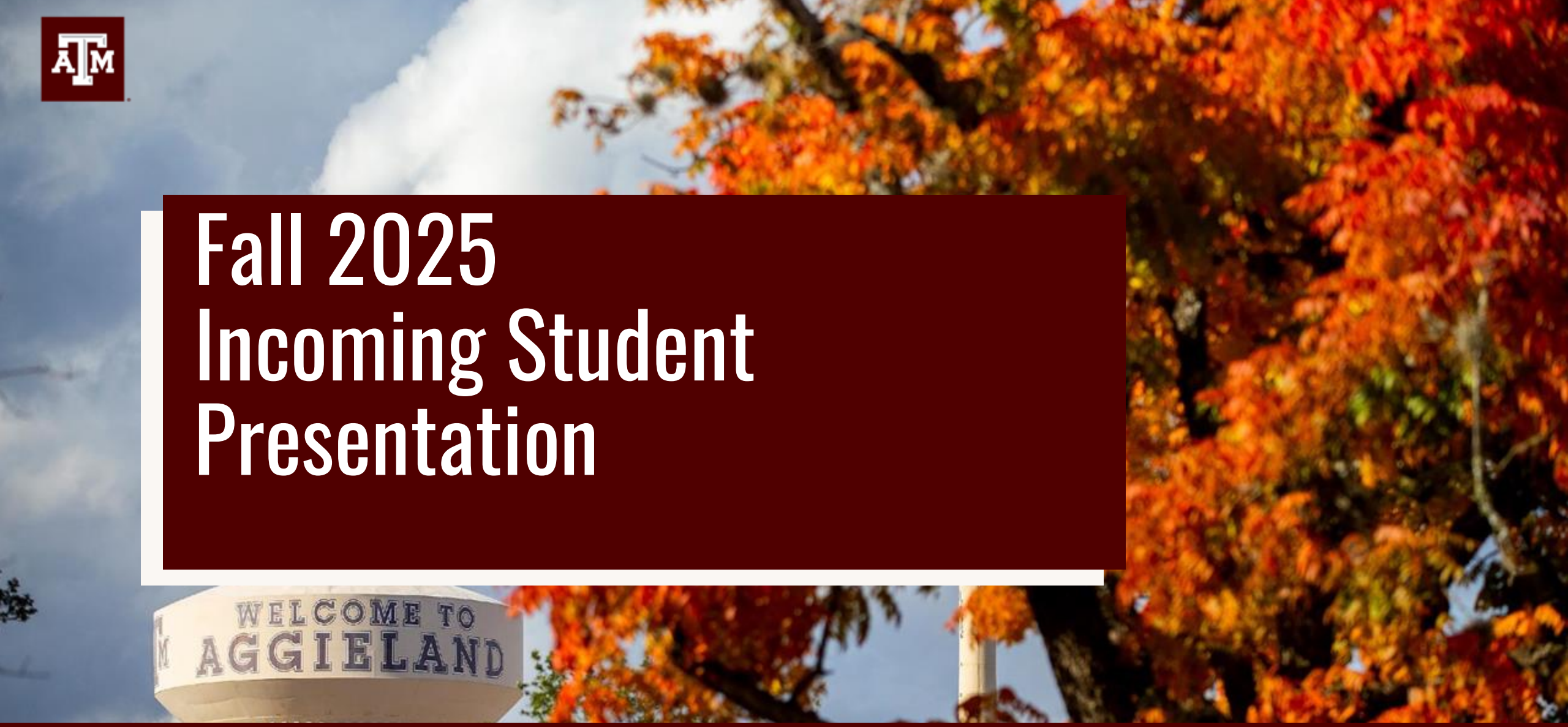


Fall 2025 Incoming Student Presentation

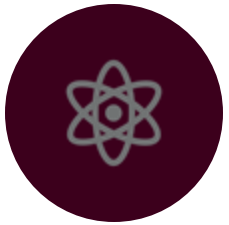
NSC NEW STUDENT CONFERENCE

TEXAS A&M UNIVERSITY
Physics & Astronomy

AGENDA

ACTIVITY	ESTIMATED TIME
Department Information *(families welcome)*	9:15 a.m.
Lunch Break	10:45 a.m.
Schedule Building in MPHY 237 *(students only)*	12:30 p.m.
Family Presentation in HALB 101	1:30 p.m.
Registration *(students only)*	2:00 p.m.
Out	2:30 p.m.

