Experiential education, such as a co-op or an internship, gives students an opportunity to gain major-related work experience while enrolled in the college. For information on how to participate, contact The Center in 1340 Engineering Building; call (517) 355-5163, or visit www.egr.msu.edu/thecenter.

“I chose [Applied Engineering Sciences] because the broad background made sense. I liked the idea of integrating various areas of expertise instead of being an expert in one area. AES is a smart approach.”

Michael L. Lamach, BS ’85
President and Chief Executive Officer, Ingersoll Rand

“MSU’s AES program not only provided me with the engineering tools required at my current position, but also gave me a solid business base. I am very satisfied with my selection of the AES program at MSU.”

Monica L. Braman, BS ’03
EW Systems Engineer, The Boeing Company
EMPLOYERS OF RECENT AES GRADUATES

Accenture
Avnet, Inc.
Boeing
Caterpillar
Chrysler
Consumers Energy
CoreComm
Dell Inc.
DENSO Manufacturing
Dow Chemical
Eaton Aerospace
EDS
Ford Motor Company
Frito-Lay
General Electric
General Mills
General Motors
Honeywell
IBM
Johnson & Johnson
Johnson Controls
Kraft Foods
Motorola, Inc.
Northrop Grumman
PepsiCo, Inc.
Pfizer Inc.
Procter & Gamble
Schlumberger
SC Johnson
Steelcase, Inc.
Stryker Medical
Texas Instruments
Toyota Motor Manufacturing
Union Pacific Railroad
Urban Science
Verizon

“The Engineer of 2020* report foresees an increasing need to integrate strong analytical capabilities, communication skills, business knowledge, and leadership. Our AES program equips students with the agility and flexibility required in the evolving new economy.”

Thomas F. Wolff, PhD, PE
Associate Dean for Undergraduate Studies
MSU College of Engineering


FOR MORE INFORMATION

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