

Continuation Worksheet

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COURSE SYLLABUS

I. CATALOG DESCRIPTION

PHYS 111 Physics I Lecture

3c-01-3cr

Prerequisites: Elementary algebra and trigonometry
General college physics; mechanics, wave motion and sound.

II. COURSE OBJECTIVES

(1) Students will be able to describe the main concepts of classical mechanics, heat, and sound. Students will provide illustrative examples and will be able to demonstrate their application to related sciences and their use in modern technology.

EUSLO 1 *Informed Learners*

Rationale: Homework and tests will include questions on mechanics, heat, and sound. Working on these questions and solving these problems will inform the learner about the topics in the course.

(2) The students will describe the motion of bodies under the influence of forces by applying the laws and theories of physics.

EUSLO 1 *Informed Learners* and EUSLO 2 *Empowered Learners*

Rationale: Homework problems will require students to understand the laws of physics. Selected

Fig.

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- 6. Viscosity
- I. Thermodynamics (7 hours)
 - 1. Temperature
 - 2. Gas laws
 - 3. Kinetic theory of gases
 - 4. Specific heat capacity
 - 5. Transfer of heat
 - 6. The first law of thermodynamics
 - 7. The second law of thermodynamics
 - 8. Entropy
- Three one hour exams (3 hours)
- Final exam (2 hours)

IV. EVALUATION METHODS

The final grade for the course will be determined from problem assignments collected and graded at least weekly; three one-hour examinations consisting of word problems to be solved, definitions of terms, and short essays; final examination.

The final grade for the course will be determined as follows:

20% Problem assignments collected and graded daily.

60% Three one-hour examinations consisting primarily of word problems to be solved, but also definitions of important terms and short essays.

20% Cumulative final examination (2 hours)

V. GRADING SCALE

| Score | | | Grade |
|-----------|----|-----|-------|
| 100 % | to | 90% | A |
| 89% | to | 80% | B |
| 79% | to | 70% | C |
| 69% | to | 60% | D |
| Less than | | 60% | F |

VIII. SPECIAL RESOURCES

None noted.

