

NANO 705 - Spring 2017
Nanoelectronics
Course Description

- Overview:** The course will cover the electronic properties and applications of nanomaterials with particular emphasis on quantum-semiconductor structures.
- Credits:** 3 (lecture)
- Instructor:** S. P. Ahrenkiel
Office: EP 221; Hours: MWF 11:00 AM-11:50 AM, by appointment, or walk-in, if I am available.
Phone: 394-5238
Internet: e-mail: Phil.Ahrenkiel@sdsmt.edu; URL: <http://ahrenkiel.sdsmt.edu/>
- Text:** Quantum Transport: Atom to Transistor, S. Datta, Cambridge (2005)
ISBN-13 978-0-521-63145-7.
- Resource:** The author provides useful information and tools related to the course at nanohub.org.
- Equipment:** Note-taking supplies, calculator, personal computer.
- Software:** The book makes extensive use of Matlab, which is available at F:\NetApps\matlab. Our use of Matlab for this course will be less in-depth, but you are encouraged to familiarize yourself.
- Classroom:** Lecture: EP 251B
- Time:** MWF, 10:00-10:50 AM
- Exams:** One midterm exam and one final exam covering specified lecture material.
- Homework:** Homework problems will be assigned with specified due dates. Late submissions may be assessed a score reduction. Original work and legibility are required.
- Quizzes:** There will be quizzes, both announced and unannounced. Attendance or prior arrangement is required for credit.
- Attendance:** Attendance is essential and may be recorded. Work may be deferred only upon prior arrangement.
- Participation:** Participation is expected. Read the textbook and actively engage in discussion of the material.
- Grading:** Assignments will carry the following weights toward the final grade:
Homework: 30%; Midterm Exam: 30%; Final Exam: 30%;
Quizzes, Attendance & Participation: 10%
- Policies:** All submitted work must be original. Exams and in-class assignments are strictly independent. Cooperation on homework assignments is permissible, but each submission must be unique. Brief duplication from third-party sources is acceptable *only* if the source is explicitly identified. Direct quotations must be indicated with quotation marks, offset margins, and/or altered font.

Each assignment will be classified as below to indicate the allowed level of collaboration:

Under no circumstances should you give or send electronically your work to another student.

Do not give me cause to investigate whether your work is original – Only submit your own work

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Special Needs: Students with special needs or requiring special accommodations should contact the instructor and the campus ADA coordinator, Jolie McCoy (394-1924) at the earliest opportunity.