Talal Ibrahim AlKhaldi:

Teacher assistant (TA)

Personal Data

Nationality | Saudi

Date of Birth | 28/12/1994

Department | Transportation and Traffic engineering

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Language Proficiency

Language	Read	Write	Speak
Arabic	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent
Others	N/A	N/A	N/A

Academic Qualifications (Beginning with the most recent)

Date	Academic Degree	Place of Issue	Address
9/5/2019	BSc in Transportation and Traffic engineering	Dammam, Saudi Arabia	Imam Abdulrahman bin Faisal university

Teaching Activities

Undergraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	Route survaying	ENG 361	Lab
2	Eniviromental impact of transportation engineering	TTENG 421	Lab
3	Traffic engineering	TTENG 441	Lab
4	Senior design project	TTENG 521	Lab
5	Transportation planning and modeling	TTENG 551	Lecture
6	Transportation engineering 2	TTENG 332	Lab

7	Traffic operations and managments	TTENG 422	Lab
8	Senior design project 2	TTENG 512	Lab
9	Computer programming	COMP 212	Lab
10	GIS for transportation application	TTENG 442	Lab
11	Pavement Design	TTENG 452	Lab and Tutorial
12	Intelligent transportation systems	TTENG 522	Lab

Brief Description of Undergraduate Courses Taught: (Course Title – Code: Description)

1	The course will introduce surveying principles & point location. The course will cover the following topics: Branches of surveying, Linear Surveying, managing errors due to incorrect tape length, gradient, miss-alignment, temperature, sag and tension. Leveling and managing curvature & refraction errors, reciprocal leveling, topographic survey, longitudinal sections & cross sections, Traverse, converting angles to bearings and converting bearings to coordinates, curve ranging & Horizontal alignment, Offshore surveying, earthwork quantities, setting out survey & Introduction to remote sensing.
2	The impacts of transport on the environment are of increasing significance to both planning and policy, however numerous challenges exist in adequately characterizing and managing these impacts. This course aims to provide an understanding of the complex interrelationships between transport and the environment; to discuss the various environmental impacts caused by the provision and use of transport; to analyze causes and to discuss technology and policy solutions to environmental problems. The course will focus in particular on methods to develop, monitor and evaluate environmental, land use and transport policy and how these affect environmental outcomes.
3	The course reviews the Horizontal and Vertical alignments, along with the Passing & non-passing sight distances. Conducting methods for spot speed, flow and travel time studies along with the factors affecting them are covered in the course. The analysis & presentation of the data and the statistical analysis of such data are also covered. The adjustment and expansion factors of short term data are considered. The following topics are also considered: Speed - Density, Flow - Density and Speed-Flow models, Application of Shock wave theory in traffic flows. Factors affecting Level Of Service. Capacity of basic freeway segments. Maximum service flow rate. Computation of passenger car equivalents. Design and capacity of Two-Lane, two way rural highways. Design of signalized intersection and cycle setting. Accident studies and traffic safety strategies
4	The course emphasizes the identification and development of are to be researched, analyzed, programmed, and documented in an effective emtane professional report. The research should include pertinent analysis and solutions and issues in an integrated form. The student is responsible for the independent development of the research under the direction of a faculty advisor with expertise in the areas of investigation Individual research In a field of special interest under the supervision of a faculty member as a requirement for the BSC.

	degree, culminating in a written report/thesis, The central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. The Graduation Project is divided between two semesters. Methodology is developed and pre-data are collected in the first semester. Experiment is run, data is analyzed, and conclusion are sought in the second semester.
5	The course introduces planning & modeling in transportation networks for the students. The course covers the following topics: Strategy of transportation System Analysis, Principles of system modeling, Supply & Demand, Planning Process, Inventory, data needs & collection, trip Forecasting, Trip generation and factors influencing trip generation, production & attraction, Trip distribution, growth factor, Multiple Linear Regression, gravity model, Modal split; factors influencing modal split, available models, Network assignment, all or nothing method and capacity restraints, Plan evaluation, cost-benefit analysis, goals and achievement.
6	The course investigates the main principles of transportation engineering as planning, design, construction, maintenance art operation of the facilities. Characteristics of various transportation modes and the interaction between them alone d terminal and parking characteristics are also covered. The course covers system operation & management, engineering economic analysis and pricing, cost, and revenues of transportation modes, as well. Impact analysis of transportation modes as on the society and on the environment is also discussed in the course.
7	The curse first reviews highway capacity analysis. Transportation Data Needs, traffic management and management. Techniques will then be followed. The course will also component of transportation management & their benefits. Effectiveworking and communication along with safe working will be covered. The following subjects will be covered, as well, during the course, traffic modeling & future needs, parking studies, traffic signal operation & coordination, traffic impact analysis, management of congestion incidents and ttraffic management at working zones
8	Individual research in a field of special interest under degree, culminating in a written report/thesis. The central goal of which is a substantive paper or written report containing significant analysis and interpretation of a previously approved topic. The Graduation Project is divided between two semesters. the supervision of a faculty member as a requirement for the B.Sc. Methodology is developed and pre-data are collected in the first semester, Experiment is run, data is analyzed, and conclusion are sought in the second semester.
9	This course aims at the provision of the concepts of algorithm, programming language, and program and developing basie problem solving skills to the learner. The course topics include: Overview of computer programming and programming languages (machine, assembly and High-level languages). Programming principles of algorithm and flow of control, inkst sequential execution, selection, iteration, and subroutine. Basics of a typical programming language (e.g. Matlab), Introduction to computer methods and algorithms for analysis and solution of engineering problems using numerical methods in a workstation environment (Numerical integration, roots of equations, simultaneous equation solving and matrix analysis).

10	The main objective of this course is to introduce the required practical skills to develop and implement GIS application undle different transportation issues in a broad sense, a geographic information system (GIS) is an information system specializing in the input, management, nalysis and reporting of geographical (spatially related) information. Among the wide range of potential applications GiS can used for, transportation issues have received a lot of attention. This course refers to the principles and applications of aplying geographic information technologies to transportation problems. applications in the field of transportation can be approached from two different, but complementary, directions. While s ome applications focuses on issues of how GIS can be further developed and enhanced in order to meet the needs of ransportation professionals, other applications investigates the questions of how GIS can be used to facilitate and improve transportation studies
11	This course has been designed to provide fundamentals of pavement analysis and design. Traffic loading and volume, tharacterization of pavement materials, Methods of evaluating the load-carrying capacity of soil sub-grade, sub-base, and base courses, design of flexible pavements, critical analysis of the methods of design for flexible and rigid pavements, stresses and eflections in rigid pavements, design of rigid pavements, design of overlays, evaluation of pavement performance. Computer pplication in pavement analysis and design.
12	intelligent Transportation Systems evolved from the ISTEA Intermodal Surface Transportation Efficiency Act) that was passed sa legislation by the US congress in 1991. It aims at developing infrastructure in an intelligent and efficient way. This course will shed the light on ITS architecture, system collection and integration, data dissemination and utilization.

Last Update

9/3/2020