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# VETERINARY TECHNOLOGY

## ASSOCIATE IN SCIENCE

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### Description

Accredited by the American Veterinary Medical Association, Yuba College offers an Associate of Science Degree Program in Veterinary Technology. The Program is a full-time course of study that can be completed in two years or extended by completing the General Education, Science and other graduation requirements prior to admission into the veterinary technology sequence. The latter format is highly recommended. Graduates of the Veterinary Technology Program are eligible to take the national licensing examination (the VTNE) to become a Registered Veterinary Technician in the State of California.

**Prerequisite Course Requirements:** Three prerequisite courses are required. AFTER Fall 2020, these three courses must be completed with a combined grade point average of 2.5 or better. Prerequisite courses can be completed prior to application to the program, or in the same Spring semester as the application. Verification that student has passed prerequisites will be required before formal acceptance into Program.

Additionally, it is strongly recommended that MCOMM 40 Introduction to Online Learning be completed prior to Program admission to ensure optimal learning in our Veterinary Technology online courses.

Three prerequisites are required:

1. VETT 91 (Veterinary Assisting). This is an online course that provides an overview of the profession. It also includes eight hours of experience at a veterinary clinic.
2. A life science course. Any of the following courses will satisfy this requirement: AG 45 (Principles of Animal Science), BIOL 4 (Human Anatomy), BIOL 15 (Bioscience), BIOL 24 (Human Anatomy), or BIOL 24L (Human Biology with Laboratory).
3. A chemistry course. Any of the following courses will satisfy this prerequisite: CHEM 10 (Concepts of Chemistry), CHEM 2A (Introductory Chemistry), or CHEM 1A (General Chemistry).

Due to the demanding nature of the Program, it is recommended that the prospective student meet with a counselor and create an education plan. This will allow the student to complete as many general education courses required for the Associate in Science Degree PRIOR to admission to the Veterinary Technology Program.

The Health/Physical Education and Multicultural General Education Requirements are satisfied by completion of the Veterinary Technology Program.

### Admissions

Selection of candidates for entry into the Veterinary Technology Program occurs each spring. A completed Veterinary Technology Program application and official college transcripts must be received by the Veterinary Technology Program administrator prior to March 15th in order to be eligible for entrance in the subsequent fall semester. The Program starts a new class cohort each fall semester.

The Veterinary Technology Program application may be printed from the Program's website under the "Apply" tab: <http://vettech.yccd.edu>.

Should the number of qualified applicants exceed the number of available spaces in the class, a random selection will be held to select those for entry into the Program for the number of available

spaces.

General application to or enrollment at Yuba College does not imply acceptance into the Veterinary Technology Program. Qualified applicants will be notified of their preliminary acceptance into the Program by April 1<sup>st</sup>.

Attendance and participation in the Veterinary Technology Program Orientation is a mandatory requirement before final acceptance of a candidate. This Orientation, held on a Thursday in April, is a half day exploration into the teaching formats, academic and physical demands, and dexterity requirements that the Veterinary Technology Program student can expect to encounter.

**Costs:** In addition to the expenses of regularly enrolled students (e.g., living costs, activity fees, books, tuition), Veterinary Technology Program students have the additional requirements of uniforms, drug and background screening, stethoscope, name badge, and radiation monitoring equipment. Veterinary Technology Program students are eligible for financial aid available to any Yuba College student meeting expected criteria.

**Drug Policy:** All students enrolled in the Veterinary Technology Program are subject to the drug policy which is a part of the Student Code of Conduct. Violation of this policy may result in denial of admission or dismissal from the Program. The policy is outlined in the Student Handbook as well as in the Veterinary Technology Program Policy Handbook found on the Program's website: <http://vettech.yccd.edu>.

**Other Requirements:** Students in the Veterinary Technology Program are required to complete various off site training internships to gain experience and satisfy learning objectives. These training hours are mandatory and additional to required individual course hours and farm care. Travel will be required of all students.

**Required Farm Care:** Students will be required to spend 2 - 6 hours every 1-2 weeks during assigned dates and times caring for the Yuba College Veterinary Technology farm and clinic animals. Time will include weekends and holidays as well as semester breaks, including summer break.

**Program Description:** The Veterinary Technology Program is a full-time course of study with each class building on preceding veterinary technology courses. Therefore, all required in-person courses must be taken in the sequence listed below.

Most of the Program's online courses may be taken before formally entering the Program, if the student wishes to do so. These courses include:

- VETT 7 Veterinary Business Management
- VETT 55 Veterinary Medical Terminology
- VETT 56 Shelter Medicine
- VETT 11 Veterinary Emergency and Critical Care
- VETT 12 Introduction to Veterinary Medical Math
- VETT 6 Veterinary Workplace Safety
- VETT 8 Large Animal Care and Nursing
- VETT 9 Laboratory Animal Medicine
- VETT 54 Public Health and Infectious Disease

All courses (in-person and online) must be passed with a grade of 75% or better. This requirement is based on the standards of the national licensing exam, which requires a 75% to pass.

All classes will be taught at the Yuba College campus in Marysville.

**For additional information, contact the Veterinary Technology Program Administrator at**

**(530) 741-6962 or vettech@yccd.edu, or visit the Veterinary Technology Program in the 1700 Building, across from the Veteran's Resource Center.**

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## Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Apply principles of biomedical sciences to help in disease prevention, treatment, and control in both veterinary and human medicine.
  2. Demonstrate entry-level mastery of the hands-on and professional skills relevant to the various problems encountered in veterinary medicine.
  3. Research, explain, and formulate preliminary solutions to real-world problems in the form of case studies, a toxicology research paper, and a Capstone project.
- 

## Program Requirements:

<b>First Semester (fall)</b>		<b>Course Block Units: (13 Required)</b>
VETT1	Introduction To Veterinary Technology	3
VETT4	Clinical Laboratory Techniques	3
VETT7	Veterinary Business Management	3
VETT16	Professional Development Seminar	1
VETT55	Veterinary Medical Terminology	3
<b>Second Semester (spring)</b>		<b>Course Block Units: (12 - 15 Required)</b>
VETT2	Veterinary Physiology and Anatomy	3
VETT2L	Veterinary Anatomy Laboratory	2
VETT3	Pharmacology for Veterinary Technicians	3
VETT5A	Veterinary Technology Internship A	1 - 4
VETT56	Shelter Medicine	3
<b>Third Semester (summer)</b>		<b>Course Block Units: (6 - 9 Required)</b>
VETT5B	Veterinary Technology Internship B	1 - 4
VETT11	Veterinary Emergency and Critical Care	3
VETT12	Intro To Veterinary Medical Math	2
<b>Fourth Semester (fall)</b>		<b>Course Block Units: (13 - 16 Required)</b>
VETT5C	Veterinary Technology Internship C	1 - 4
VETT6	Veterinary Workplace Safety	3
VETT8	Large Animal Care and Nursing	3
VETT53A	Vet Surgical Nursing and Anesthesia	4
VETT53B	Veterinary Diagnostic Imaging	2
<b>Fifth Semester (spring)</b>		<b>Course Block Units: (15 - 18 Required)</b>

VETT5D	Veterinary Technology Internship D	1 - 4
VETT9	Laboratory Animal Medicine	3
VETT53C	Advanced Veterinary Nursing Techniques	4
VETT53D	Principles of Veterinary Dentistry	2
VETT54	Public Health and Infectious Disease	3
VETT59	Veterinary Technology Board Review	2

**Total: 59.00 - 71.00**

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# Yuba Community College District

## Yuba College Course Outline

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### Course Information

**Course Number:** VETT 2

**Full Course Title:** Physiology for Veterinary Technicians

**Short Title:** Vet Physiology

**TOP Code:** 0102.10 - Veterinary/Animal Health Technology/Technician and Veterinary Assistant\*

**Effective Term:** Spring 2016

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### Course Standards

**Course Type:** Credit - Degree Applicable

**Units:** 3.0

**Total class hours:** 162.0

**Total contact hours in class:** 72.0

**Lecture hours:** 36.0

**Activity hours:** 36.0

**Hours outside of class:** 90.0

**Repeatable:** No

**Grading Method:** Letter Grade Only

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### Minimum Qualifications for Instructors

- Veterinary Technology
- 

### Course Description

Physiology of domestic animals (primarily the dog, cat, horse, and ruminant). Emphasis on the following systems: skeletal, muscular, special senses (e.g., vision, hearing, balance), immune, integumentary, respiratory, cardiovascular, urinary, endocrine, digestive, and reproductive (including physiology of pregnancy and parturition). Also includes physiologic principles of certain pathological problems and surgical conditions.

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### Conditions of Enrollment

Satisfactory completion of: VETT 4

### Advisories

- **Computer Literacy - recommended basic computer skills**  
Requires computer testing and literature searches.
  - **Language - recommended eligibility for English 1A**  
Course requires writing essays and a final written project.
  - **Mathematics - recommended eligibility for Math 52**  
Simple math computations are required.
- 

### Content

#### Course Lecture Content

1. Introduction
  - a. Histology
  - b. Embryology
  - c. Physiology
  - d. Anatomy
  - e. Pathology
2. Musculoskeletal System
  - a. Physiology
  - b. Anatomy
3. Integumentary System
  - A. Physiology
  - B. Anatomy
- IV. Respiratory System
  - A. Physiology
  - B. Anatomy
- V. Nervous System
  - A. Physiology
  - B. Anatomy
- VI. Circulatory System
  - A. Physiology
  - B. Anatomy
- VII. Digestive System & Nutrition
  - A. Physiology
  - B. Anatomy
- VIII. Excretory System
  - A. Physiology
  - B. Anatomy
- IX. Reproductive System
  - A. Physiology
  - B. Anatomy
- X. Endocrine System
  - A. Physiology
  - B. Anatomy

### **Course Lab/Activity Content**

Lab/activity will include practices like the following:

1. Obtain temperature, pulse and respiration rates on dogs, cats, horses, and cows
2. Operate monitoring equipment for oxygenation and respiration

3. Identify normal and abnormal heart rhythms using an electrocardiogram
  4. Practice venipuncture on dogs, cats, horses, and cows
- 

## Objectives

1. Judge normal location and appearance of internal organs, vessels and nerves of domestic animals and relate the knowledge to techniques used in diagnostic and medical procedures. **\*\*Requires Critical Thinking\*\***
  2. Demonstrate use of reputable resources when discussing and designing components of a disease process. **\*\*Requires Critical Thinking\*\***
- 

## Student Learning Outcomes

1. Upon completion of this course, students will be able to analyze and evaluate the normal physiologic body systems of the common animal species.
  2. Upon completion of this course, students will be able to construct a written, evidence-based argument concerning a specific pathophysiologic process.
  3. Upon completion of this course, students will be able to correctly describe the mammalian circulatory system to include the route and structures involved in the passage of blood throughout the body.
- 

## Methods of Instruction

- **Lecture/Discussion**

The two hours of lecture focus on content that may be difficult to grasp from reading alone. Content is "chunked," and after 1-2 sections, student knowledge is assessed using an informal, ungraded method (e.g., using Scratchers, Quizlet, or Kahoot!). Once everyone's questions have been answered, we stop lecture and students are introduced to and practice a hands-on skill mapped to that day's lesson (see "Studio/Activity" below).

- **Studio/Activity**

As described above, each day's lesson has hands-on activities mapped to it. For example, a lesson about the cardiovascular system would include such hands-on skills as how to recognize a heart murmur, hook up an electrocardiogram (ECG), or obtain a blood sample from the jugular vein.

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## Assignments

### Reading Assignments

The following is an excerpt from Chapter 16 of the required textbook:

"Feline odontoclastic resorptive lesions were first discovered in the necks of teeth, which explains why these lesions were initially known as "neck lesions." Other species can also acquire similar lesions, so the name has been changed from feline odontoclastic resorptive lesion to tooth resorption. In this condition, tooth resorption occurs to form erosions, which are then covered with calculus or gingival tissue. Some affected animals will show signs of pain and discomfort, resulting in changes in behavior or appetite, whereas others show few symptoms. The level of treatment ranges from monitoring with minimal treatment to multiple tooth extractions."

### Writing Assignments

Below are the instructions for the semester research project:

Last semester, you read a case study. Now create your own.

*What is a case study?*

Clinical case studies are one way that knowledge can be shared among members of a medical profession. As veterinary technicians, you will be involved in cases that are different or unusual or simply new to you, and your experience with the case can prove invaluable to other veterinary technicians, assistants, and veterinarians. A case study is expected to discuss the history, physical exam, treatment plan, and conclusions drawn from the case.

For example, pictured here are presenters at the 2016 North American Veterinary Community (NAVC) Conference. NAVTA hosts a Case Study competition each year. A variety of cases were presented before an audience, and one was selected as the winner.



