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| **SE 452**  **Cartography** | |
| **Department of Civil Engineering**  **King Saud University** | |
| Course Description:  SE            452  Cartography   (Required for a BSCE degree) | Introduction; data sources; cartographic representation; map design & map symbols; map generalization; names & lettering; image generalization & reproduction; map production techniques; map reproduction & updating; linear transformations; computer applications.  3 (2, 0, 2) |
| Prerequisite | SE 315 Map Projections |
| Course learning Objectives | Students completing this course successfully will be able to  1.        Understand concept of Cartography  2.        Define Map scale and projection.  3.        Read a map.  4.        Product a map.  5.        Create Profiles.  6.        Draw contour lines. |
| Topics Covered | 1.        Introduction  2.        data sources  3.        cartographic representation; map design & map symbols  4.        map generalization  5.        names & lettering  6.        image generalization & reproduction  7.        map production techniques, map reproduction & updating;  8.        linear transformations  9.        computer applications |
| Class/ tutorial  Schedule | Two hours-lectures, 2-hours lab. |
| Computer Applications | 1.        Surfer 7  2.        Microsoft Excel |
| Project | 1.        A project for draw contour lines.  2.        A project for Calculate DEM . |
| Contribution of Course to Meeting the Professional Component | 1.        Students learn how to Read a map.  2.        Students learn how to Product a map |
| Relationship of Course to Program Outcomes | a.        Students apply knowledge of mathematics, science and engineering [ABET a].  b.        Students are able to identify and formulate an engineering problem and to develop a solution [ABET e].  c.        Students can use the techniques, skills and modern engineering tools [ABET k]. |
| Textbook(s) and/or Other Required Material | d.        Arthur H. Robinson, Joel L. Morrison, Phillip C. Muehrcke, and A. Jon Kimerling, " Elements of Cartography ", Wiley; 6 edition |
| Grade Distribution | Lab and projects                 15  Marks  Attendance and home works       5  Two-Mid-term Exams                 30  Final Exam                                 50  Total                                          100 Marks |