Guiding Questions



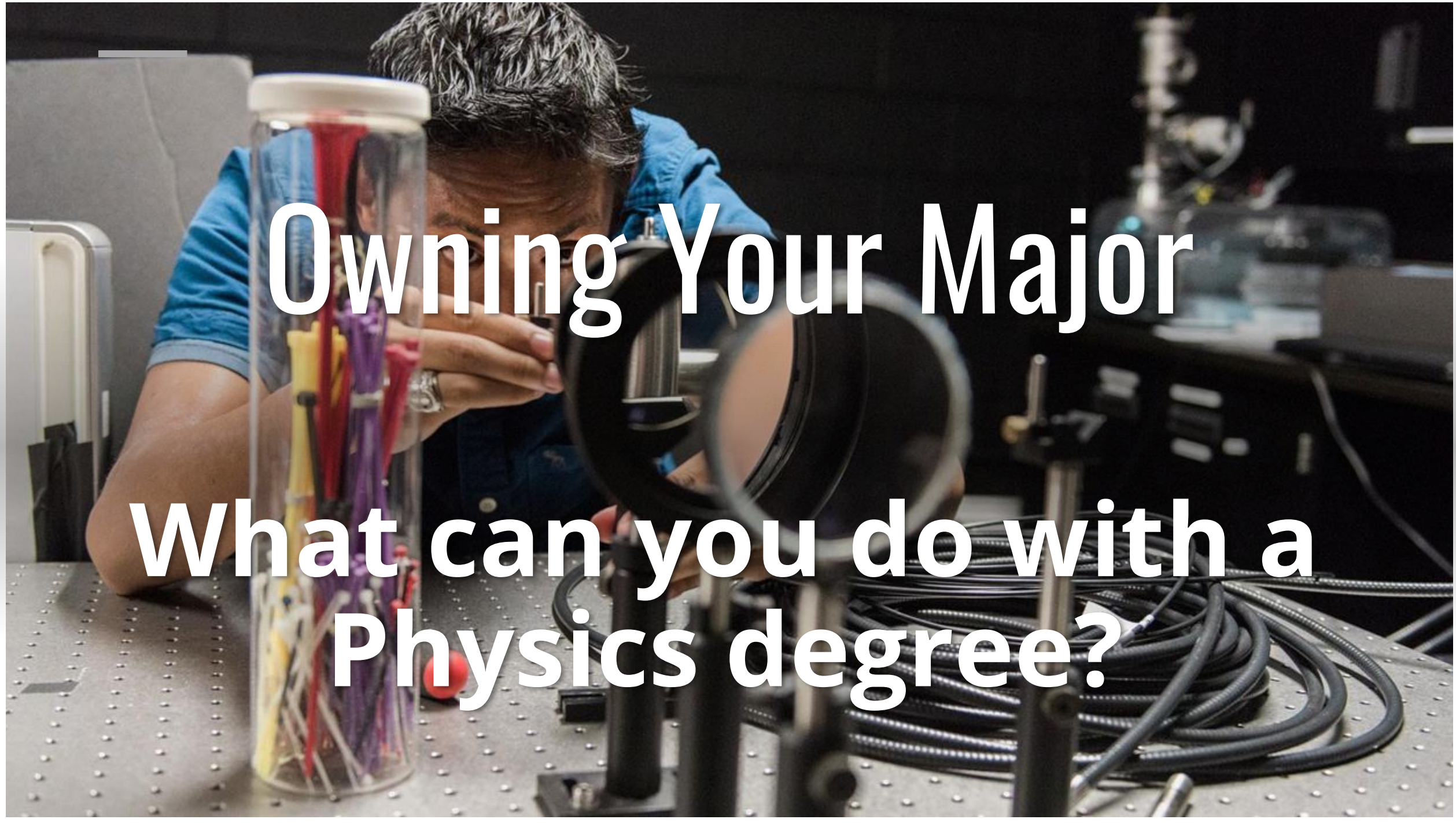
What can you do with a Physics degree?