### *How do you choose a case?*

Preferably, a case could be chosen from your place of work or where you are (or previously were) interning. The cases do not have to be unusual. They should be interesting to you, and they should be sufficiently complicated to call on your training in physiology, clinical lab techniques, medical terminology, and pharmacology.

You may also invent your own case, based on a patient you have read about or seen in a video. You will have to create the details then. I provide guidance on this below.

Your patient can be any type of animal. Your patient may even be a population of animals: for example, you could write about a Salmonella outbreak among horses at a boarding facility, or a Leptospirosis outbreak in a group of sea lions. The entire group of horses or sea lions could be considered the patient.


Important: For confidentiality, please change names of patient and owner in your case. Alternatively, you can obtain verbal permission from the owner to use their case.

*What would be considered a case study that meets expectations or standards (i.e., a "B" paper), or that exceeds expectations or standards (i.e., an "A" paper)?*

The case studies you read in the NAVTA journals would all exceed expectations.

In addition, read examples of [a case study that exceeds expectations](#) and [a case study that meets expectations](#) in the Future of Veterinary Medicine module.

## *Instructions*

- Length: Approximately 1,500 -2,000 words, not including the title or reference pages.
- Due: May 14, 11:59 pm, Pacific Standard Time (PST)
- References: You are to have a minimum of four references.
  - See below for how to format references. You will use American Psychological Association (APA) format.
  - You will probably need more than four, but four is the minimum.
  - References can all be secondary references, such as textbooks from other veterinary technology classes. Recommended textbooks are as follows:
    - *Laboratory Procedures for Veterinary Technicians* by Sirois.
      - This was your VETT 4 textbook.
    - *Clinical Anatomy and Physiology for Veterinary Technicians* by Colville and Bassert.
    - *Clinical Pharmacology and Therapeutics for Veterinary Technicians* by Bill.
    - *Veterinary Medical Terminology* by Romich
      - This was your VETT 55 textbook.
    - *McCurnin's Clinical Textbook for Veterinary Technicians* by Bassert.
    - The [Merck Veterinary Journal \(Online\)](#).
  - You are encouraged also to use primary sources. By primary source, I mean original research or reviews or articles from peer-reviewed journals.
    - What does "peer-reviewed" mean? Essentially, peer-reviewed is an academic term for quality control.
      - It means that a board of scholarly reviewers in the subject area of the journal, *review* materials they publish for quality before articles are accepted for publication.
    - See [Journals and Databases](#) for examples of peer-reviewed journals and of searchable databases.
    - In many cases, you will find only a summary of the research. This is called the abstract. While not as good as the entire paper, the abstract is still a useful primary source.
- The paper will be worth 100 points.
- Please review [how to avoid plagiarism](#) . Evidence of plagiarism results in a score of zero, and disciplinary action.

Here is a recommended format to follow in your case study. You may use a different format if you wish but it should contain the information below.

(A format is then provided.)

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### **Methods of Evaluation**

- **Exams**
- **Problem Solving Exercises**
- **Quizzes**

- **Research Project**
  - **Skills Demonstrations/Performance Exam**
- 

## **Course Materials**

### **Textbooks:**

1. Colville, TP. *Clinical Anatomy and Physiology for Veterinary Technicians*, 3rd ed. Wiley-Blackwell, 2015, ISBN: 978-0323227933
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# Yuba Community College District

## Yuba College Course Outline

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### Course Information

**Course Number:** VETT 3

**Full Course Title:** Pharmacology and Therapeutics for Veterinary Technicians

**Short Title:** Pharmacology

**TOP Code:** 0102.10 - Veterinary/Animal Health Technology/Technician and Veterinary Assistant\*

**Effective Term:** Fall 2013

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### Course Standards

**Course Type:** Credit - Degree Applicable

**Units:** 3.0

**Total class hours:** 162.0

**Total contact hours in class:** 54.0

**Lecture hours:** 54.0

**Hours outside of class:** 108.0

**Repeatable:** No

**Grading Method:** Letter Grade Only

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### Minimum Qualifications for Instructors

- Veterinary Technology
- 

### Course Description

Concepts of veterinary anesthesia and pharmacology to include agents used as pre-anesthetics, induction agents, and general anesthesia, the physiological impacts of anesthesia on the body, patient prep, high-risk patients and complications. Pharmacokinetics in animals, principles and mechanism of drug action, drug types and legal requirements.

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### Conditions of Enrollment

Satisfactory completion of: VETT 4; VETT 1

### Advisories

- **Language - recommended eligibility for English 1A**
  - **Mathematics - recommended eligibility for Math 52**
- 

### Content

#### Course Lecture Content

1. Section One: Pharmacology
  - a. Introduction
  - b. Pharmacy-label and Dispense
  - c. Medications
  - d. Inventory

- e. Types/Groups of Drugs/Organic Molecules
  - f. Safety
  - g. Legal/Regulatory Issues
  - 2. Section Two: Anesthesiology
    - a. Introduction
    - b. Patient Prep/Care
    - c. Pre-Anesthesia
    - d. Local Anesthesia
    - e. Injectable Anesthesia-Barbiturates, Dissociative, Propofol, etc.
    - f. Injectable Anesthesia-Dissociative
    - g. Injectable Anesthesia-Propofol, etc.
    - h. Principle and Physiology of Gas Anesthesia
    - i. Anesthesia Machines
    - j. Inhalation Agents-Halothane and Isoflurane; Metofane and Nitrus Oxide
    - k. Monitoring
      - l. Recording Anesthesia Information
    - m. Anesthetic Complications
- 

## Objectives

1. Read, interpret and fill prescriptions. **\*\*Requires Critical Thinking\*\***
  2. Perform Preanesthetic evaluation of patient.
  3. Understand the principles of pharmacology.
  4. Discuss the general types and groups of drugs. **\*\*Requires Critical Thinking\*\***
  5. Demonstrate knowledge of the drugs commonly used in veterinary medicine.
  6. Demonstrate knowledge of inventory control procedures.
  7. Understand pharmacokinetics of classes of drugs commonly used in veterinary medicine.
  8. Understand the laws regulating the purchase, storage and usage of pharmacological agents.
  9. Demonstrate knowledge of properties and uses of: preanesthetic, local, injectable general and inhalation anesthetic agents.
  10. Pain recognition and management.
  11. Calculate anesthetic dosages.
  12. Understand principles of patient monitoring.
  13. Demonstrate knowledge of safety techniques pertinent to the anesthetist.
  14. Identify and use anesthetic equipment.
  15. Identify anesthetic emergencies.
  16. Demonstrate knowledge of the laws regulating the use of anesthetic agents.
- 

## Student Learning Outcomes

1. Upon completion of this course, students will be able to calculate drug dosages correctly.

2. Upon completion of this course, students will be able to explain the storage, safe handling and disposal of biologics and therapeutic agents, pesticides, and hazardous wastes.
  3. Upon completion of this course, students will be able to differentiate between abnormal and normal responses to medication.
- 

## Methods of Instruction

- Lecture/Discussion
- 

## Assignments

### Reading Assignments

### Writing Assignments

Semester Project: "Pick Your Poison." Student writes a research paper on a common animal toxin.

A recommended list of 20 toxins are provided.

List is updated each year to reflect any animal poisonings that may have been in the news in the previous year (for example, toxic chicken jerky treats in 2018, and concerns that canned food may be a contributing factor to the increased number of cases of hyperthyroidism in cats).

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## Methods of Evaluation

- Exams
  - Homework
  - Problem Solving Exercises
  - Quizzes
  - Research Project
  - Skills Demonstrations/Performance Exam
- 

## Course Materials

### Textbooks:

1. Romich. *Fundamentals of Veterinary Pharmacology*, 2nd ed. Cengage, 2020, ISBN: 978-0357361474
  2. R.L. Bill. *Pharmacology for Veterinary Technicians*, 4th ed. Elsevier, 2017, ISBN: 9780323086790
  3. Wanamaker. *Applied Pharmacology for Veterinary Technicians*, 5th edition ed. Elsevier, 2015, ISBN: 978-0323186629
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# Yuba Community College District

## Yuba College Course Outline

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### Course Information

**Course Number:** VETT 59

**Full Course Title:** Veterinary Technology Board Review

**Short Title:** VetTech BoardReview

**TOP Code:** 0102.10 - Veterinary/Animal Health Technology/Technician and Veterinary Assistant\*

**Effective Term:** Spring 2017

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### Course Standards

**Course Type:** Credit - Degree Applicable

**Units:** 1.5

**Total class hours:** 81.0

**Total contact hours in class:** 27.0

**Lecture hours:** 27.0

**Hours outside of class:** 54.0

**Repeatable:** No

**Grading Method:** Letter Grade Only

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### Minimum Qualifications for Instructors

- Registered Veterinary Technician or DVM
  - Veterinary Technology
- 

### Course Description

Review of pertinent subject matter in preparation for the national licensing examination for veterinary technicians (the VTNE). Includes a review of the nine content areas that comprise the VTNE. Also includes test taking skills, test anxiety reduction techniques and practice board exams; includes information on exam application processes.

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### Conditions of Enrollment

Satisfactory completion of: VETT 53A

### Advisories

- **Computer Literacy - recommended basic computer skills**  
Students will be asked to perform internet searches, complete online assignments, and produce homework in MS Word, Excel or Power point.
  - **Language - recommended eligibility for English 1A**  
Students will be required to read and write evaluations of case studies and patient assessments.
  - **Mathematics - recommended eligibility for Math 52**  
Students will be asked to perform simple arithmetic in order to calculate fluid/medication dosage for patients.
- 

### Content

## Course Lecture Content

1. RVT National and State Board Information Links
    - a. Requirements to sit for exams
    - b. Application processes
    - c. Study guides
    - d. California Veterinary Law definitions
  2. Pain Management
  3. Medical Terminology
    - a. Anatomy and Physiology
  4. Genetics, Reproduction, Nutrition
  5. Technical Aspects of Nursing, Nursing Care and Surgical Principles
    - a. Pharmacology
    - b. Medical Calculations
  6. Anesthesia
  7. Emergency and Critical Care
  8. Equine, Food Animal and Large Animal Nutrition
  9. Laboratory and Exotic Animals
  10. Dentistry
  11. Imaging
    - a. Radiology
    - b. Ultrasound
  12. Laboratory Procedures
    - a. Urinalysis
    - b. Hematology/Cytology
    - c. Parasitology, Microbiology and Mycology
    - d. Clinical Chemistry
    - e. Virology and Immunology
  13. Zoonotic Diseases
- 

## Objectives

1. Demonstrate knowledge of nine content areas to pass the national licensing exam (the VTNE).  
**\*\*Requires Critical Thinking\*\***
  2. Identify and categorize the various veterinary medical subjects covered by the Board Exams. **\*\*Requires Critical Thinking\*\***
  3. Complete a practice Board Exam within allotted time limits.
  4. Perform medical calculations.
  5. Recognize common anesthetic issues associated with specific species. **\*\*Requires Critical Thinking\*\***
- 

## Student Learning Outcomes

1. Upon completion of this course, students will be able to apply critical thinking skills when confronted with issues and problems in veterinary medical practice.
- 

## Methods of Instruction

- **Lecture/Discussion**
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## Assignments

**Reading Assignments**  
**Writing Assignments**  
**Other Assignments**

After completing the assigned reading chapter, please answer the following question:

Doxycycline is commonly used antibiotic drugs in veterinary medicine, used alone or in combination to treat a variety of conditions. Describe indications for doxycycline, identify common adverse effects, and describe its mechanism of action.

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**Methods of Evaluation**

- Exams
  - Homework
  - Problem Solving Exercises
  - Quizzes
  - Other  
Mock Board exam.
- 

**Course Materials**

**Textbooks:**

1. Bassert. *McCurnin's Clinical Textbook for Veterinary Technicians*, 9th ed. Elsevier, 2018, ISBN: 9780323394611
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# Yuba Community College District

## Yuba College Course Outline

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### Course Information

**Course Number:** VETT 8

**Full Course Title:** Large Animal Care and Nursing

**Short Title:** Lrg Animal Nurs

**TOP Code:** 0102.10 - Veterinary/Animal Health Technology/Technician and Veterinary Assistant\*

**Effective Term:** Spring 2020

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### Course Standards

**Course Type:** Credit - Degree Applicable

**Units:** 3.0

**Total class hours:** 162.0

**Total contact hours in class:** 54.0

**Lecture hours:** 54.0

**Hours outside of class:** 108.0

**Repeatable:** No

**Grading Method:** Letter Grade Only

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### Minimum Qualifications for Instructors

- Veterinary Technology
- 

### Course Description

Principles of large animal medicine, surgical nursing and equine field service including performance of a complete physical examination, acquisition of a medical history, animal restraint, clinical aspects of reproductive management, knowledge of various diagnostic and therapeutic procedures, laboratory sample collection, bandaging, and emergency treatment. Additionally, surgical and obstetrical procedures and instruments, herd health, economics, and lameness topics for equine and livestock will be covered.

