EXPANDED COURSE DESCRIPTION
EARTH, SPACE SCIENCE AND ENGINEERING
Lassonde School of Engineering
Earth and Space Science and Engineering
LE / ESSE 3650 3.0 SECTION M
PHOTOGRAMMETRY
FALL 2017 / WINTER 2018

Last Modified Date: 08/18/2017

COURSE CALENDAR DESCRIPTION

Prerequisites: LE/ESSE 2620 3.00; LE/ESSE 3620 3.00. Corequisite: LE/ESSE 3630 3.00. Prerequisites: LE/EATS 2620 4.00 or LE/ENG 2120 4.00; LE/EATS 3620 4.00 or LE/ENG 3120 4.00. Corequisite: LE/EATS 3630 4.00 or LE/ENG 3130 4.00. Prior to Summer 2013: Prerequisites: SC/EATS 2620 4.00 or SC/ENG 2120 4.00; SC/EATS 3620 4.00 or SC/ENG 2120 4.00; SC/EATS 3620 4.00 or SC/ENG 3120 4.00. Corequisite: SC/EATS 3630 4.00 or SC/ENG 3130 4.00.

INSTRUCTOR(S)

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<tr>
<th>Name</th>
<th>Section / Format / Term</th>
<th>Contact Email</th>
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<tr>
<td>Armenakis, Constadinos</td>
<td>Sec. M / LECT / W</td>
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TOPICS AND CONCEPTS

Content
- Introduction; Basic optics; Coordinate systems
- Cameras and camera calibration, interior orientation
- Image measurements and image refinements
- Vertical and tilted images
- Stereoscopic viewing, parallax, parallactic equations
- Orthogonal transformations
- Analytical photogrammetry; Collinearity and Coplanarity conditions
- Photogrammetric orientations and instruments
- Photogrammetric triangulation; Independent models and Bundle block adjustment
- Sensor orientation; Direct georeferencing
- Digital photogrammetry; Epipolar geometry; Image matching
- Digital elevation models and Orthoimage generation
- UAV Photogrammetry
- Air Survey project planning
- Photogrammetric applications

Evaluation:
Assignments 35%
Mid-term Test 20%
Final Exam 45%

Text:

Suggested bibliography:

Course Policies:
Course policies for this course can be found on the Moodle site at: learn.lassonde.yorku.ca

ACADEMIC INTEGRITY LINKS
- Senate Policy on Academic Honesty - http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/
- Academic Integrity - http://lassonde.yorku.ca/academic-integrity

STUDENT LINKS
- Student Rights and Responsibilities - http://oscr.students.uit.yorku.ca/student-conduct
- Religious Observance - https://w2prod.sis.yorku.ca/Apps/WebObjects/cdm.woa/wa/regobs
- Counselling and Disability Services - http://cds.info.yorku.ca/

Many courses utilize Moodle, York University’s course website system. If your course is using Moodle, click here to access it.
Moodle @ York University