

33-120 Spring 2024

Week	Monday	Wednesday	Friday
1	1/15/2024 No Class Today Martin Luther King, Jr. Day	1/17/2024 Course Overview & early works of sci-fi Critiquing the first sci-fi movie Imagining human spaceflight in 1902 Science Knowledge Survey	1/19/2024 Reference frames, acceleration and artificial gravity
2	1/22/2024 What is the nature of space and time? Classical Physics and Newton's Laws Quiz 1: Introductory material (25 pts)	1/24/2024 Newton's Laws (continued) Einstein and Modern Physics Problem 1 due: Acceleration	1/26/2024 Einstein and Modern Physics (continued) Relativistic spacetime
3	1/29/2024 Einstein and Modern Physics (continued) Special Relativity and time travel	1/31/2024 General Relativity Black holes and more time travel ideas	2/2/2024 General Relativity (continued) Gravitational waves and warp drive Problem 2 due: Time Dilation
4	2/5/2024 No Class Today Work on Spacetime Team Project (Einstein's Principle of Equivalence)	2/7/2024 "Future Physics" Quantum gravity & wormholes Spacetime Team Project (elevator data) Due	2/9/2024 The Multiverse hypothesis Exploration Paper 1 Due: Space & Time
5	2/12/2024 What is the universe made of? Standard Model of Particle Physics Quiz 2: Space and Time (100 pts)	2/14/2024 Dark Matter and Dark Energy Problem 3 due: General Relativity	2/16/2024 Nuclei, atoms & gases
6	2/19/2024 Liquids, solids, phase transitions	2/21/2024 Optical properties; transparent materials	2/23/2024 No Class Today Work on Optical Team Project (reflection, refraction, absorption, emission) Problem 4 due: Matter & Materials
7	2/26/2024 Metamaterials and invisibility cloaks Optical Team Project Due	2/28/2024 Chemical energy Midterm Film Critique Due	3/1/2024 Nuclear weapons; matter & anti-matter Exploration Paper 2 Due: Matter & Energy
X	3/4/2024	Spring Break - No Classes This Week	

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8	3/11/2024 Can a machine become self-aware? Information storage & data processing	3/13/2024 Intelligent robots Quiz 3: Matter and Energy (75 pts)	3/15/2024 Bonus Day (Topic TBA)
9	3/18/2024 The Turing Test	3/20/2024 Asimov's Laws and robot behavior	3/22/2024 Artificial consciousness & robot ethics Exploration Paper 3 Due: Artificial Intelligence
10	3/25/2024 Are we alone in the universe? Conditions necessary for life to exist Quiz 4: Artificial Intelligence (50 pts)	3/27/2024 Finding habitable planets	3/29/2024 The science behind the SETI Project Exploration Paper 4 Due: Extraterrestrial Intel.
11	4/1/2024 What does it mean to be human? Insight from Mary Shelley's Frankenstein Medical technology Quiz 5: Extraterrestrial Intel. (25 pts)	4/3/2024 Cell structure and radiation damage DNA, genome sequencing & gene editing	4/5/2024 Human Teleportation
12	4/8/2024 What can we learn from an android about what it means to be human? Exploration Paper 5 Due: Biotech/Being Human	4/10/2024 Bonus Day (Topic TBA)	4/12/2024 No Classes Today (Spring Carnival)
13	4/15/2024 How can we solve our problems? Public perception of science The scientific method	4/17/2024 Misplaced faith in science Misunderstanding of science Quiz 6: Biotech/Being Human (50 pts)	4/19/2024 Misuse of science in advertising How can we know what is real
14	4/22/2024 What lies ahead? Examples of sci-fi predicting the future How sci-fi storytelling changes with time Quiz 7: Problem-Solving (25 pts)	4/24/2024 Imagining the future Final Film Critique Due	4/26/2024 Last day of class - closing remarks Open discussion

Late Policy:

Assignments may be submitted late for partial credit, except as noted below.

Assignments submitted after others of the same kind have already been graded for the rest of the class will not be accepted for credit.

Quizzes will be given on Canvas and must be completed by midnight on the scheduled date. **There are no makeup quizzes!**

Opportunities for Extra Credit will be offered at various times throughout the semester, which may help to offset a missed quiz.