---

### Conditions of Enrollment

#### Advisories

- **Computer Literacy - recommended basic computer skills**  
-
  - **Language - recommended eligibility for English 1A**  
-
  - **Mathematics - recommended eligibility for Math 52**  
-
- 

### Content

#### Course Lecture Content

1. The Importance of Livestock

2. Livestock Safety and Handling
  3. Livestock Reproduction
  4. Daily Hospital Responsibilities
  5. Admissions, Medical Records and Physical Exams for Large Animals
  6. Husbandry Clinical Procedures, Surgery and Common Diseases of:
    - a. Equines
    - b. Bovines
    - c. Ovine and Caprine
    - d. Camelids
- 

## Objectives

1. Identify common large animal nutritional and clinical diseases and the role of the veterinarian and veterinary technician in the treatment of these diseases. **\*\*Requires Critical Thinking\*\***
  2. Explain the use of vaccine and de-worming programs related to a large animal preventative medicine program. **\*\*Requires Critical Thinking\*\***
  3. Compare and contrast the characteristics for various prions, viruses, bacteria, protozoans, and multicellular parasites in large animal practice **\*\*Requires Critical Thinking\*\***
  4. Evaluate and apply the proper methods of disease control necessary in sample scenarios or case studies **\*\*Requires Critical Thinking\*\***
  5. Develop a network of colleagues through interaction with other course participants with whom you can share ideas and resources relevant to large animal practice
- 

## Student Learning Outcomes

1. Upon completion of this course, the student will be able to demonstrate entry-level knowledge of livestock husbandry techniques to include safe restraint, handling, care, and feeding.
    - **Critical Thinking** Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
  2. Upon completion of this course, the student will be able to demonstrate entry-level understanding of the basic clinical and surgical procedures common to equine, bovine, porcine, ovine/caprine, camelid, and poultry species.
    - **Scientific Awareness** Students will understand the purpose of scientific inquiry and the implications and applications of basic scientific principles.
  3. Upon completion of this course, the student will be able to describe the livestock industry and its contribution to human health, the economy, and personal empowerment.
    - **Information Competency** Students will conduct, present, and use research necessary to achieve educational, professional, and personal objectives.
- 

## Methods of Instruction

- **Lecture/Discussion**
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## Distance Education

### Delivery Methods

- Hybrid
    - Some lecture hours will be online
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## Assignments

### Reading Assignments

### Writing Assignments

Please submit your Final Paper here. Below is a copy of the instructions that you read first on the Semester Project Page:

Integration of knowledge gained in this course will culminate with a research paper in which you will describe one potential career pathway in large animal medicine for veterinary technicians with advanced training. If you are already working (or have worked) in a large animal setting you must investigate a different career pathway than your current (or previous) employment.

The Final Paper must be at least 1200 - 1500 words, not including the title or reference pages. You are to have a minimum of five references, two primary and three others from reputable journals, books, or web sites. You may interview classmates or others who have relevant knowledge on the career opportunities in large animal medicine for your primary sources.

Included in the paper should be a description of the career, preferred experience, educational qualifications, job outlook and compensation. I want you to think beyond the usual job as technician in a hospital or ambulatory practice.

The paper will be worth 200 points (approximately a third of your total grade) and must adhere to APA standards for referencing, citation and style.

### Other Assignments

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## Methods of Evaluation

- **Essay/Paper**
  - **Exams**
  - **Homework**
  - **Participation**
  - **Problem Solving Exercises**
  - **Quizzes**
  - **Research Project**
  - **Skills Demonstrations/Performance Exam**
- 

## Course Materials

### Textbooks:

1. Holtgrew-Bohling, K. *Large Animal Clinical Procedures for Veterinary Technicians*, 3rd ed. Elsevier Mosby Publishing, 2015, ISBN: 978-0323341134
2. Rockett and Christensen. *Case Studies in Veterinary Technology: A Scenario-Based Critical Thinking Approach*, 1st ed. Rockett House Publishing , 2011, ISBN: 10: 061543505X

### Other:

1. All assignments must be compiled and submitted using Microsoft Word, PowerPoint, and/or Excel version 2003 or later.
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# CSU GE-BREADTH

CERT OF ACHIEVEMENT WITH 30-59.5 UNITS

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## Description

This Certificate of Achievement is designed for students planning to transfer to a California State University (CSU) campus. Completion ensures that the student has met the lower division general education-breadth requirements (CSU GE-B) for all CSU campuses as well as the lower division general education of some California private and Out of State colleges and universities. In addition, students pursuing an AS-T or AA-T degree must complete the entire CSU GE-B pattern for a minimum total of 39 units (or IGETC for a minimum total of 37 units).

A minimum of 39 total units is required with a specified number of units in each area. Courses may be listed in more than one area, but shall not be counted in more than one area, unless otherwise noted. A grade of "C-" or higher (or "P" Pass) is required for A1, A2, A3, and B4 courses. A minimum total of 30 units of general education must be completed with "C" grades or better for CSU admission.

Each year courses are added and removed from the list of approved courses for this program. For courses to count for this certificate, the course must be on the approved list at the time it is completed. These changes are listed in the Yuba College catalog, on the Counseling Department CSU GE-B advising sheets and on the [ASSIST.org](http://ASSIST.org) site. Students are advised to consult a counselor to ensure that they are enrolled in courses that will satisfy these requirements.

Students considering applying to a UC campus should NOT use CSU GE-B for general education. At this time, this Certificate of Achievement will not replace the CSU GE-B Certification document. Certification of CSU GE-B is a separate process initiated at the Admissions and Records Office and is usually completed at the same time students request final, official transcripts to be sent to the CSU campus which the student has been accepted and is planning to attend.

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## Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Upon completion of this program, students will demonstrate effective expository and persuasive writing skills.
2. Upon completion of this program, students will demonstrate global awareness with an understanding of cultural pluralism.
3. Upon completion of this program, students will be able to evaluate the methods of inquiry and evidence used in the behavioral and social sciences.
4. Upon completion of this program, students will be able to evaluate ideas about the natural universe using testable methodology.

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## Program Requirements:

**Students must complete a minimum of 39 units used to satisfy the CSU General Education-Breadth (CSU GE-B) requirements. Each year courses are added and removed from the list of approved courses for this program. For courses to count for this certificate, the course must be on the approved list at the time it is completed. These changes are listed in the Yuba College catalog, on the Counseling Department CSU GE-B advising sheet and on the [ASSIST.org](http://ASSIST.org) site. Students are advised to consult a counselor to ensure that they are enrolled in courses that will satisfy these requirements.**

**Course Block Units: (39 Required)**



# IGETC-INTERSEGMENTAL GENERAL EDUCATION TRANSFER CURRICULUM

CERT OF ACHIEVEMENT WITH 30-59.5 UNITS

---

## Description

This Certificate of Achievement is designed primarily for students planning to transfer to a University of California (UC) campus. It would also work for students planning to transfer to a California State University (CSU) campus, many California private and some out of state colleges and universities.. Completion ensures that the student has met the lower division general education for all UC and CSU campuses as well as the lower division general education of some California private and out of state colleges and universities. In addition, students pursuing an AS-T or AA-T degree may complete the entire general education pattern for the degree by completing the CSU version of the IGETC for a minimum total of 37 units).

A minimum of 34 total units is required with a specified number of units in each area for students following the UC version. (Students who have not met the Language Other Than English requirement will need additional units.) A minimum of 37 units is required with a specified number of units in each area for students following the CSU version. Courses may be listed in more than one area, but shall not be counted in more than one area, unless otherwise noted.

Each year courses are added and removed from the list of approved courses for this program. For courses to count for this certificate, the course must be on the approved list at the time it is completed. These changes are listed in the Yuba College catalog, on the Counseling Department IGETC advising sheets and on the [ASSIST.org](http://ASSIST.org) site. Students are advised to consult a counselor to ensure that they are enrolled in courses that will satisfy these requirements.

At this time, this Certificate of Achievement will not replace the IGETC Certification document. Certification of IGETC is a separate process initiated at the Admissions and Records Office and is usually completed at the same time students request final, official transcripts to be sent to the UC, CSU, California private or out of state college or university which the student has been accepted and is planning to attend. IGETC certification requires all classes to be completed with a "C" or better grade..

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## Program Learning Outcomes

Upon successful completion of this program, students will be able to:

1. Upon completion of this program, students will demonstrate effective expository and persuasive writing skills.
2. Upon completion of this program, students will demonstrate effective mathematical computation and quantitative reasoning skills.
3. Upon completion of this program, students will evaluate ideas about the natural universe using testable methodology.
4. Upon completion of this program, students will demonstrate global awareness with an understanding of cultural pluralism.
5. Upon successful completion of this program, students will evaluate methods of inquiry and evidence used in the behavioral sciences.

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## Program Requirements:

**A minimum of 34 total units is required with a specified number of units in each area for students following the UC version. (Students**

**Course Block Units: (34 - 37  
Required)**

who have not met the Language Other Than English requirement will need additional units.) A minimum of 37 units is required with a specified number of units in each area for students following the CSU version. Courses may be listed in more than one area, but shall not be counted in more than one area, unless otherwise noted. Each year courses are added and removed from the list of approved courses for this program. For courses to count for this certificate, the course must be on the approved list at the time it is completed. These changes are listed in the Yuba College catalog, on the Counseling Department IGETC advising sheets and on the ASSIST.org site. Students are advised to consult a counselor to ensure that they are enrolled in courses that will satisfy these requirements.

**Total: 34.00 - 37.00**

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# Yuba Community College District

## Yuba College Course Outline

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### Course Information

**Course Number:** ENGL 34

**Full Course Title:** Introduction To Film

**Short Title:** Intro to Film

**TOP Code:** 1007.00 - Drama and Dramatics/Theatre Arts, General

**Effective Term:** Fall 2015

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### Course Standards

**Course Type:** Credit - Degree Applicable

**Units:** 3.0

**Total class hours:** 162.0

**Total contact hours in class:** 54.0

**Lecture hours:** 54.0

**Hours outside of class:** 108.0

**Repeatable:** No

**Grading Method:** Letter Grade Only

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### Minimum Qualifications for Instructors

- English (Masters Required) **Or**
  - Humanities (Masters Required) **Or**
  - Theater Arts (Masters Required) **Or**
- 

### Course Description

Study of film as art and its influence on society, including interpretation, criticism, and technical developments; students view and discuss full-length feature films. Not open to student with credit in Theatre Arts 34 or Humanities 34.

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### Conditions of Enrollment

#### Advisories

- Language - recommended eligibility for English 1A
- 

### Content

#### Course Lecture Content

##### I. Film Form

- A. Cinematic language
- B. Cinematography
- C. Mise-en-scène
- D. Camera position and movement

- E. Focal length and camera effects
- F. Film editing
- G. Sound design and editing
- H. Production design
- I. Lighting
- J. Digital effects
- K. Point of view

## II. Film Content

- A. Acting
- B. Character
- C. Plot and story
- D. Theme
- E. Narrative and narration
- F. Setting
- G. Ideology
- H. Genre

## III. Film Theory, Criticism, and Analysis

- A. Formal analysis
- B. Ideological analysis
- C. Biographical analysis
- D. Thematic analysis
- E. Comparative analysis
- F. Genre theory
- G. Auteur theory
- H. Gender theory and criticism
- I. Theories of national cinema

---

## Objectives

1. Identify technical aspects of film-making including: shot, angle, editing methods, camera movement, and mise-en-scene composition.
2. Analyze the content of a film including: acting style, theme, structure, symbolism, and various theories and genres. **\*\*Requires Critical Thinking\*\***
3. Relate the film experience to contemporary society through discussion, essays, and exams.
4. Analyze the visual content (mise-en-scene), ideology, symbolism, and thematic elements of a film. **\*\*Requires Critical Thinking\*\***

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## Student Learning Outcomes

1. Upon completion of this course, students will be able to articulate an understanding of film as a cultural expression.
  - o **Global Awareness** Students will articulate similarities and differences among cultures, times, and environments, demonstrating an understanding of cultural pluralism and knowledge of global issues.
2. Upon completion of this class, students will demonstrate an understanding of cinematic language.
  - o **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
  - o **Critical Thinking** Students will analyze data/information in addressing and evaluating problems and issues in making decisions.

3. Upon completion of this course, students will be able articulate an understanding of film as art.
    - **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
- 

## Methods of Instruction

- **Lecture/Discussion**
- 

## Assignments

### Reading Assignments

### Writing Assignments

### Other Assignments

## Sample Assignment for Introduction to Film

### Assignment Description

Compare two films from our viewing schedule or one film screened in the class and a second film by the same director on the basis of no fewer than six similarities, using concepts from the book and evidence from the films.