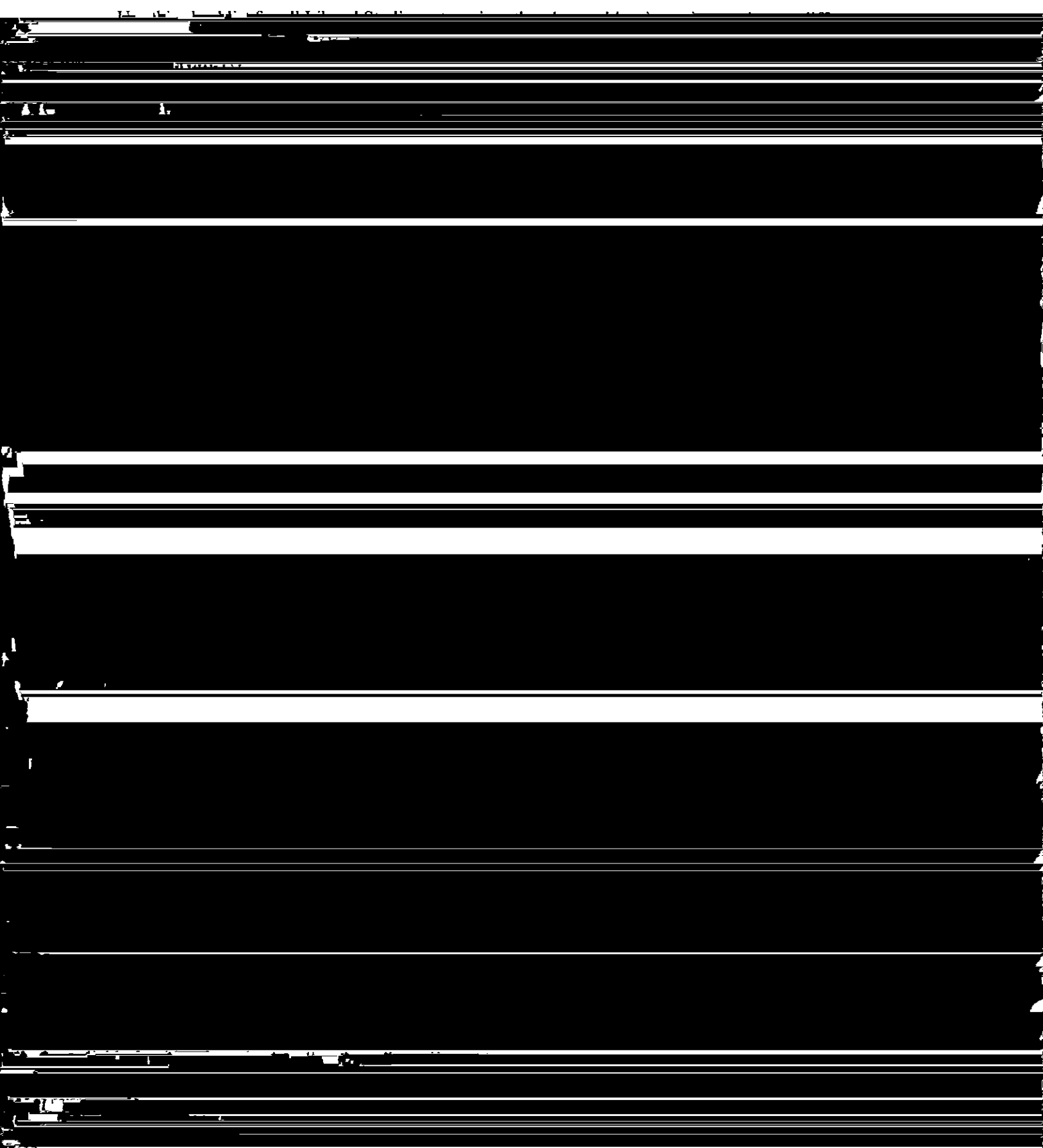
IX . BIBLIOGRAPHY

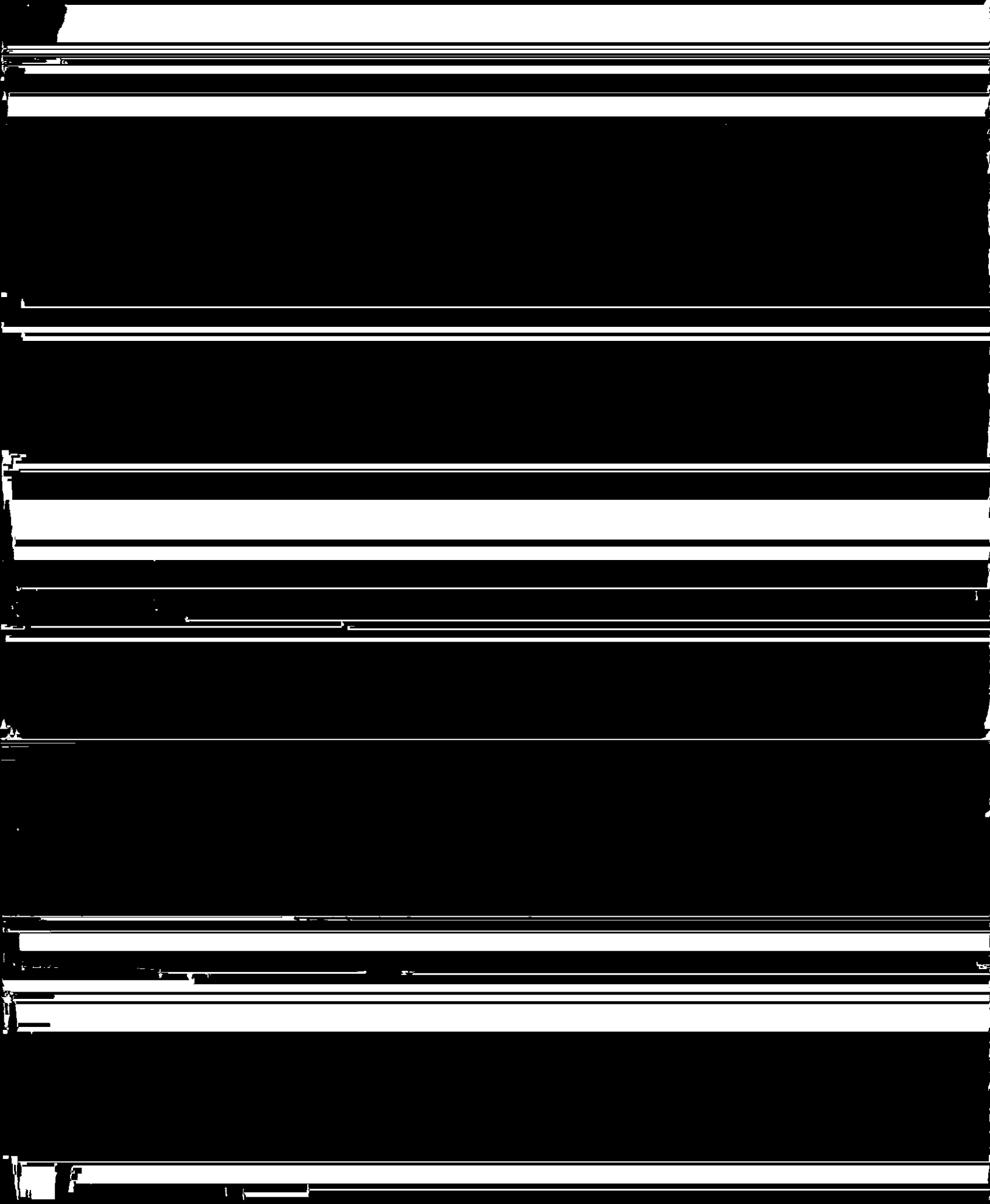
Bueche, F., Hecht, **Schaum's Outline of College Physics**, 11th Edition 2011, McGraw-Hill;

