

Hr	Day	Date	Lecture Topic	Lec	Textbook Readings	Lab Schedule is Wed, Fri, Mon Laboratory Topic
1	Tu	Jan 9	Course Organization and Introduction	JF		No lab this week, Lab sequence is Mon, Wed, Fri.
2	Th	Jan 11	Noise Recognition: Definitions and Physiology	JF	3 rd ed. Ch. 24	
3	Tu	Jan 16	Physiology, Normal Hearing and Hearing Loss	JF		Lab 1: Noise and NIHL;
4	Th	Jan 18	Noise Evaluation: Noise Exposure Limits	JF	3 rd ed. Ch. 24	Mon 1/15; Wed 1/17; Fri 1/19;
5	Tu	Jan 23	Instruments and Monitoring	JF		Lab 2: Noise Instruments
6	Th	Jan 25	Noise Control Concepts and Noise Source Controls	JF	3 rd ed. Ch. 24	Mon 1/22; Wed 1/24; Fri 1/26;
7	Tu	Jan 30	Noise Source Controls and Near Field Noise Controls	JF		Lab 3: Noise Propagation;
8	Th	Feb 1	Near-Field Noise Controls	JF		Mon 1/29; Wed 3/31; Fri 2/2;
9	Tu	Feb 6	Free-Field Noise Controls	JF		Lab 4: Noise Dosimetry;
	Th	Feb 8	FIRST ONE-HOUR EXAM (noise part I)			Mon 2/5; Wed 2/7; Fri 2/9;
10	Tu	Feb 13	Reverberant Field Noise Control	JF		Lab 5: Noise Enclosure (Pathway) Control;
11	Th	Feb 15	Receiver Noise Controls			Mon 2.12; Wed 2/14; Fri 2/16;
	Tu	Feb 20	Attend Monday classes this Tuesday due to President's Day	JF		Lab 6: Noise PPE and the NRR;
12	Th	Feb 22	Vibration Recognition	JF	3 rd ed. Ch. 24	Tue 2/20; Wed 2/21; Fri 2/23;
13	Tu	Feb 27	Evaluation and Control	JF		Lab 7: 3M Ear Plug Fit Test Activity;
14	Th	Mar 1	Non-ionizing Radiation (the spectrum)	JF	3 rd ed. Ch. 25	Mon 2/26; Wed 2/28; Fri 3/2;
Spring Break (no class M-F March 5-9, 2018)						
15	Tu	Mar 13	Optical and near-optical Radiation			Lab 8: IR, Visible, UV Light;
	Th	Mar 15	SECOND ONE-HOUR EXAM (noise part II & vibration)			Mon 3/12; Wed 3/14; Fri 3/16;
16	Tu	Mar 20	Lasers	JF		Lab 9: Lasers;
17	Th	Mar 22	RF/MW	JF		Mon 3/19; Wed 3/21; Fri 3/23;
18	Tu	Mar 27	Finish RF/MW	JF		Lab 10: RF Microwave;
19	Th	Mar 29	ELF and NIR Control Program	JD		Mon 3/26; Wed 3/28; Fri 3/30;
20	Tu	Apr 3	Ionizing Radiation I	JD	3 rd ed. Ch. 26	Lab 11: Individual Field Lab work week,
21	Th	Apr 5	Ionizing Radiation II			Report due Thu April 25th before 5PM.
22	Tu	Apr 10	Thermal Hazards (terms and physiology)	JF	3 rd ed. Ch. 27	Lab 12: Ionizing Radiation Instruments;
	Th	Apr 12	Thermal Stresses (adverse outcomes and physics)	JF		Mon 4/9; Wed 4/11; Fri 4/13;
23	Tu	Apr 17	THIRD HOUR EXAM (ionizing & nonionizing radiation)			Lab 13: Heat stress Instruments;
24	Th	Apr 19	Thermal Evaluation and Control	JF	3 rd ed. Ch. 28	Mon 4/16; Wed 4/18; Fri 4/20
25	Tu	Apr 24	Catch Up	JF		NO LABS THIS WEEK, But Field Report
26	Th	Apr 26	Final Exam Review			Due Thursday April 25th before 5PM.
Final Exam (comprehensive) – Tuesday May 1st, 2017 from 9:30 - 11:20 a.m. (might be given in the IH Lab)						

Grading: 50% on the three one-hour exams, 35% on the final, and 15% on the laboratory exercises and lab reports
 Each exam is split into a closed book portion followed by an open book portion.
 Approximate grading scale: A: ≥88%, B: ≥77-88%, C: ≥65-77%, and D: ≥50-65, <50 will not pass.

After completing this course, the student should be able to:

1. Define terms used in noise; recall the physics of sound, the physiology of hearing and noise induced hearing loss, and acceptable noise exposure criteria; use noise measurement instruments; and apply noise abatement controls within a hearing conservation program.
2. Define terms used in vibration; recall the physics of vibration and its adverse health effects; and evaluate and control vibration.
3. Define terms used in thermal stresses; recall the physics of heat transfer; discuss the biological/health effects from heat and cold; employ thermal measurement instruments and interpret results; and apply elementary controls.
4. Define terms used in nonionizing radiation; recall the physics of nonionizing electromagnetic radiation; discuss the biological/health effects from ultraviolet, visible, infrared, and radio-frequency radiation, extremely low frequency electric and magnetic fields, and lasers; apply measurement fundamentals for nonionizing radiation; describe program requirements; and apply elementary controls.
5. Define terms used in ionizing radiation; describe the sources of, the physics behind, and biological consequences of exposure to the four major types of ionizing radiation; explain radiation detection instruments, dosimetry, and attenuation versus shielding; be able to use a radio nuclide's half-life to determine its activity; and recall the agencies that regulate ionizing radiation.

Lab Fee for this course is \$100.00. Lab fees used to maintain equipment and purchase new equipment when needed.