|  |  |  |
| --- | --- | --- |
| Lecture | Thu 3:30-6:10pm | KAP145 |
| Professor | Vincent W Lee |
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| Office Hours | MW 10:00-11:00am or other time by arrangement |
| Teaching Assistant |  |
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| Phone |  |
| Email |  |
| Office Hours |  |
| Prerequisites |  |
| Textbook(s) | **Wave Propagation in elastic Solids**  **J.D. Achenbach N. Holland Publishing Co.****Lecture Notes to be Posted**  |
| References |  |
| Course Description |   |
| Course Objectives |   |
| Learning Objectives |  |
| Policies on: |  |
| Late work |  |
| Make-up work |  |
| Incomplete work |  |
| Extra credit |  |
| Final grade schema is based on the following percentages of graded coursework : |
| Homework | 20 | % |  |   |   |
| Midterms  | 45 | % |  |   |   |
| Final/Project | 35 | % |  |  |  |
| Total | 100 | % |  |   |    |

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| **Class Schedule** |
| **Week** | **Date** | **Topics** | **Posted Notes** |
| **1** | **Jan****8-12** | **Introduction – The Wave Equation;** D’Alembert Solution;  | **Chap 1** |
| **2** | **Jan****15-19** | **Jan15-M.L.King Holiday;** Equation of motions in terms of displacements Helmholtz Decomposition | **Chap 1** |
| **3** | **Jan****22-26** | P, SV, SH Waves: Incidence on Half-Space | **Chap 2** |
| **4** | **Jan29****-Feb2** | P, SV, SH Waves (cont.): Stress-Free Boundary Conditions | **Chap 2** |
| **5** | **Feb****5-9** | **Love Surface Waves; Rayleigh Surface Waves; Layered Half-Space** | **Chap 2** |
| **6** | **Feb****12-16** | **Cylindrical Coord. & Waves** | **Chap 3** |
| **7** | **Feb****19-23** | **Feb19-President’s Day;** Bessel Equations; Circular Inclusions in Full-Space | **Chap 3** |
| **8** | **Feb26-Mar2** | Circular Inclusion in Half-Space: Surface Inclusions - Canyons. Valleys & Foundations | **Chap 4** |
| **9** | **Mar****5-9** | Circular Inclusion in Half-Space: subsurface Inclusions - Cavities , Pipes & Tunnels | **Chap 4** |
| **10** | **Mar****12-16** | **Spring Recess** |  |
| **11** | **Mar****19-23** | Wedge Shape in Half-Space – Quarter Space | **Chap 5** |
| **12** | **Mar****26-30** | **Waves in Wedge Space**  | **Chap 5** |
| **13** | **Apr****2-6** | **Arbitrary-Shaped Inclusions; P-waves on Underground Cavity & surface Canyons** | **Chap 6** |
| **14** | **Apr****9-13** | **Waves on Semi-Circular Hills** | **Chap 6** |
| **15** | **Apr****16-20** | **3D waves in spherical Coordinates** | **Chap 6** |
| **16** | **Apr****23-27** | **Elliptic Canyons, Valleys & Hills** | **Invited Lecture** |
|  |  |  |  |
|  |  | **HW, MTs, Final & Projects to be arranged** |  |
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<http://www.usc.edu/student-affairs/SJACS/>

**STATEMENT FOR STUDENTS WITH DISABILITIES**

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (or to TA) as early in the semester as possible.

**DSP Contact Information**

Location: STU 301

Hours open: 8:30 a.m. until 5:00 p.m., Monday — Friday

Phone number: (213) 740-0776