Your comparative analysis should address both form/technique and content, and it is important that the similarities you focus on are substantial. For example, it is not enough to claim *The Searchers* and *Sholay* are both Westerns; instead, you might argue that these films are Westerns that challenge our assumptions about "good guys" and "bad guys" or the nature of Justice.

When addressing film form, you should also go beyond superficial points of similarity. For example, rather than claim that both films use low angle shots, a more substantial claim might be that both films use low angle shots in order to establish character. In other words, address how the technique produces effect in similar ways in your chosen films.

Some examples of how you might introduce a substantial and meaningful point of comparison are as follows:

- Both films effectively use music to...
- Both films explore the theme of...
- Both films feature characters who...
- Both films use (low-key lighting, a muted color palate, etc) to...

As these examples indicate, your options for this essay are nearly unlimited. Whatever you decide to focus on, it is important to build a strong case for each point of similarity. To this end, I expect you spend no less than a paragraph on each similarity. This means that you essay will be no fewer than eight paragraphs, including your introduction and conclusion.

### Further Guidelines

Your introduction should...

- Identify the films you will be writing about by title, director, and year.
- Provide a very brief description (1-2 sentences) of what each of the films is about.
- Assert a thesis (likely more than one sentence) establishing the points of comparison explored in your essay.

Your body paragraphs should...

- Have direct, concise topic sentences that clearly establish the point of comparison. Be aware that if it's going to take more than one paragraph to develop that comparison, one topic sentence may function for multiple paragraphs.
- Be purposeful—that is, they should focus on one thing: establishing a similarity.

- Make use of details and evidence from the films.
- Avoid unnecessary information that doesn't forward the comparison.
- Avoid plot summary, unless your point is to compare plot similarities.

Your conclusion may do one or more of the following...

- Restate your major points.
- Raise further points of interest or comparison between the filmmakers.
- Encourage the reader to do something...like watch the films.
- Reflect on a significant difference between the films.

The whole essay should be:

- Error free, which means you must proofread. I suggest reading the essay backwards (from last sentence, not last word) and out loud when it comes time to edit.
- Free of unnecessary information (a.k.a. "fluff")
- Made up of your ideas or those you picked up in class. Stay away from the internet!
- Free of lines that explicitly tell a story about your "experience" with the film. For example, the sentences that follow tell a story about the writer rather than expressing an opinion about the movie: "*As I was watching the movie, the soundtrack made me think that something bad was going to happen. I felt something evil was in the air when that guy showed up to shatter my sense of calm at watching the hero accomplish his goal.*" Instead, get to the point and confidently speak as an expert on behalf of all viewers: "The soundtrack for this movie is effective at creating suspense and instilling a sense of unrest in the viewer."

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## Methods of Evaluation

- **Essay/Paper**
- **Exams**
- **Homework**
- **Participation**
- **Quizzes**

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## Course Materials

### Textbooks:

1. Barsam and Monahan. *Looking at Movies*, 6th ed. W.W. Norton & Company, 2019, ISBN: 0393644999  
**Equivalent text is acceptable**

### Other:

1. 15 3X5 notecards

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# Yuba Community College District

## Yuba College Course Outline

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### Course Information

**Course Number:** HUMAN 34

**Full Course Title:** Introduction To Film

**Short Title:** Intro to Film

**TOP Code:** 1007.00 - Drama and Dramatics/Theatre Arts, General

**Effective Term:** Fall 2015

---

### Course Standards

**Course Type:** Credit - Degree Applicable

**Units:** 3.0

**Total class hours:** 162.0

**Total contact hours in class:** 54.0

**Lecture hours:** 54.0

**Hours outside of class:** 108.0

**Repeatable:** No

**Grading Method:** Letter Grade Only

---

### Minimum Qualifications for Instructors

- English (Masters Required)
  - Humanities (Masters Required)
  - Theater Arts (Masters Required)
- 

### Course Description

Study of film as art and its influence on society, including interpretation, criticism, and technical developments; students view and discuss full-length feature films. Not open to students with credit in Theatre Arts 34 or English 34.

---

### Content

#### Course Lecture Content

##### I. Film Form

- A. Cinematic language
- B. Cinematography
- C. Mise-en-scène
- D. Camera position and movement
- E. Focal length and camera effects
- F. Film editing
- G. Sound design and editing
- H. Production design
- I. Lighting
- J. Digital effects
- K. Point of view

## II. Film Content

- A. Acting
- B. Character
- C. Plot and story
- D. Theme
- E. Narrative and narration
- F. Setting
- G. Ideology
- H. Genre

## III. Film Theory, Criticism, and Analysis

- A. Formal analysis
- B. Ideological analysis
- C. Biographical analysis
- D. Thematic analysis
- E. Comparative analysis
- F. Genre theory
- G. Auteur theory
- H. Gender theory and criticism
- I. Theories of national cinema

---

## Objectives

1. Identify technical aspects of film-making including: shot, angle, editing methods, camera movement, and mise-en-scene composition.
2. Analyze the content of a film including: acting style, theme, structure, symbolism, and various theories and genres. **\*\*Requires Critical Thinking\*\***
3. Relate the film experience to contemporary society through discussion, essays, and exams
4. Analyze the visual content (mise-en-scene), ideology, symbolism, and thematic elements of a film. **\*\*Requires Critical Thinking\*\***

---

## Student Learning Outcomes

1. Upon completion of this course, students will be able to articulate an understanding of film as a cultural expression.
  - **Global Awareness** Students will articulate similarities and differences among cultures, times, and environments, demonstrating an understanding of cultural pluralism and knowledge of global issues.
2. Upon completion of this class, students will demonstrate an understanding of cinematic language.
  - **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
  - **Critical Thinking** Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
3. Upon completion of this course, students will be able to articulate an understanding of film as art.
  - **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.

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## Methods of Instruction

- **Lecture/Discussion**

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## Assignments

### Reading Assignments

### Writing Assignments

### Other Assignments

## Sample Assignment for Introduction to Film

### Assignment Description

Compare two films from our viewing schedule or one film screened in the class and a second film by the same director on the basis of no fewer than six similarities, using concepts from the book and evidence from the films.

Your comparative analysis should address both form/technique and content, and it is important that the similarities you focus on are substantial. For example, it is not enough to claim *The Searchers* and *Sholay* are both Westerns; instead, you might argue that these films are Westerns that challenge our assumptions about "good guys" and "bad guys" or the nature of Justice.

When addressing film form, you should also go beyond superficial points of similarity. For example, rather than claim that both films use low angle shots, a more substantial claim might be that both films use low angle shots in order to establish character. In other words, address how the technique produces effect in similar ways in your chosen films.

Some examples of how you might introduce a substantial and meaningful point of comparison are as follows:

- Both films effectively use music to...
- Both films explore the theme of...
- Both films feature characters who...
- Both films use (low-key lighting, a muted color palate, etc) to...

As these examples indicate, your options for this essay are nearly unlimited. Whatever you decide to focus on, it is important to build a strong case for each point of similarity. To this end, I expect you spend no less than a paragraph on each similarity. This means that your essay will be no fewer than eight paragraphs, including your introduction and conclusion.

### Further Guidelines

Your introduction should...

- Identify the films you will be writing about by title, director, and year.
- Provide a very brief description (1-2 sentences) of what each of the films is about.
- Assert a thesis (likely more than one sentence) establishing the points of comparison explored in your essay.

Your body paragraphs should...

- Have direct, concise topic sentences that clearly establish the point of comparison. Be aware that if it's going to take more than one paragraph to develop that comparison, one topic sentence may function for multiple paragraphs.
- Be purposeful—that is, they should focus on one thing: establishing a similarity.
- Make use of details and evidence from the films.
- Avoid unnecessary information that doesn't forward the comparison.
- Avoid plot summary, unless your point is to compare plot similarities.

Your conclusion may do one or more of the following...

- Restate your major points.
- Raise further points of interest or comparison between the filmmakers.
- Encourage the reader to do something...like watch the films.

- Reflect on a significant difference between the films.

The whole essay should be:

- Error free, which means you must proofread. I suggest reading the essay backwards (from last sentence, not last word) and out loud when it comes time to edit.
  - Free of unnecessary information (a.k.a. “fluff”)
  - Made up of your ideas or those you picked up in class. Stay away from the internet!
  - Free of lines that explicitly tell a story about your “experience” with the film. For example, the sentences that follow tell a story about the writer rather than expressing an opinion about the movie: “*As I was watching the movie, the soundtrack made me think that something bad was going to happen. I felt something evil was in the air when that guy showed up to shatter my sense of calm at watching the hero accomplish his goal.*” Instead, get to the point and confidently speak as an expert on behalf of all viewers: “The soundtrack for this movie is effective at creating suspense and instilling a sense of unrest in the viewer.”
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## Methods of Evaluation

- **Essay/Paper**
  - **Exams**
  - **Homework**
  - **Participation**
  - **Quizzes**
- 

## Course Materials

### Textbooks:

1. Barsam and Monahan. *Looking at Movies*, 4th ed. W.W. Norton & Company, 2012, ISBN: 0393913023  
**Equivalent text is acceptable**
2. Barsam and Monahan. *Looking at Movies*, 6th ed. W.W. Norton & Company, 2019, ISBN: 0393644999  
**Equivalent text is acceptable**

### Other:

1. 15 3X5 note cards
- 

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# Yuba Community College District

## Yuba College Course Outline

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### Course Information

**Course Number:** THART 34

**Full Course Title:** Introduction To Film

**Short Title:** Intro to Film

**TOP Code:** 1007.00 - Drama and Dramatics/Theatre Arts, General

**Effective Term:** Fall 2015

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### Course Standards

**Course Type:** Credit - Degree Applicable

**Units:** 3.0

**Total class hours:** 162.0

**Total contact hours in class:** 54.0

**Lecture hours:** 54.0

**Hours outside of class:** 108.0

**Repeatable:** No

**Grading Method:** Letter Grade Only

---

### Minimum Qualifications for Instructors

- Theater Arts (Masters Required)
  - English (Masters Required)
  - Humanities (Masters Required)
- 

### Course Description

Study of film as art and its influence on society, including interpretation, criticism, and technical developments; students view and discuss full-length feature films. Not open to student with credit in English 34 or Humanities 34

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### Content

#### Course Lecture Content

##### I. Film Form

- A. Cinematic language
- B. Cinematography
- C. Mise-en-scène
- D. Camera position and movement
- E. Focal length and camera effects
- F. Film editing
- G. Sound design and editing
- H. Production design
- I. Lighting
- J. Digital effects
- K. Point of view

##### II. Film Content

- A. Acting
- B. Character
- C. Plot and story
- D. Theme
- E. Narrative and narration
- F. Setting
- G. Ideology
- H. Genre

### III. Film Theory, Criticism, and Analysis

- A. Formal analysis
- B. Ideological analysis
- C. Biographical analysis
- D. Thematic analysis
- E. Comparative analysis
- F. Genre theory
- G. Auteur theory
- H. Gender theory and criticism
- I. Theories of national cinema

---

## Objectives

1. Identify technical aspects of film-making including: shot, angle, editing methods, camera movement, and mise-en-scene composition.
2. Analyze the content of a film including: acting style, theme, structure, symbolism, and various theories and genres. **\*\*Requires Critical Thinking\*\***
3. Relate the film experience to contemporary society through discussion, essays, and exams.
4. Analyze the visual content (mise-en-scene), ideology, symbolism, and thematic elements of a film. **\*\*Requires Critical Thinking\*\***

---

## Student Learning Outcomes

1. Upon completion of this course, students will be able to articulate an understanding of film as cultural expression
  - **Global Awareness** Students will articulate similarities and differences among cultures, times, and environments, demonstrating an understanding of cultural pluralism and knowledge of global issues.
2. Upon completion of this class, students will demonstrate an understanding of cinematic language.
  - **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
  - **Critical Thinking** Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
3. Upon completion of this course, students will be able to articulate an understanding of film as art.
  - **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.

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## Methods of Instruction

- **Lecture/Discussion**

## Assignments

### Reading Assignments

### Writing Assignments

### Other Assignments

## Sample Assignment for Introduction to Film

### Assignment Description

Compare two films from our viewing schedule or one film screened in the class and a second film by the same director on the basis of no fewer than six similarities, using concepts from the book and evidence from the films.

Your comparative analysis should address both form/technique and content, and it is important that the similarities you focus on are substantial. For example, it is not enough to claim *The Searchers* and *Sholay* are both Westerns; instead, you might argue that these films are Westerns that challenge our assumptions about "good guys" and "bad guys" or the nature of Justice.

When addressing film form, you should also go beyond superficial points of similarity. For example, rather than claim that both films use low angle shots, a more substantial claim might be that both films use low angle shots in order to establish character. In other words, address how the technique produces effect in similar ways in your chosen films.

