

SE 464 Introduction to Digital Photogrammetry

Credit and Contact hours	3 / 1 (Lectures), 1 (Tutorials), 0 (Laboratory)															
Required, or Elective	Required for a BSCE degree															
Course Description	Definitions; digital photogrammetry evolution; data collection procedures; stereo viewing of digital images; digital images matching techniques; DEM & features extraction; digital orthophoto production; digital photogrammetric workstations; applications using computer.															
Prerequisites or Co-requisites	SE 422.															
Course Learning Outcomes	Students completing this course successfully will be able to <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Course Learning Outcomes</th> <th style="text-align: center;"><i>Related Student Outcomes (SO)</i></th> </tr> </thead> <tbody> <tr> <td>CLO1: Apply knowledge of mathematics, science and engineering.</td> <td style="text-align: center;">SO7</td> </tr> <tr> <td>CLO2: Design and conduct experiments, as well as to analyses and interpret data.</td> <td style="text-align: center;">SO1</td> </tr> <tr> <td>CLO3: Identify, formulate, and solve engineering problems.</td> <td style="text-align: center;">SO2</td> </tr> </tbody> </table>		Course Learning Outcomes	<i>Related Student Outcomes (SO)</i>	CLO1: Apply knowledge of mathematics, science and engineering.	SO7	CLO2: Design and conduct experiments, as well as to analyses and interpret data.	SO1	CLO3: Identify, formulate, and solve engineering problems.	SO2						
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Student Outcomes	SO1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics, and using modern engineering tools SO2: an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety; SO 7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies															
Topics Covered	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">List of Topics</th> <th style="text-align: center;">Related CLOs</th> </tr> </thead> <tbody> <tr> <td>1. Introduction.</td> <td style="text-align: center;"><i>CLO1</i></td> </tr> <tr> <td>2. Data acquisition</td> <td style="text-align: center;"><i>CLO1</i></td> </tr> <tr> <td>3. Methods and techniques</td> <td style="text-align: center;"><i>CLO2</i></td> </tr> <tr> <td>4. Stereopsis</td> <td style="text-align: center;"><i>CLO2</i></td> </tr> <tr> <td>5. Feature extraction and recognition</td> <td style="text-align: center;"><i>CLO2</i></td> </tr> <tr> <td>6. Applications</td> <td style="text-align: center;"><i>CLO3</i></td> </tr> </tbody> </table>		List of Topics	Related CLOs	1. Introduction.	<i>CLO1</i>	2. Data acquisition	<i>CLO1</i>	3. Methods and techniques	<i>CLO2</i>	4. Stereopsis	<i>CLO2</i>	5. Feature extraction and recognition	<i>CLO2</i>	6. Applications	<i>CLO3</i>
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Textbook(s) and Other Required Material	Textbook: P. R. Wolf, B. A. Dewitt and B. Wilkinson "Elements of Photogrammetry with Applications in GIS", 4th Ed. 2014. McGraw Hill.
Grading System	Tutorials problems and attendance 20% Mid-Term 1 20% Mid-Term 2 20% Final Exam 40%
Instructors	Dr. Bashar Kamal Bashir (<u>2A19</u>); e-mail: bbashir@ksu.edu.sa - (2 nd Semester 20-21)
Date of Review	Nov, 2020