EXPANDED COURSE DESCRIPTION
EARTH, SPACE SCIENCE AND ENGINEERING
Lassonde School of Engineering
Earth and Space Science and Engineering
LE / ESSE 3020 3.0 SECTION M
GLOBAL GEOPHYSICS AND GEODESY
FALL 2017 / WINTER 2018

COURSE CALENDAR DESCRIPTION

Studies of isostatic equilibrium and glacial rebound; seismic tomography and spherical harmonic representation of gravity and the geoid; Earth rotation and geodesy; geothermal heat flow and mantle convection. Three lecture hours. One term. Three credits. Prerequisites: LE/ESSE 2030 3.00; LE/ESSE 2470 3.00 or SC/PHYS 2010 3.00 or permission of instructor; SC/MATH 2015 3.00; SC/MATH 2271 3.00; SC/PHYS 2020 3.00.

INSTRUCTOR(S)

<table>
<thead>
<tr>
<th>Name</th>
<th>Section / Format / Term</th>
<th>Contact Email</th>
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<tr>
<td>Wang, Jianguo</td>
<td>Sec. M / LECT / W</td>
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TOPICS AND CONCEPTS

Content for this course includes:

- Global Earth structure
- Isostasy
- Seismic tomography
- Fourier series expansions
- Laplace’s equation in spherical coordinates
- Spherical Harmonic Analysis
- Gravitational potential
- Gravity anomalies and geoid
- Earth rotation, precession, nutation and wobble, free core nutation
- Moments of Inertia
- Geothermal heat flow

REFERENCES:

- Physics of the Earth, (3rd Edition), F.D. Stacey

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

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