Some examples of how you might introduce a substantial and meaningful point of comparison are as follows:

- Both films effectively use music to...
- Both films explore the theme of...
- Both films feature characters who...
- Both films use (low-key lighting, a muted color palate, etc) to...

As these examples indicate, your options for this essay are nearly unlimited. Whatever you decide to focus on, it is important to build a strong case for each point of similarity. To this end, I expect you spend no less than a paragraph on each similarity. This means that your essay will be no fewer than eight paragraphs, including your introduction and conclusion.

### Further Guidelines

Your introduction should...

- Identify the films you will be writing about by title, director, and year.
- Provide a very brief description (1-2 sentences) of what each of the films is about.
- Assert a thesis (likely more than one sentence) establishing the points of comparison explored in your essay.

Your body paragraphs should...

- Have direct, concise topic sentences that clearly establish the point of comparison. Be aware that if it's going to take more than one paragraph to develop that comparison, one topic sentence may function for multiple paragraphs.
- Be purposeful—that is, they should focus on one thing: establishing a similarity.
- Make use of details and evidence from the films.
- Avoid unnecessary information that doesn't forward the comparison.
- Avoid plot summary, unless your point is to compare plot similarities.

Your conclusion may do one or more of the following...

- Restate your major points.
- Raise further points of interest or comparison between the filmmakers.
- Encourage the reader to do something...like watch the films.
- Reflect on a significant difference between the films.

The whole essay should be:

- Error free, which means you must proofread. I suggest reading the essay backwards (from last sentence, not last word) and out loud when it comes time to edit.
  - Free of unnecessary information (a.k.a. “fluff”)
  - Made up of your ideas or those you picked up in class. Stay away from the internet!
  - Free of lines that explicitly tell a story about your “experience” with the film. For example, the sentences that follow tell a story about the writer rather than expressing an opinion about the movie: “*As I was watching the movie, the soundtrack made me think that something bad was going to happen. I felt something evil was in the air when that guy showed up to shatter my sense of calm at watching the hero accomplish his goal.*” Instead, get to the point and confidently speak as an expert on behalf of all viewers: “The soundtrack for this movie is effective at creating suspense and instilling a sense of unrest in the viewer.”
- 

## Methods of Evaluation

- **Essay/Paper**
  - **Exams**
  - **Homework**
  - **Participation**
  - **Quizzes**
- 

## Course Materials

### Textbooks:

1. Barsam and Monahan. *Looking at Movies*, 6th ed. W.W. Norton & Company, 2019, ISBN: 0393644999  
**Equivalent text is acceptable**

### Other:

1. 15 3X5 notecards
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# Yuba Community College District

## Yuba College Course Outline

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### Course Information

**Course Number:** ENGL 39  
**Full Course Title:** LGBT+ Literature and Film  
**Short Title:** LGBT+ Lit and Film  
**TOP Code:** -  
**Effective Term:**

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### Course Standards

**Course Type:** Credit - Degree Applicable  
**Units:** 3.0  
**Total class hours:** 162.0  
**Total contact hours in class:** 54.0  
**Lecture hours:** 54.0  
**Hours outside of class:** 108.0  
**Repeatable:** No  
**Grading Method:** Letter Grade or Pass/No Pass

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### Minimum Qualifications for Instructors

- English (Masters Required)
- 

### Course Description

A course that focuses on the work of lesbian, gay, bisexual, transgender, queer, questioning, intersex, asexual, and pansexual (LGBTQ+) authors and filmmakers and introduces students key themes, historical contexts, and theoretical frameworks. Readings and viewings will examine the representation of “queer” identities in modern literature and film and how LGBTQ+ artists have responded to dominate cultural ideas about gender and sexuality in their work. The course will emphasize how LGBTQ+ authors of diverse backgrounds and cultures have contributed to the major artistic movements of the 20th and 21st centuries while producing their own creative traditions.

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### Conditions of Enrollment

#### Advisories

- **Language - recommended eligibility for English 1A**  
Course involves reading challenging fiction and non-fiction works.
- 

### Content

#### Course Lecture Content

1. The social construction of gender, sex, and sexuality
2. Feminism and Queer Theory

3. Homophobia and religious tradition
4. Intersectionality, Resistance, and Critique
5. The representation of LGBT+ identity in cinema
6. Text and Subtext
7. Gay, lesbian, and trans authorship pre-Stonewall
8. The AIDS crisis, art, and resistance
9. Transgender Identity and law
10. Coming out stories
11. LGBT+ Marriage and Family in literature, film, and popular culture

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## Objectives

1. Analyze and discuss how texts produced by LGBT+ authors reflect and respond to the prevalent, socially constructed ideas about gender and sexuality of the era in which they were produced. **\*\*Requires Critical Thinking\*\***
2. Recognize the re-occurring themes explored by LGBT+ authors across cultures and times. **\*\*Requires Critical Thinking\*\***
3. Read texts critically using theories of gender and sexuality, producing “queer” readings that recognize coded and subtextual messages in film and literature, including texts produced by non-LGBT+ authors and filmmakers. **\*\*Requires Critical Thinking\*\***
4. Historically, culturally, and artistically contextualize the work of LGBT+ authors **\*\*Requires Critical Thinking\*\***
5. Critique popular media representations of LGBT+ identity and experience. **\*\*Requires Critical Thinking\*\***
6. Recognize and relate the contributions of LGBT+ authors and filmmakers to historical and cultural trends of the 20th and 21st centuries **\*\*Requires Critical Thinking\*\***

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## Student Learning Outcomes

1. Upon completion of the course, students will identify connections between works of literature produced by writers of different backgrounds.
  - o **Global Awareness** Students will articulate similarities and differences among cultures, times, and environments, demonstrating an understanding of cultural pluralism and knowledge of global issues.
2. Upon completion of this course, students will demonstrate the ability to produce a well thought-out, critical analysis of a work of literature
  - o **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
  - o **Critical Thinking** Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
3. Upon completion of the course, students will use literary and cinematic works to articulate the social, cultural, ethnic, and/or economic conditions that affect LGBT+ people historically and/or contemporaneously.
  - o **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
  - o **Global Awareness** Students will articulate similarities and differences among cultures, times, and environments, demonstrating an understanding of cultural pluralism and knowledge of global issues.

- **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.

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## Methods of Instruction

- Lecture/Discussion

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## Distance Education

### Delivery Methods

- Online

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## Assignments

### Reading Assignments

### Writing Assignments

### Other Assignments

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## Methods of Evaluation

- Essay/Paper
- Exams
- Homework
- Oral Tests/Class Performance
- Participation
- Quizzes
- Research Project

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## Course Materials

### Textbooks:

1. Byrne R. S. Fone. *The Columbia Anthology of Gay Literature*, Columbia, 2001, ISBN: 978-0231096713  
**Equivalent text is acceptable**
2. Emma Heaney. *Literary Modernism, Queer Theory, and the Trans Feminine Allegory*, Northwestern University Press, 2017, ISBN: 9780810135543  
**Equivalent text is acceptable**
3. Meg-John Barker and Julia Scheele. *Queer: A Graphic History*, Icon Books, 2016, ISBN: 978-1785780714  
**Equivalent text is acceptable**
4. Matthew Reimer and Leighton Brown. *We Are Everywhere: Protest, Power, and Pride in the History of Queer Liberation*, Ten Speed Press, 2019, ISBN: 978-0399581816  
**Equivalent text is acceptable**
5. Harry M. Benshoff and Sean Griffin. *Queer Images: A History of Gay and Lesbian Film in America*, Rowman & Littlefield Publishers, 2005, ISBN: 978-0742519725  
**Equivalent text is acceptable**

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# Yuba Community College District

## Yuba College Course Outline

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### Course Information

**Course Number:** PHYS 3A  
**Full Course Title:** General Physics Laboratory  
**Short Title:** 3A Lab  
**TOP Code:** 1902.00 - Physics, General  
**Effective Term:** Spring 2013

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### Course Standards

**Course Type:** Credit - Degree Applicable  
**Units:** 1.0  
**Total class hours:** 54.0  
**Total contact hours in class:** 54.0  
**Lab hours:** 54.0  
**Repeatable:** No  
**Grading Method:** Letter Grade Only

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### Minimum Qualifications for Instructors

- Physics/Astronomy (Masters Required)
- 

### Course Description

Performance of lab experiments to verify the important concepts of PHYS 2A. Not open for credit to student with credit in the PHYS 4 series or equivalent.

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### Conditions of Enrollment

Satisfactory completion of: PHYS 2A or Concurrent enrollment or satisfactory completion of: PHYS 2A

### Advisories

- **Language - recommended eligibility for English 1A**
  - **Mathematics - recommended eligibility for Math 52**
- 

### Content

#### Course Lecture Content

1. Error and Significant Figures
2. Mechanics
  - a. Projectile Motion
  - b. Gravity
  - c. Newton's Laws
  - d. Static Equilibrium
  - e. Rotational Motion
  - f. Conservation of Momentum
  - g. Conservation of Energy
3. Wave Motion
4. Thermodynamics
  - a. Linear Expansion
  - b. Gas Laws
  - c. Specific Heat

- d. Relative Humidity
- e. Kinetic Theory

### Course Lab/Activity Content

Perform lab related to Physics 2A content such as reaction time determination, error analysis, graphing of data, operation of common physics lab instruments and sensors, acceleration due to gravity, projectile motion, conservation of momentum and energy, elastic and inelastic collision, static and equilibrium, centripetal force, buoyancy, standing wave.

LAB:1 Determining Human Reaction Time by a Stop Watch and Ruler Catching Method

LAB:2 Studying Experimental Uncertainties and Their Propagation

LAB:3 Adding Vectors by Different Methods (Analytical and Graphical Methods)

LAB:4 Projectile motion

Lab 5: Newton's laws

Lab 6: Application of Newton's Laws

Lab 7: Circular Motion

Lab 8: Conservation of linear momentum

Lab 9: Statics

Lab 10: Exploring a new physical quantity (momentum)

Lab 11: Experimental Verification of Archimedes' Principle and Determining Densities of Metals

Lab 12: Vibrations

Lab 13: Determination of specific heat

Lab 14: Determination of latent heat

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### Objectives

1. Perform error analysis on data collected during experiments.
2. Prepare graphs to display data.
3. Operate a variety of common physics laboratory instruments and sensors.
4. Determine the acceleration due to gravity.
5. Demonstrate and predict the properties of projectile motion.
6. Demonstrate conservation of momentum and energy.
7. Predict the properties of collisions of object in elastic, inelastic and perfectly elastic collision.
8. Determine the conditions necessary for static equilibrium through experimentation.
9. Demonstrate the basic properties of rotational motion including centripetal acceleration and force.
10. Demonstrate the basic properties of buoyancy.
11. Analyze the standing waves in a string.
12. Analyze and synthesize data in the laboratory to verify or demonstrate the laws of Physics and to quantify and explain errors in measurements and results **\*\*Requires Critical Thinking\*\***

## Student Learning Outcomes

1. Scientific Awareness: Students will be able to apply the principles of scientific inquiry in performing laboratory experiments to prove or demonstrate the laws of physics.

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## Methods of Instruction

- Laboratory

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## Assignments

### Reading Assignments

## LAB:1

# Determining Human Reaction Time by a Stop Watch and Ruler Catching Method

**Principal Learning Objectives:** During this lab, you will

1. be introduced to how to collect, analyze, and interpret scientific data.
2. will learn how to display scientific data and how to communicate scientific results in writing.
3. use a physical law (law of freely falling bodies) to experimentally determine human reaction times of students in your group.

**Apparatus:** ruler, stop watch

**Introduction:** The time it takes to respond to a stimulus is called reaction time. Reaction time has been widely studied, as its practical implications are of great consequence, for example, a slower than normal reaction time while driving can have grave results. Reaction Times are important for traffic design (from the duration of the yellow light to the length of a left turn lane at busy intersections); for computer interface design; and are important in brain research (what types of decisions take the most time, etc). Reaction Times are also diagnostic for certain types of injuries.

Sensory neurons convert a stimulus into electro-chemical signal, which flows the length of sensory neuron (s), then through a neuron or neurons of the central nervous system, and then through the length of motor neuron(s). Reactions that travel only travel to, through, and from the spinal cord are often called spinal reflexes or cord-mediated reflexes; withdrawing one's hand from a hot stove is an example of such a reflex. This information flow can be represented in this way:

**Stimulus**  **Sensory Neuron**  **Spinal Cord or Brain**  **Motor Neuron**  **Response**

In 'simple reaction' time experiments, there is only one stimulus and one response. Catching a dropped ruler, or pushing a button to start or stop a watch are examples.

Human reaction time can be measured in a variety of ways. A simple method to determine human reaction time uses the principle of uniform acceleration of a falling object under the influence of the Earth's gravity force. In the early seventeenth century Galileo showed that the distance an object falls at the Earth's surface is directly

related to the square of its time in the air, if the object started at rest. i.e., distance,  $y$  . We shall use this consistent behavior of motion under the influence of gravity to determine your reaction time, your group average reaction time, and average for the entire class.

