

## Physics 511



**Instructor:** Dr. Bao-An Li  
**Office:** Science 142; Phone 903-886-5488  
**Email:** Bao-An.Li@etamu.edu  
**Office Hours:** TR 10:00am-12:00noon or by appointment  
**Textbook:** Classical Mechanics, Herbert Goldstein, ISBN 0-201-02918-9  
**Reference:** Analytical Mechanics, G.R. Fowles and G.L. Cassiday, ISBN 0-03-022317-2

### **Catalog Description:** PHYS 511, Introduction to Theoretical Mechanics

3 semester hours

A course in the classical mechanics including the method of Lagrange, Hamilton, matrices, tensors, and Hamilton-Jacob theory.

**Objective 1:** Students will demonstrate that they have mastered the theories and techniques in solving kinematics problems for particles moving in 1 to 3 dimensions

**Objective 2:** Students will demonstrate that they have mastered elementary principles of classical mechanics

**Objective 3:** Students will demonstrate that they understood Hamiltonian's variational principle and mastered the techniques in applying Lagrange equations in solving practical problems

**Objective 4:** Students will demonstrate that they have mastered the theories and techniques of solving two-body central force problems

**Objective 5:** Students will demonstrate that they have mastered the theories and techniques of solving the small oscillation problems

**Objective 6:** Students will demonstrate that they have mastered the theories and techniques of special relativity in classical mechanics

### **Grading: 40% home works + 60% exams**

#### **Homework:**

Homework will be assigned regularly (**NO late homeworks accepted/graded unless requests for extensions are pre-approved by email before the deadlines**) 40%

#### **Exams:**

There will be totally 3 exams (20% each) 60%

## **Grade Scale:**

90 and above	--	A
80 to 90	--	B
70 to 80	--	C
60 to 70	--	D
below 60	--	F

## **Syllabus Change Policy**

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

## TECHNOLOGY REQUIREMENTS

### **LMS**

All course sections offered by East Texas A&M University have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

[https://documentation.brightspace.com/EN/brightspace/requirements/all/browser\\_support.htm](https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm)

## ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or [helpdesk@etamu.edu](mailto:helpdesk@etamu.edu)

**Note:** Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a ETAMU campus open computer lab, etc.

## COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your instructor.

### **Technical Support**

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

<https://community.brightspace.com/support/s/contactsupport>

## Interaction with Instructor Statement

### COURSE AND UNIVERSITY PROCEDURES/POLICIES

## Course Specific Procedures/Policies

### Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

### University Specific Procedures

### Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.

<https://inside.etamu.edu/admissions/onestopshop/undergraduateAdmissions/studentGuidebook.aspx>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: <https://www.britannica.com/topic/netiquette>

### ETAMU Attendance

For more information about the attendance policy please visit the [Attendance](#) webpage and [Procedures 13.99.99.R0.01](#)

<https://inside.etamu.edu/admissions/registrar/generalInformation/attendance.aspx>

### Academic Integrity

Students at East Texas A&M University are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

<https://inside.etamu.edu/aboutus/policiesproceduresstandardsstatements/rulesprocedures/13students/graduate/13.99.99.R0.10.pdf>

<https://inside.etamu.edu/academics/graduateSchool/faculty/GraduateStudentAcademicDishonestyForm.pdf>

### Students with Disabilities-- ADA Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

**Office of Student Disability Resources and Services**  
East Texas A&M University  
Velma K. Waters Library Rm 162  
Phone (903) 886-5150 or (903) 886-5835  
Fax (903) 468-8148

Email: [studentdisabilityservices@etamu.edu](mailto:studentdisabilityservices@etamu.edu)

Website: [Student Disability Services](#)

<https://www.etamu.edu/student-disability-services/>

## Nondiscrimination Notice

East Texas A&M University will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

### Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in East Texas A&M University buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and ETAMU Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web url:

<http://www.etamu.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all ETAMU campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

### East Texas A&M University Supports Students' Mental Health

The Counseling Center at ETAMU, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit

[www.etamu.edu/counsel](http://www.etamu.edu/counsel)

### Mental Health and Well-Being

The university aims to provide students with essential knowledge and tools to understand and support mental health. As part of our commitment to your well-being, we offer access to Telus Health, a service available 24/7/365 via chat, phone, or webinar. Scan the QR code to download the app and explore the resources available to you for guidance and support whenever you need it.



<http://telusproduction.com/app/5108.html>

AI use policy [Draft 2, May 25, 2023]

East Texas A&M University acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

13.99.99.R0.03 Undergraduate Academic Dishonesty

13.99.99.R0.10 Graduate Student Academic Dishonesty