What does a Physics degree at Texas A&M entail?

What can you expect when joining our Department?

What resources are available at Texas A&M?

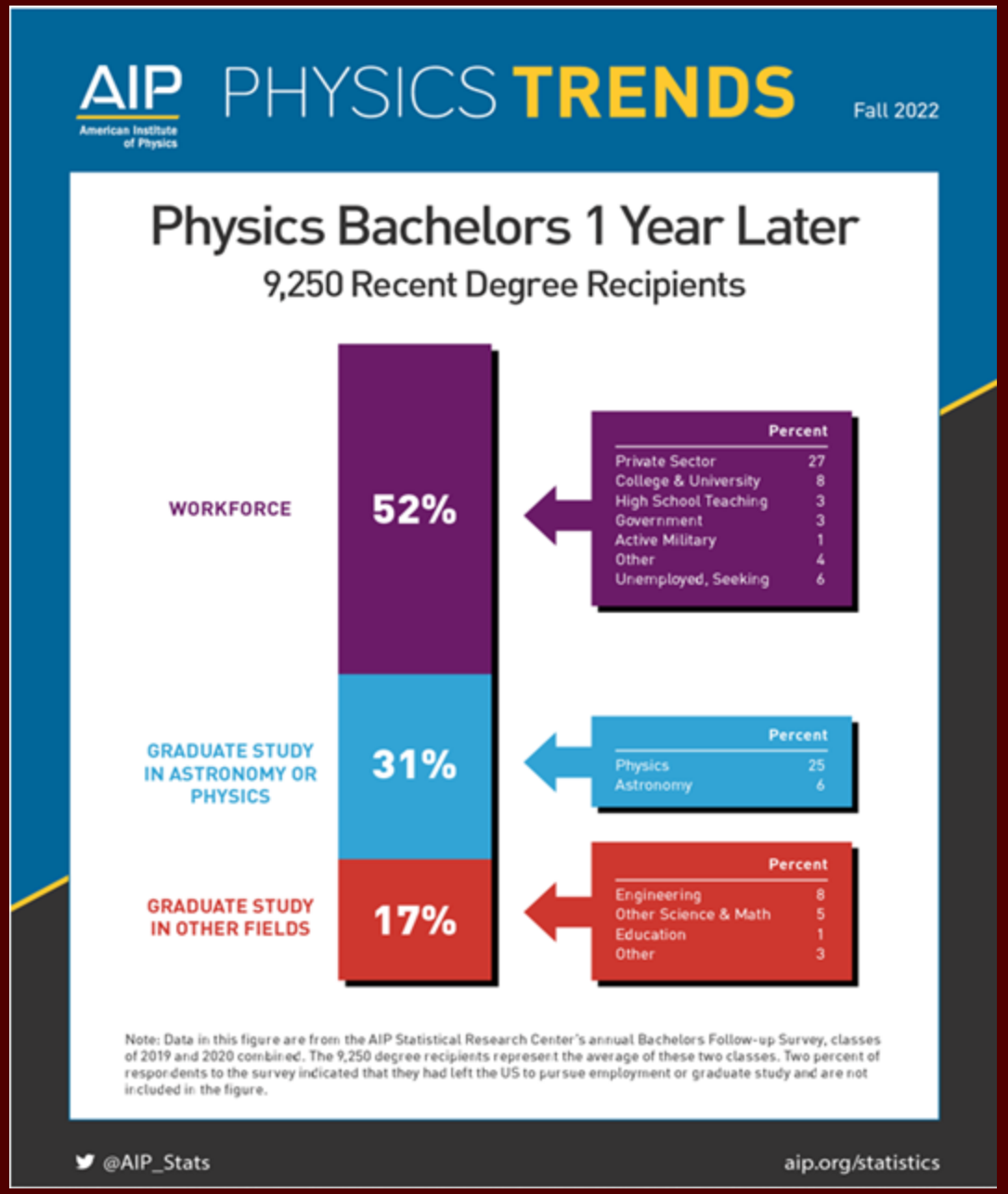
What will your first semester at Texas A&M look like?