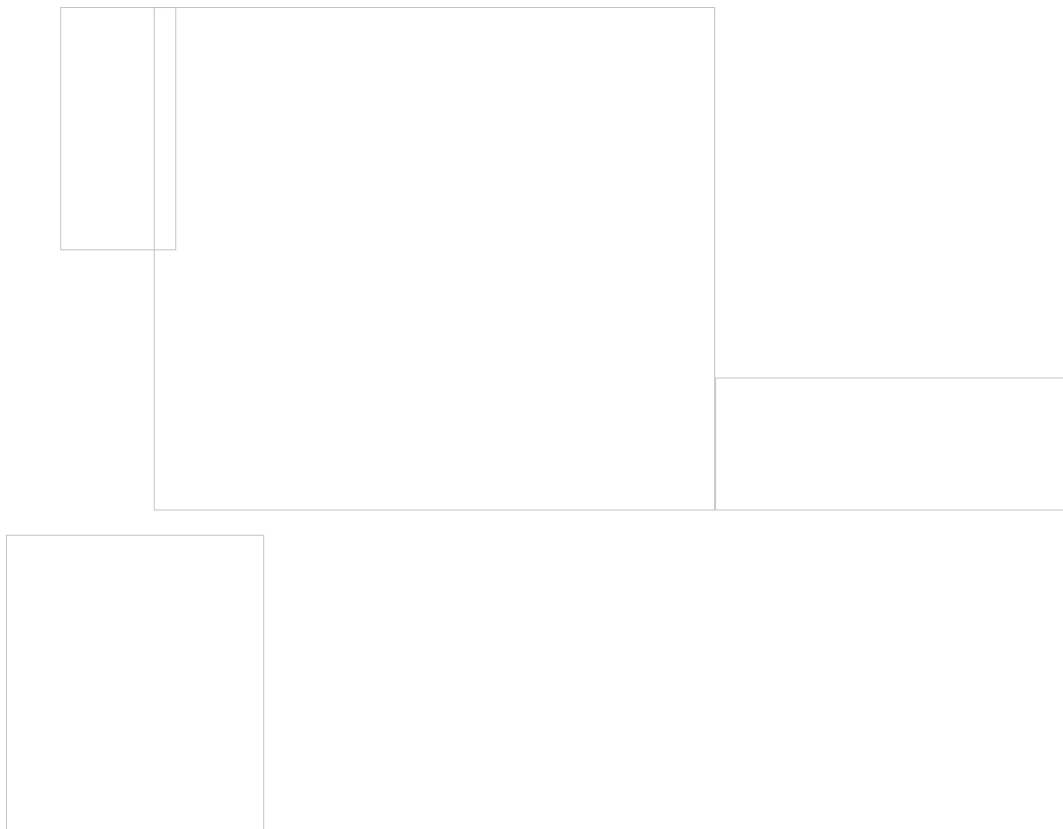
## Instructions

**Part I:** 1. Have your lab partner hold the top of a ruler so that it is vertical. Brace your writing hand on the edge of the table, with the fingers and thumb extending over the edge (see Figure 1). Top of your first finger and thumb (top of the thumb here is not where your nail is! Follow instruction given to you in the lab) must be at same level. Your partner should be standing and she/he must hold the ruler straight, so that the "0" or "10" cm mark/line is level with the top of your thumb. It is important that a 'zero' mark is established first! Again, this mark can be the actual 'zero' of the ruler or some other mutually agreeable point such as 10-cm line/mark. The distance the ruler falls before being caught by you is determined from the distance between the 'zero' and the point at which

the ruler is caught; the reaction time can be inferred from the distance ruler fell using the equation (1) shown on the next page.

Make sure your thumb and index finger is separated by about 2 inches so that ruler slides easily between your thumb and index finger.

2. Now your partner let go of the ruler without telling you in advance. Ruler must be vertical. As soon as ruler is released, catch/pinch it as fast as you can. Do not try to predict when your partner is going to release the ruler-you are not competing with any one here! Some students do this. It is not cool at all!! Let your lab partner carefully read the number on the ruler just above your thumb and index finger.



**Figure 1.** Photos and sketches showing our experimental set up (choose any for your report. Make sure you label each part as shown and explained by your lab instructor)

3. Determine the distance ( $y$  in cm) the ruler has fallen before you caught it.
4. Each member in your group should do this five times and record your results in Table 1. Make sure your distances are consistent for your own four trials and with distances obtained by others in your group.
5. Switch places with your partner and repeat steps 1 through 4.
6. Determine average distance the ruler fell ( $y_{avg}$ ) from your five trials/readings. Do not mix your data with those of your partner; each student should calculate his/her individual reaction time.
7. Determine your average reaction ( $t$ ) times by using equation (1) shown below and enter data in Table 1.
8. Determine average reaction time for your group and call it  $t_{group}$ .
9. List your reaction time on the chalk board. When all students have listed their individual reaction times on the board, copy those in the form of a list and determine average reaction time for the entire class. Call it  $t_{class}$ .
8. Calculate uncertainty,  for  $t$

From the distance the ruler falls you may determine your reaction time,  $t$ , using the relationship

originally discovered by Galileo around 1610:



(1)

where  $y$  is the distance in centimeters and  $g=981 \text{ cm/s}^2$  is the acceleration due to gravity at the

Earth's surface. Typical reaction times are between 0.15 and 0.26 seconds for people between the ages of 16 and 50 years.

Show step by step calculations in the section of your lab report titled "Results: Calculations, Data Analysis, Discussion, and Interpretation".

Table 1. Human reaction time: our group data and results

Trial	Reading by (catcher's name)	Distance fell by ruler, $y$ ( <input type="text"/> )	$y_{avg}$ (cm)	Reaction time, (second)
1				
2				
3				
4				
1				
2				
3				
4				
1				
2				
3				
4				
1				
2				
3				
4				

Our group average reaction time,  $t_{group} =$       Our class's average reaction time,  $t_{class} =$

## **Part II: Determining Human Reaction Time Using a Stop Watch**

Start the stop watch and try to stop it when it reads exactly ten seconds. Round off to the nearest tenth of a second. Record your results in Table 2. If your stop watch reads (when rounded to the nearest tenth of a second) less than 9.7 seconds or greater than 10.3 seconds, you must try again! After 20 successful trials, summarize your results in Table 2 below, to the right.

**Data Analysis for Part II: 1.** Display your results on the histogram (bar graph) titled Personal Histogram below. Then compile your results with the people in your group(at your lab table), and construct a second histogram

titled Group Histogram

1. Use your histogram to estimate your reaction time( $t_{mine}$ )

$$t_{mine} = \text{_____ second}$$

1. Use your histogram the standard deviation in your  $t_{mine}$ . Express this as your uncertainty ( $\pm$ ) below.

$$t_{mine} = ( \text{_____} \pm \text{_____} ) \text{ second}$$

1. Use your histogram to estimate your reaction time( $t_{mine}$ )

$$t_{mine} = \text{_____ second}$$

1. Use your histogram the standard deviation in your  $t_{mine}$ . Express this as your uncertainty ( $\pm$ ) below.

$$t_{mine} = ( \text{_____} \pm \text{_____} ) \text{ second}$$

Table 2. Date for part II: Human reaction time by using a stop watch.

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**Part III:** Let one member of your group coordinate this: on the words "on your mark, get set, go," let him/her have people in your group take turns clicking a stopwatch on and then off as quickly as they can and note the amount of time it took each student to do this. Repeat this five times. Let each member average the times to get an estimate of your average reaction time,  $t_{mine}$  in seconds. Record your and your group data in a carefully designed data Table 3 (you are expected to do this).

**RESOURCES:**

- 1] How to measure your reaction time

<https://www.youtube.com/watch?v=3vGwbB7TTuM>

- 2] Measuring Your Dumbness With A Ruler in SLOW MOTION!

<https://www.youtube.com/watch?v=3XM-4Qavh5k>

- 3] How to create a histogram | Data and statistics | 6th grade | Khan Academy

<https://www.youtube.com/watch?v=gSEYtAjuZ-Y>

<https://www.youtube.com/watch?v=KYp-N-pwgLI>

## Writing Assignments

### LAB:1

## Determining Human Reaction Time by a Stop Watch and Ruler Catching Method

**Principal Learning Objectives:** During this lab, you will

1. be introduced to how to collect, analyze, and interpret scientific data.
2. will learn how to display scientific data and how to communicate scientific results in writing.
3. use a physical law (law of freely falling bodies) to experimentally determine human reaction times of students in your group.

**Apparatus:** ruler, stop watch

**Introduction:** The time it takes to respond to a stimulus is called reaction time. Reaction time has been widely studied, as its practical implications are of great consequence, for example, a slower than normal reaction time while driving can have grave results. Reaction Times are important for traffic design (from the duration of the yellow light to the length of a left turn lane at busy intersections); for computer interface design; and are important in brain research (what types of decisions take the most time, etc). Reaction Times are also diagnostic for certain types of injuries.

Sensory neurons convert a stimulus into electro-chemical signal, which flows the length of sensory neuron (s), then through a neuron or neurons of the central nervous system, and then through the length of motor neuron(s). Reactions that travel only travel to, through, and from the spinal cord are often called spinal reflexes or cord-mediated reflexes; withdrawing one's hand from a hot stove is an example of such a reflex. This information flow can be represented in this way:

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In 'simple reaction' time experiments, there is only one stimulus and one response. Catching a dropped ruler, or pushing a button to start or stop a watch are examples.

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related to the square of its time in the air, if the object started at rest. i.e., distance,  $y$  . We shall use this consistent behavior of motion under the influence of gravity to determine your reaction time, your group average reaction time, and average for the entire class.

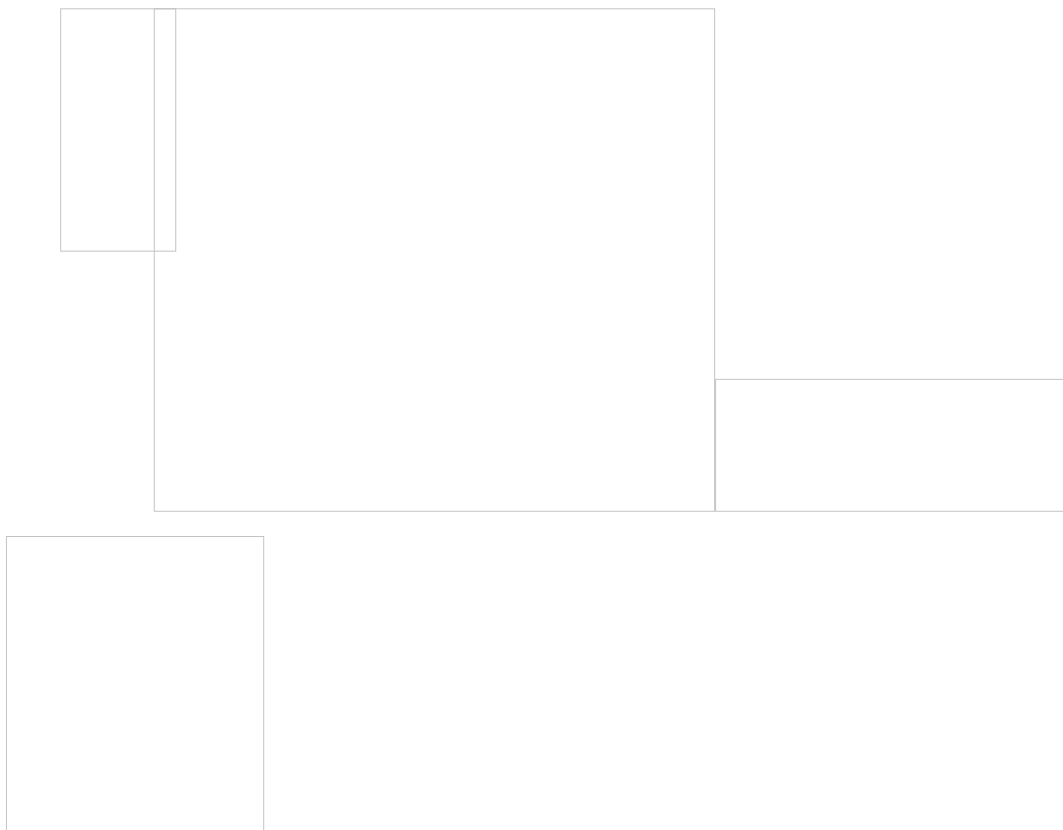
## Instructions

**Part I:** 1. Have your lab partner hold the top of a ruler so that it is vertical. Brace your writing hand on the edge of the table, with the fingers and thumb extending over the edge (see Figure 1). Top of your first finger and thumb (top of the thumb here is not where your nail is! Follow instruction given to you in the lab) must be at same level. Your partner should be standing and she/he must hold the ruler straight, so that the "0" or "10" cm mark/line is level with the top of your thumb. It is important that a 'zero' mark is established first! Again, this mark can be the actual 'zero' of the ruler or some other mutually agreeable point such as 10-cm line/mark. The distance the ruler falls before being caught by you is determined from the distance between the 'zero' and the point at which the ruler is caught; the reaction time can be inferred from the distance ruler fell using the equation (1) shown on the next page.

