Section 1. Course Title and Description

Prefix & No.  Course Title                          Credits
EE 716     Printed Electronics Materials and Processes  3

Course Description: The principles of interfacial phenomenon, solution thermodynamics and colloid chemistry will be used in illuminated process by which metallic nanoparticulates can be formed and incorporated into inks for use in manufacturing printed electronics by various direct write technologies. Students will learn 1) the methods and science behind the manufacture of a variety of nanoparticles, including gold, silver, copper conducting particles, 2) the methods of incorporating these particles into inks and printing of these inks for printed electronics applications and 3) the interfacial processes involved in line spreading and curing of the printed traces.

This course is cross-listed with MES 677 and NANO 677.

2. Universities currently offering this course:

   Indicate universities that are proposing this common course:

   _____ BHSU      _____ DSU      _____ NSU      X   SDSMT     _____ SDSU      X   USD

3. FTE Implication

   X   No, schedule management. Explain: This course will be taught at SDSM&T Fall 2013.

4. Existing program in which course will be offered: Electrical Engineering Ph.D.,

5. CIP code for the common course  141001

6. Proposed Instructional Method by this university:  R-Lecture

7. Proposed delivery method by this university:  001-Face to face & 099 Emerging Technologies
   Provide a brief justification: Oral presentation is the main content delivery method for this class. Students at SDSM&T will receive face-to-face instruction in their classroom. Meanwhile, the instructor delivers the course content using large format multimedia displays, such as audio and video, to students at SDSU. The new advanced technology allows collaboration between faculty and students in SDSU, SDSM&T, and USD. They can have two-way communication and presentation simultaneously.

8. University Dept. Code   SEE

9. Authority to offer effective beginning in what term?  2013 Spring

10. Section Restriction:  20