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| **SE 452****Cartography** |
| **Department of Civil Engineering****King Saud University** |
| Course Description: SE            452Cartography (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 to1.        Understand concept of Cartography2.        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 sources3.        cartographic representation; map design & map symbols4.        map generalization5.        names & lettering6.        image generalization & reproduction7.        map production techniques, map reproduction & updating;8.        linear transformations9.        computer applications |
| Class/ tutorial  Schedule | Two hours-lectures, 2-hours lab. |
| Computer Applications | 1.        Surfer 72.        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  MarksAttendance and home works       5Two-Mid-term Exams                 30Final Exam                                 50Total                                          100 Marks |