Make sure your thumb and index finger is separated by about 2 inches so that ruler slides easily between your thumb and index finger.

2. Now your partner let go of the ruler without telling you in advance. Ruler must be vertical. As soon as ruler is released, catch/pinch it as fast as you can. Do not try to predict when your partner is going to release the

ruler-you are not competing with any one here! Some students do this. It is not cool at all!! Let your lab partner carefully read the number on the ruler just above your thumb and index finger.



**Figure 1.** Photos and sketches showing our experimental set up (choose any for your report. Make sure you label each part as shown and explained by your lab instructor)

3. Determine the distance ( $y$  in cm) the ruler has fallen before you caught it.
4. Each member in your group should do this five times and record your results in Table 1. Make sure your distances are consistent for your own four trials and with distances obtained by others in your group.
5. Switch places with your partner and repeat steps 1 through 4.
6. Determine average distance the ruler fell ( $y_{avg}$ ) from your five trials/readings. Do not mix your data with those of your partner; each student should calculate his/her individual reaction time.
7. Determine your average reaction ( $t$ ) times by using equation (1) shown below and enter data in Table 1.
8. Determine average reaction time for your group and call it  $t_{group}$ .
9. List your reaction time on the chalk board. When all students have listed their individual reaction times on the board, copy those in the form of a list and determine average reaction time for the entire class. Call it  $t_{class}$ .

8. Calculate uncertainty,  for  $t$

From the distance the ruler falls you may determine your reaction time,  $t$ , using the relationship

originally discovered by Galileo around 1610:

$$\boxed{\phantom{y = \frac{1}{2}gt^2}} \quad (1)$$

where  $y$  is the distance in centimeters and  $g=981 \text{ cm/s}^2$  is the acceleration due to gravity at the

Earth's surface. Typical reaction times are between 0.15 and 0.26 seconds for people between the ages of 16 and 50 years.

Show step by step calculations in the section of your lab report titled “Results: Calculations, Data Analysis, Discussion, and Interpretation”.

Table 1. Human reaction time: our group data and results

Trial	Reading by (catcher’s name)	Distance fell by ruler, y ( <input type="text"/> )	Yavg (cm)	Reaction time, (second)
1				
2				
3				
4				
1				
2				
3				
4				
1				
2				
3				
4				
1				
2				
3				
4				

Our group average reaction time,  $t_{\text{group}} =$       Our class’s average reaction time,  $t_{\text{class}} =$

## Part II: Determining Human Reaction Time Using a Stop Watch

Start the stop watch and try to stop it when it reads exactly ten seconds. Round off to the nearest tenth of a second. Record your results in Table 2. If your stop watch reads (when rounded to the nearest tenth of a second) less than 9.7 seconds or greater than 10.3 seconds, you must try again! After 20 successful trials, summarize your results in Table 2 below, to the right.

**Data Analysis for Part II: 1.** Display your results on the histogram (bar graph) titled Personal Histogram below. Then compile your results with the people in your group(at your lab table), and construct a second histogram titled Group Histogram

- Use your histogram to estimate your reaction time( $t_{\text{mine}}$ )

$$t_{\text{mine}} = \text{_____ second}$$

- Use your histogram the standard deviation in your  $t_{\text{mine}}$ . Express this as your uncertainty ( $\pm$ ) below.

$$t_{\text{mine}} = ( \text{_____} \pm \text{_____} ) \text{ second}$$

1. Use your histogram to estimate your reaction time( $t_{mine}$ )

$$t_{mine} = \text{_____ second}$$

1. Use your histogram the standard deviation in your  $t_{mine}$ . Express this as your uncertainty ( $\pm$ ) below.

$$t_{mine} = ( \text{_____} \pm \text{_____} ) \text{ second}$$

Table 2. Data for part II: Human reaction time by using a stop watch.

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**Part III:** Let one member of your group coordinate this: on the words "on your mark, get set, go," let him/her have people in your group take turns clicking a stopwatch on and then off as quickly as they can and note the amount of time it took each student to do this. Repeat this five times. Let each member average the times to get an estimate of your average reaction time,  $t_{mine}$  in seconds. Record your and your group data in a carefully designed data Table 3 (you are expected to do this).

**RESOURCES:**

1] How to measure your reaction time

<https://www.youtube.com/watch?v=3vGwbB7TTuM>

2] Measuring Your Dumbness With A Ruler in SLOW MOTION!

<https://www.youtube.com/watch?v=3XM-4Qavh5k>

3] How to create a histogram | Data and statistics | 6th grade | Khan Academy

<https://www.youtube.com/watch?v=gSEYtAjuZ-Y>

4] How to Calculate Standard Deviation (Uncertainty) for Measured Values

<https://www.youtube.com/watch?v=KYp-N-pwgLI>

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**Methods of Evaluation**

- Exams
- Laboratory Assignments
- Quizzes

- **Other**  
Lab reports and practical exam
- 

## **Course Materials**

### **Other:**

1. A collection of laboratory instructions is provided by the instructor.
- 

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# Yuba Community College District

## Yuba College Course Outline

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### Course Information

**Course Number:** PHYS 3B  
**Full Course Title:** General Physics Laboratory  
**Short Title:** 3B Physics Lab  
**TOP Code:** 1902.00 - Physics, General  
**Effective Term:** Spring 2013

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### Course Standards

**Course Type:** Credit - Degree Applicable  
**Units:** 1.0  
**Total class hours:** 54.0  
**Total contact hours in class:** 54.0  
**Lab hours:** 54.0  
**Repeatable:** No  
**Grading Method:** Letter Grade Only

---

### Minimum Qualifications for Instructors

- Physics/Astronomy (Masters Required)
- 

### Course Description

Performance of lab experiments to verify the important concepts of PHYS 2B. Not open for credit to students with credit in the PHYS 4 series.

---

### Conditions of Enrollment

Satisfactory completion of: PHYS 3A; PHYS 2B or Concurrent enrollment or satisfactory completion of: PHYS 2B)

### Advisories

- **Language - recommended eligibility for English 1A**
  - **Mathematics - recommended eligibility for Math 52**
- 

### Content

#### Course Lecture Content

1. Electricity and Magnetism
  - a. Electrostatics
  - b. Circuits
  - c. Measuring Devices
  - d. Magnetic Fields
2. Optics
  - a. Geometric Optics

- b. Wave Optics
- c. Applied Optics
- 3. Relativity
- 4. Atomic and Nuclear Physics

### **Course Lab/Activity Content**

List of lab:

Coulomb's Law

Mapping Electric Potential

Capacitors

Factors Affecting Electrical Resistance

Series and Parallel Circuits

Magnetic Fields

Electromagnetic Induction

Curved mirrors and images

Thin lenses and virtual images

Interference

Diffraction

Planck's Constant

Spectrum of Hydrogen Atom

---

### **Objectives**

1. Perform error analysis on data collected during experiments.
2. Prepare graphs to display data.
3. Operate a variety of common physics laboratory instruments and sensors.
4. Measure and explain the properties of electric charges using electroscopes.
5. Set up basic DC circuits and measure currents and voltages with a digital multimeter.
6. Construct a capacitor from common materials and explain the capacitance based on geometric properties.
7. Define, demonstrate and explain the properties of light including reflection, refraction, diffraction and interference.
8. Demonstrate and explain the photoelectric effect.
9. Analyze and predict the behavior of images from lenses and mirrors.
10. Demonstrate and draw the characteristics of electric and magnetic fields from various common distributions of current and charge.
11. Analyzing and synthesizing data in the laboratory to verify or demonstrate the laws of Physics and to

quantify and explain error in measurements and results. **\*\*Requires Critical Thinking\*\***

---

## Student Learning Outcomes

1. Scientific Awareness: Students will be able to apply the principles of scientific inquiry in performing laboratory experiments to prove or demonstrate the laws of physics.
- 

## Methods of Instruction

- Laboratory
- 

## Assignments

### Reading Assignments

I didn't find a way to attach a pdf file, I will provide any time whenever necessary.

### Writing Assignments

I didn't find a way to attach a pdf file, I will provide any time whenever necessary.

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## Methods of Evaluation

- Laboratory Assignments
  - Quizzes
  - Other  
Lab reports and practical exam
- 

## Course Materials

### Other:

1. Collection of Laboratory Instructions Provided by the Instructor
- 

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# Yuba Community College District

## Yuba College Course Outline

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### Course Information

**Course Number:** PHYS 4B  
**Full Course Title:** Electromagnetism  
**Short Title:** Electromagnetism  
**TOP Code:** 1902.00 - Physics, General  
**Effective Term:** Spring 2012

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### Course Standards

**Course Type:** Credit - Degree Applicable  
**Units:** 4.0  
**Total class hours:** 216.0  
**Total contact hours in class:** 108.0  
**Lecture hours:** 54.0  
**Lab hours:** 54.0  
**Hours outside of class:** 108.0  
**Repeatable:** No  
**Grading Method:** Letter Grade Only

---

### Minimum Qualifications for Instructors

- Physics/Astronomy (Masters Required)
- 

### Course Description

Study of electromagnetism with accompanying laboratory.

---

### Conditions of Enrollment

Satisfactory completion of: PHYS 4A

### Advisories

- Language - recommended eligibility for English 1A
  - Mathematics - recommended eligibility for Math 52
- 

### Content

#### Course Lecture Content

1. Electricity and Magnetism
  - a. Coulomb's law
  - b. Electric field
  - c. Gauss's law
  - d. Electric potential
  - e. Capacitors and dielectrics
  - f. Ohm's law and circuits

- g. Kirchoff's laws and circuits
- h. Magnetic field
- i. Ampere's law
- j. Faraday's law
- k. Inductance
- l. Magnetic properties
- m. LC and RCL circuits
- n. Maxwell's equations
- o. Electromagnetic waves

### Course Lab/Activity Content

Laboratory experiments related to the topics outlined below. Experiments may be added or deleted to highlight the material covered in lectures.

Speed of sound

Sound Waves and Beats

Standing Waves in a String

Electrostatics and Electroscopes

Digital Multimeter

Ohm's Law and Electric Energy

Capacitors

Simple Circuits

Simple Circuits (Continued)

Magnetic Fields

AC Circuits

### Objectives

1. Comprehend and apply vector analysis to provide a structure to physics problems involving electricity, magnetism and related concepts.
2. Create diagrams showing fields and/or forces from arbitrary distributions of charges or currents.
3. Comprehend and synthesize the basic laws of physics related to mechanics including Maxwell's Laws (including Coulomb's Law, Gauss's Law, and Ampere's Law) in integral form.
4. Analyze and solve arbitrary problems in electricity and magnetism using calculus and vectors to apply the correct basic laws of physics. **\*\*Requires Critical Thinking\*\***
5. Analyze basic AC and DC circuits and apply Ohm's Law or Kirchoff's laws to solve for unknown values of current or component values.
6. Comprehend and operate a multimeter to correctly measure current, voltage, capacitance, and resistance in electric circuits.
7. Perform experiments as outlined in the instructions, construct simple apparatuses, and operate such apparatuses to obtain the desired data.
8. Analyze and synthesize the laboratory data, compare and relate these results to the basic laws and concepts of Physics. **\*\*Requires Critical Thinking\*\***

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## Student Learning Outcomes

1. Upon completion of this course, students will be able to apply and express the laws of physics as equations to compute the values of unknown variables and quantities in physics problems.
  2. Upon completion of this course, students will be able to analyze known variables and quantities in a physics problem to decide the correct laws of physics to apply to solve for unknown variables or quantities.
  3. Upon completion of this course, students will be able to apply the principles of scientific inquiry in performing laboratory experiments to prove or demonstrate the laws of physics.
  4. Upon completion of this course, students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
    - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
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## Methods of Instruction

- Laboratory
  - Lecture/Discussion
- 

## Assignments

### Reading Assignments

Read ch-21 of the textbook and answer following questions. It is highly recommended to practice workout examples of the chapter.

Q.N:1 How many electrons are necessary to produce 1.0 C of negative charge? ( $e = 1.60 \times 10^{-19} \text{ C}$ )?

