

**MSE 6130  
SURFACE ANALYSIS  
SUMMER 2009**

INSTRUCTOR: W. B. Carter  
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Office Hour: Wednesday 10:00 - 11:00 am

TEACHING ASSISTANTS: Kevin Chasse ([kchasse3@gatech.edu](mailto:kchasse3@gatech.edu)) &  
David Lipke ([DLipke@gatech.edu](mailto:DLipke@gatech.edu))

CLASS: TR 10:00 - 11:45, room 299 Love Building

REFERENCE: Modern Techniques of Surface Science, Second Edition, D.P. Woodruff and T.A. Delchar, Cambridge University Press, Cambridge, 1994.

**TOPICS TO BE COVERED**

1. Introduction
2. Introduction to Vacuum Technology
3. Review of Atomic Theory
4. Review of Electrons in Solids
5. Introduction to Electron Spectroscopies and Instrumentation
6. Surface Structure, LEED, RHEED, SPM (STM, AFM, etc.)
7. X-ray Photoelectron Spectroscopy (XPS, A.K.A. ESCA)
8. Auger Electron Spectroscopy (AES)
9. Secondary Ion Mass Spectrometry (SIMS)
10. Rutherford Backscattering Spectrometry (RBS)

**GRADING POLICY**

Final grades will be computed as follows:

Homework	25% (of final grade)
Literature Research Paper	25%
Final Examination	50%

## **ATTENDANCE POLICY**

Students are strongly encouraged to attend lectures and are responsible for all material presented during lectures. Class roll will not be taken.

## **ACADEMIC INTEGRITY**

"Plagiarism is using others' ideas and words without clearly acknowledging the source of that information." (<http://www.indiana.edu/~wts/wts/plagiarism.html>)

An example would be incorporating information found on the internet into a paper without providing the appropriate reference.

**Any student suspected of plagiarism will be referred to the Georgia Tech Office of Student Integrity.**

In this course, students are encouraged, and allowed, to *work* together on the homework assignments. Simply copying someone else's work is unacceptable.

**Students are to neither receive nor give help to others during exams. Violations will be referred to the Georgia Tech Office of Student Integrity.**