

## Materials Engineering and the UC Materials Engineering Minor

The new UC Materials Engineering Minor reflects the need for all students to be able to identify, to understand, to utilize and to recycle and/or dispose of modern materials.

Materials are vital for the global economy and this is particularly so in the state of Ohio, where (for example) plastics have been identified by OBR as being the second most strategically important industry (the number one being automotive). It has been estimated that 50% of all chemists and chemical engineers work on plastics (polymers). Similarly, 70% of all biomedical materials are polymers in their various forms. Advanced polymeric, ceramic and metal matrix composites are at the leading edge of high strength : weight ratio components in aerospace applications in Ohio (GE, WPAFB and NASA). Materials are also widely used in all aspects of design across the UC disciplines, as reflected by the recent UC DAAP textbook "Materiality and Interior Construction" by Postell (Wiley).

Nano and BioNano technologies are also major materials interests and activities at UC. The attached UC web links are editorials that feature the activities of Shanov (Carbon Nanotubes), Schulz (Carbon Nanotubes), Cahay (Spintronics), Clarson (Nanostructures), Ahn (BioMEMS), Heinemann (Chemical Sensors and Biosensors), Mark (Nanopolymers) and Clarson (Biomaterials)

<http://www.uc.edu/news/nr.aspx?id=3053>

<http://www.uc.edu/news/clarson.htm>

<http://www.uc.edu/profiles/profile.asp?id=11360>

Many of our UC faculty have published the worlds leading textbooks in these important areas of Materials Engineering.

<http://www.eng.uc.edu/mast/books.php>

Attaining a Materials Engineering degree (BS, MS or PhD) or to have the UC Materials Minor listed on your university transcript is your **GATEWAY TO SUCCESS** in the 21<sup>st</sup> century.

We encourage you to join us and to **Engineer Better™** materials for the future.

**Stephen J. Clarson BA DPhil CChem FRSC**

**Professor of Mechanical and Materials Engineering**

**Chair, Materials Science and Engineering Curriculum Committee**

**July 14, 2013**