Q.N:2 A proton has a charge of  $1.6 \times 10^{-19} \text{ C}$  and mass of  $1.7 \times 10^{-27} \text{ kg}$ . An electron has a charge of  $-1.6 \times 10^{-19} \text{ C}$  and mass of  $9.1 \times 10^{-31} \text{ kg}$ . They are separated in the atom by about  $10^{-10} \text{ m}$ . Drawing a labelled diagram, find the electrostatics force between them and also gravitational force between them; compare these forces. [ $k = 1/4\pi\epsilon_0 = 9.0 \times 10^9 \text{ Nm}^2/\text{C}^2$ ,  $G = 6.67 \times 10^{-11} \text{ Nm}^2/\text{kg}^2$ ]

Q.N:3 Three identical  $3.0 \mu\text{C}$  charges are placed at the vertices of an equilateral triangle that measures 30 cm on a side. What are the magnitude and direction of the electrostatic force on any one of the charges? ( $k = 1/4\pi\epsilon_0 = 9.0 \times 10^9 \text{ Nm}^2/\text{C}^2$ )

### Writing Assignments

Read ch-21 of the textbook and answer following questions. It is highly recommended to practice workout examples of the chapter.

Q.N:1 How many electrons are necessary to produce 1.0 C of negative charge? ( $e = 1.60 \times 10^{-19} \text{ C}$ )?

Q.N:2 A proton has a charge of  $1.6 \times 10^{-19} \text{ C}$  and mass of  $1.7 \times 10^{-27} \text{ kg}$ . An electron has a charge of  $-1.6 \times 10^{-19} \text{ C}$  and mass of  $9.1 \times 10^{-31} \text{ kg}$ . They are separated in the atom by about  $10^{-10} \text{ m}$ . Drawing a labelled diagram, find the electrostatics force between them and also gravitational force between them; compare these forces. [ $k = 1/4\pi\epsilon_0 = 9.0 \times 10^9 \text{ Nm}^2/\text{C}^2$ ,  $G = 6.67 \times 10^{-11} \text{ Nm}^2/\text{kg}^2$ ]

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of the charges? ( $k = 1/4\pi\epsilon_0 = 9.0 \times 10^9 \text{ Nm}^2/\text{C}^2$ )

### Other Assignments

Sample Quiz:

1] There is a negative surface charge density in a certain region on the surface of a solid conductor. Just beneath the surface of this region, the electric field

- A. points outward, toward the surface of the conductor.
- B. points inward, away from the surface of the conductor.
- C. points parallel to the surface.
- D. is zero.
- E. Not enough information is given to decide.

2] For which of the following charge distributions would Gauss's law not be useful for calculating the electric field?

- A. a uniformly charged sphere of radius R
- B. a spherical shell of radius R with charge uniformly distributed over its surface
- C. a right circular cylinder of radius R and height h with charge uniformly distributed over its surface
- D. an infinitely long circular cylinder of radius R with charge uniformly distributed over its surface
- E. Gauss's law would be useful for finding the electric field in all of these cases.

3] Consider a point P in space where the electric potential is zero. Which statement is correct?

- A] A positive point charge placed at point P would feel no electric force.
- B] A positive point charge placed at point P would feel an electric force, but nothing can be said about the direction of the force.
- C] A positive point charge placed near point P would feel an electric force pulling it toward P.
- D] A positive point charge placed near point P would feel an electric force pushing it away from P.
- E] More than one of the above is possible.

4] What is the direction of the electric potential gradient at a certain point?

- A] the same as the direction of the electric field at that point
- B] opposite to the direction of the electric field at that point
- C] perpendicular to the direction of the electric field at that point
- D] at an angle other than  $0^\circ$ ,  $90^\circ$ , or  $180^\circ$  from the direction of the electric field at that point more than one of the above

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### Methods of Evaluation

- Exams
- Homework
- Laboratory Assignments
- Quizzes
- Skills Demonstrations/Performance Exam

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### Course Materials

Textbooks:

1. Hugh D. Young Roger A. Freedman. *University Physics with Modern Physics*, 14th ed. Pearson, 2015, ISBN: 978-0133977981  
**Equivalent text is acceptable**
2. Loyd. *Physics Laboratory Manual Volume 10*, - ed. Thomson Learning, 2008, ISBN: -
3. Appel, Gastineau, Bakken, Vernier and Sorensen. *Physics with Computers*, 3rd ed. -, 0, ISBN: 1-929075-



# Yuba Community College District

## Yuba College Course Outline

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### Course Information

**Course Number:** PHYS 4C  
**Full Course Title:** Thermodynamics, Light, and Modern Physics  
**Short Title:** Physics, 4C  
**TOP Code:** 1902.00 - Physics, General  
**Effective Term:** Spring 2012

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### Course Standards

**Course Type:** Credit - Degree Applicable  
**Units:** 4.0  
**Total class hours:** 216.0  
**Total contact hours in class:** 108.0  
**Lecture hours:** 54.0  
**Lab hours:** 54.0  
**Hours outside of class:** 108.0  
**Repeatable:** No  
**Grading Method:** Letter Grade Only

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### Minimum Qualifications for Instructors

- Physics/Astronomy (Masters Required)
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### Course Description

Study of thermodynamics, optics, and modern physics with accompanying laboratory.

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### Conditions of Enrollment

Satisfactory completion of: PHYS 4B

### Advisories

- **Language - recommended eligibility for English 1A**
  - **Mathematics - recommended eligibility for Math 52**
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### Content

#### Course Lecture Content

1. Thermodynamics
  - a. Temperature and thermal expansion
  - b. Heat and the first law of thermodynamics
  - c. Kinetic theory and gases
  - d. Entropy and the second law of thermodynamics
2. Light and Optics
  - a. Reflection and refraction

- b. Mirrors and lenses
  - c. Interference and diffraction
  - d. Quantum nature of light
3. Modern Physics
- a. Quantum mechanics
  - b. Wave mechanics
  - c. Hydrogen atom
  - d. Atomic physics
  - e. Solid state
  - f. Nuclear physics
  - g. Elementary particles
  - h. Cosmology
  - i. Relativity

### Course Lab/Activity Content

Laboratory experiments related to the topics outlined below. Experiments may be added or deleted to highlight the material covered in lectures.

Behavior of a Gas Feb

Heat Engines

The Mass Lifter Heat Engine

Curved Mirror and Images

Thin Lenses and Real Images

Interference

Diffraction

Planck's Constant

Spectrum of Hydrogen atom

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### Objectives

1. Comprehend and apply vector analysis to provide a structure to physics problems involving thermodynamics, optics and modern physics.
  2. Comprehend and synthesize the basic laws of physics related to thermodynamic, optics, and modern physics including the laws of thermodynamics, the lens and mirror equations, and Einstein's special relativity.
  3. Solve for magnification, type of image, lens power or image/object distances for arbitrary arrangements of lens or mirrors.
  4. Analyze and describe the structure of atoms and nuclei based on quantum mechanical concepts.
  5. Analyze and solve arbitrary problems in thermodynamics, optics and modern physics using calculus and vectors to apply the correct basic laws of physics. **\*\*Requires Critical Thinking\*\***
  6. Perform experiments as outlined in the instructions, construct simple apparatuses, and operate such apparatuses to obtain the desired data.
  7. Analyze and synthesize the laboratory data, and compare and relate these results to the basic laws and concepts of Physics. **\*\*Requires Critical Thinking\*\***
-

## Student Learning Outcomes

1. Upon completion of this course, students will be able to analyze known variables and quantities in a physics problem to decide the correct laws of physics to apply to solve for unknown variables or quantities.
  2. Upon completion of this course, students will be able to apply and express the laws of physics as equations to compute the values of unknown variables and quantities in physics problems.
  3. Upon completion of this course, students will be able to apply the principles of scientific inquiry in performing laboratory experiments to prove or demonstrate the laws of physics.
  4. Upon completion of this course, students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
    - o **Critical Thinking** Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
    - o **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
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## Methods of Instruction

- Laboratory
  - Lecture/Discussion
- 

## Assignments

### Reading Assignments

Answer the following questions after reading ch-33 of the textbook. It is highly recommended to practice workout problems of the textbook.

Q.N:1 An oil layer that is 5.0 cm thick is spread smoothly and evenly over the surface of water on a windless day. What is the angle of refraction in the water for a ray of light that has an angle of incidence of  $45^\circ$  as it enters the oil from the air above? (The index of refraction for the oil is 1.15, and for water it is 1.33.)

Q.N:2 The speed of light in a material is  $v$ . What is the critical angle of a light ray at the interface between the material and a vacuum?

Q.N:3 The critical angle in air for a particular type of glass is  $39.0^\circ$ . What is the speed of light in this glass? ( $c = 3.00 \times 10^8$  m/s)

Q.N:4 What is the critical angle for light traveling from crown glass ( $n = 1.52$ ) into water ( $n = 1.33$ )?

Q.N:5 An optic fiber is made of clear plastic with index of refraction of 1.50, surrounded by air. For what angles of incidence  $\theta$  will light remain within the plastic fiber?

Q.N:6 An optical fiber made of glass with an index of refraction 1.50 is coated with a plastic with index of refraction 1.30. What is the critical angle of this fiber at the glass-plastic interface?

### Writing Assignments

Answer the following questions after reading ch-33 of the textbook. It is highly recommended to practice workout problems of the textbook.

Q.N:1 An oil layer that is 5.0 cm thick is spread smoothly and evenly over the surface of water on a windless day. What is the angle of refraction in the water for a ray of light that has an angle of incidence of  $45^\circ$  as it enters the oil from the air above? (The index of refraction for the oil is 1.15, and for water it is 1.33.)

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Q.N:5 An optic fiber is made of clear plastic with index of refraction of 1.50, surrounded by air. For what angles of incidence  $\theta$  will light remain within the plastic fiber?

Q.N:6 An optical fiber made of glass with an index of refraction 1.50 is coated with a plastic with index of refraction 1.30. What is the critical angle of this fiber at the glass-plastic interface?

### Other Assignments

Quiz:

1) A glass plate whose index of refraction is 1.56 is immersed in a liquid. The surface of the glass is inclined at an angle of  $42.0^\circ$  with the vertical. A horizontal ray in the glass is incident on the interface. When the liquid is a certain alcohol, the incident ray arrives at the interface at the critical angle. What is the index of refraction of the alcohol?

A) 1.04      B) 1.02      C) 1.00      D) 0.984      E) 1.06

2) A ray of light traveling in air strikes the surface of a certain plastic slab at  $63.0^\circ$  with respect to the normal in air. It travels in the plastic slab at a  $30.6^\circ$  angle with respect to the normal. Find the critical angle for the plastic in air.

A)  $34.8^\circ$       B)  $30.8^\circ$       C)  $28.8^\circ$       A)  $25.8^\circ$

3) A ray of light consisting of blue light (wavelength 480 nm) and red light (wavelength 670 nm) is incident on a thick piece of glass at  $80^\circ$ . What is the angular separation between the refracted red and refracted blue beams while they are in the glass? (The respective indices of refraction for the blue light and the red light are 1.4636 and 1.4561.)

A)  $0.27^\circ$       B)  $0.33^\circ$       C)  $0.36^\circ$       D)  $0.46^\circ$       E)  $0.54^\circ$

4) A beam of light of two different wavelengths enters a pane of glass 3.00 mm thick at an angle of incidence of  $56^\circ$ . The indices of refraction for the two different colors are 1.514 and 1.528. Because of dispersion, the colored beams, although parallel, are separated by a small distance. How far apart are they?

A) 0.057 mm    B) 0.0083 mm      C) 0.025 mm      D) 0.014 mm      E) 0.0062 mm

5) The critical angle for an air-glass interface is  $29.6^\circ$ . When a light ray in air is incident on the interface, the reflected ray is 100% polarized. What is the angle of refraction of that ray?

A)  $26.3^\circ$       B)  $25.7^\circ$       C)  $25.1^\circ$       D)  $24.5^\circ$       E)  $23.9^\circ$

6) Light of intensity  $I_0$  and polarized horizontally passes through three polarizers. The first and third polarizing axes are horizontal, but the second one is oriented  $20.0^\circ$  to the horizontal. In terms of  $I_0$ , what is the intensity of the light that passes through the set of polarizers?

A)  $0.780I_0$     B)  $0.180I_0$     C)  $0.442I_0$     D)  $0.883I_0$

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### Methods of Evaluation

- Exams
- Homework

- **Laboratory Assignments**
  - **Participation**
  - **Quizzes**
  - **Skills Demonstrations/Performance Exam**
- 

## Course Materials

### Textbooks:

1. Hugh D. Young Roger A. Freedman. *University physics with modern physics*, 14th ed. Pearson, 2015, ISBN: 9780321982582  
**Equivalent text is acceptable**
  2. Loyd. *Physics Laboratory Manual Volume 10*, - ed. Thomson Learning, 2008, ISBN: -
  3. Appel, Gastineau, Bakken, Vernier and Sorensen. *Physics with Computers*, 3rd ed. Vernier Software and Technology, 0, ISBN: 1-929075-29-4  
**Equivalent text is acceptable**
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