~~Ciardi, D. **Physics for Scientists & Engineers**, 4th Edition, 2000, Wiley.~~

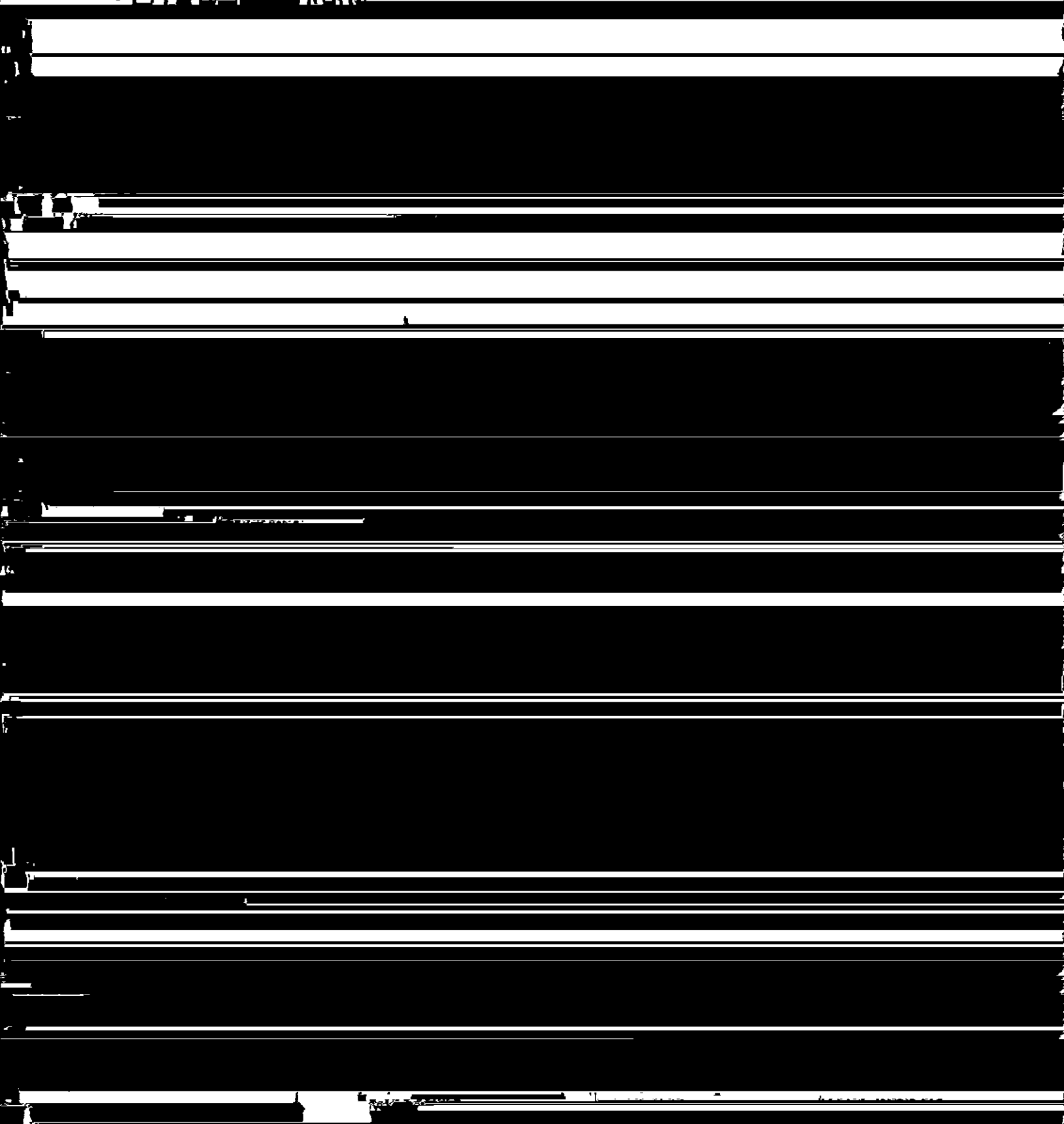
~~Knight, D. **Physics for Scientists & Engineers**, 3rd Edition, 2012, Wiley.~~

**Liberal Studies Course Approval Checklist
Instruction Sheet**





CATALOG DESCRIPTION



1. The concept of momentum
2. Conservation of momentum
3. Elastic and inelastic collisions
- F. Rotational dynamics (2 hours)
 1. Torques and moments of inertia
 2. Angular momentum and its conservation
- G. Vibrations and waves (5 hours)
 1. Simple harmonic motion
 2. The reference circle
 3. Examples of simple harmonic systems
 4. Transverse and longitudinal waves
 5. Standing waves
 6. Sound waves in air
 7. Doppler effect
- H. Properties of liquids and solids (5 hours)
 1. Stress and strain
 2. Elastic moduli
 3. Pressure and its measurement
 4. Archimedes' principle
 5. Bernoulli's equation
 6. Viscosity
- I. Thermodynamics (7 hours)
 1. Temperature
 2. Gas laws
 3. Kinetic theory of gases
 4. Specific heat capacity
 5. Transfer of heat

7. The second law of thermodynamics
8. Entropy

IV. EVALUATION METHODS

The final grade for the course will be determined from problem assignments collected and graded at least weekly; three one-hour examinations consisting of word problems to be solved, definitions of terms, and short essays; final examination.

PHYS 111 General Physics I – course revision mapping new liberal studies objectives to course objectives

course attendance policy will be consistent with the Undergraduate Attendance Policy in the IUP Undergraduate Catalog.

[REDACTED]