



**WALLACE H. COULTER SCHOOL OF ENGINEERING**  
*Technology Serving Humanity*

**Materials Engineering**

Many engineers and scientists are employed in the materials processing and manufacturing industries. Increasing demands on the mechanical and environmental durability of national infrastructure require improving the strength and useful life of steels, concrete, ceramics and other engineering/structural materials. Space exploration and miniaturization of electronic devices, for example, are made possible by the development and processing of nanostructured composite materials through nanotechnology.

To help students improve employment opportunities in materials-related areas, Clarkson University is offering a concentration in Materials Engineering.

A Clarkson student can qualify for a Certificate from the Dean of the Coulter School of Engineering verifying satisfactory completion of the coursework necessary to create a Professional Concentration in Materials Engineering. To attain this, the student must complete five (5) courses, which include two (2) required courses and three (3) electives from the list given.

The required courses are:

ES260 Materials Science and Engineering I (Fall or Spring)

ES360 Materials Science and Engineering II (Spring only)

The three elective courses must be chosen from the following list of materials engineering and science courses:

CE411 Construction Materials Engineering

CM430 Colloids and Interfaces

CM450 Introduction to Polymer Chemistry

EE439 Dielectrics

ES357 Microelectronic Circuit Fabrication

ES361 Fine Particle Technology

ES365 Polymer Materials

ES 452 Biomaterials and Biomedical Engineering Applications

ES464 Corrosion Engineering

ME390 Manufacturing Processes

ME393 Analysis of Materials Processing

ME457 Composite Mechanics and Design

ME492 Welding Metallurgy

ME591 Selected Topics in Materials Engineering –“Micro- & Nano-Systems Eng.”

PH341 Solid State Physics I

PH442 Solid State Physics II

One of the following laboratory elective courses must be chosen

ES 361 Fine Particle Technology

ME 492 Welding Metallurgy

Application forms may be obtained on line or from any engineering department office.