**Application for Enrollment in NSC-820 – Scanning Electron Microscopy**

NSC-820 is a limited enrollment course taught by the Center for Advanced Microscopy (CAM). The NSC lab classes taught by CAM are designed for students with a significant continuing need to use the microscopes located at CAM in their research. The course covers SEM design and operation in depth, stressing basic theoretical concepts and how they relate to imaging and analytical data.

All students enrolling in CAM lab classes (SEM, CLSM, and Bio TEM) will be billed in advance an initial set up fee of $400. At the completion of NSC-820, this will provide 11.4 hours of microscope time on either of the two SEMs at CAM for students to use the SEMs in their research.

For those students that need significantly less than 16 hours of time, a more economical option might be to have the work done at CAM as service work.

At the completion of the NSC-820 class, students are qualified to operate the either the ultrahigh resolution JEOL 7500F SEM or the JEOL 6610LV low vacuum SEM. The SEMs complement each other in capabilities.

The 7500F SEM is the highest resolution SEM in Michigan. It is located in a specially designed isolated suite with careful control of temperature, magnetic fields, and vibration. Outstanding high resolution images can be obtained at any time because of the design of the suite.

The 6610LV SEM is designed for routine imaging of samples as large as 150 mm diameter at magnifications from 5X to 30,000X, at either high vacuum or low vacuum.

In addition, all students will have one lab period on the Keyence VHX-6000 Digital Microscope. This is a newly developed light microscope that often complements the SEM. It provides color images, along with advanced 3D data and sample height and roughness measurements at magnifications from 1X to 5,000X.

**Student Information**

|  |  |
| --- | --- |
| Last Name |  |
| First Name |  |
| MSU E-mail address |  |
| Student Number |  |
| Department |  |

**Description of Samples to Be Examined:**

**Faculty Advisor Information**

|  |  |
| --- | --- |
| Name |  |
| MSU E-mail address |  |
| Account number for the $400 |  |
| Department for the account |  |

**Please send the completed form to Andy Elwood Madden, maddenan@msu.edu**

Signature of Major Professor Date