EXPANDED COURSE DESCRIPTION
EARTH, SPACE SCIENCE AND ENGINEERING
Lassonde School of Engineering
Earth and Space Science and Engineering
LE / ESSE 3610 3.0 SECTION A
GEODETIC CONCEPTS
FALL 2017 / WINTER 2018

Last Modified Date: 08/23/2017

COURSE CALENDAR DESCRIPTION

Geodesy. Reference systems, frames and datums; time systems; the natural system of coordinates; terrestrial, celestial and orbital coordinate systems. Coordinate system transformations. Relative three dimensional positioning; the inertial frame of reference. Positions on the ellipsoid and mapping plane. Height systems. Three lecture hours and three hours of laboratory exercises per week. One term. Three credits. Prerequisites: LE/ESSE 2615 3.00; LE/ESSE 2620 3.00; SC/MATH 2015 3.00. Corequisite: LE/ESSE 3620 3.00. Prior to Fall 2014: Prerequisites: LE/EATS 2610 2.00 or LE/ENG 2110 2.00; LE/EATS 2620 4.00 or LE/ENG 2120 4.00; SC/MATH 2015 3.00; LE/CSE 2501 1.00. Corequisite: LE/EATS 3620 4.00 or LE/ENG 3120 4.00. Prior to Summer 2013: Prerequisites: SC/EATS 2610 2.00 or SC/ENG 2110 2.00; SC/EATS 2620 4.00 or SC/ENG 2120 4.00; SC/MATH 2015 3.00; SC/CSE 2501 1.00. Corequisite: SC/EATS 3620 4.00 or SC/ENG 3120 4.00. Prior to Fall 2009: Prerequisites: SC/EATS 2610 2.00 or SC/ENG 2110 2.00; SC/EATS 2620 4.00 or SC/ENG 2120 4.00; AK/AS/SC/MATH 2015 3.00; AK/AS/SC/CSE 2501 1.00 (formerly COSC). Corequisite: SC/EATS 3620 4.00 or SC/ENG 3120 4.00.

INSTRUCTOR(S)

<table>
<thead>
<tr>
<th>Name</th>
<th>Section / Format / Term</th>
<th>Contact Email</th>
<th>Contact Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wang, Jianguo</td>
<td>Sec. A / LECT / F</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOPICS AND CONCEPTS

Content:
- Geodesy: definition, tasks and problems.
- Reference coordinate systems and transformations.
- Point positioning concepts.
- Geodetic horizontal, vertical and 3D positioning techniques
- Height systems
- Geodetic positioning and calculation on the ellipsoid.
- map projections and conformal map projection
- Modern reference systems, frames and datums. IERS conventions.
- Geodetic systems/datums

GRADED ASSESSMENT

Evaluation:
Laboratories (5) 35%
Midterm Test 20%
Class Participation 5%
Final Exam 40%
ADDITIONAL INFORMATION


Suggested Bibliography:

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://eds.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