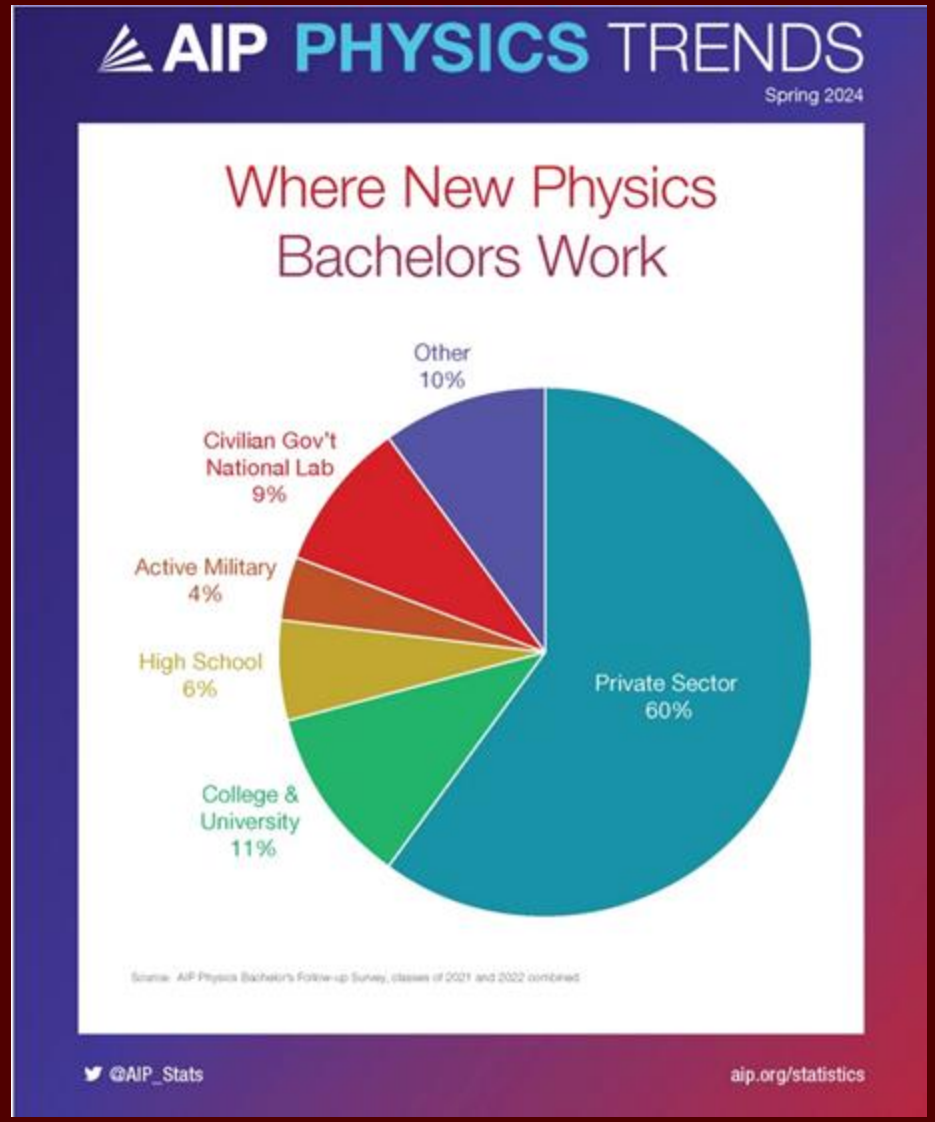
Owning Your Major

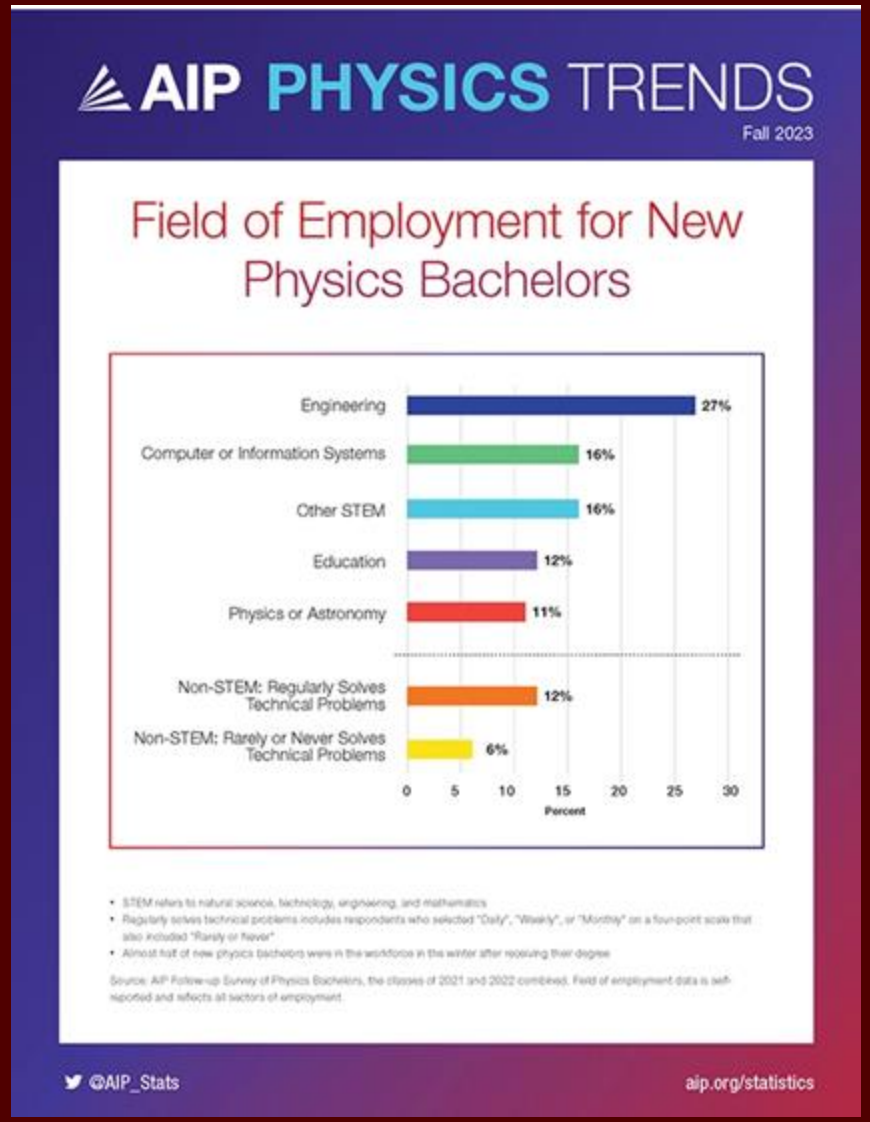
What can you do with a Physics degree?

Physics Major Employment vs. Graduate Studies



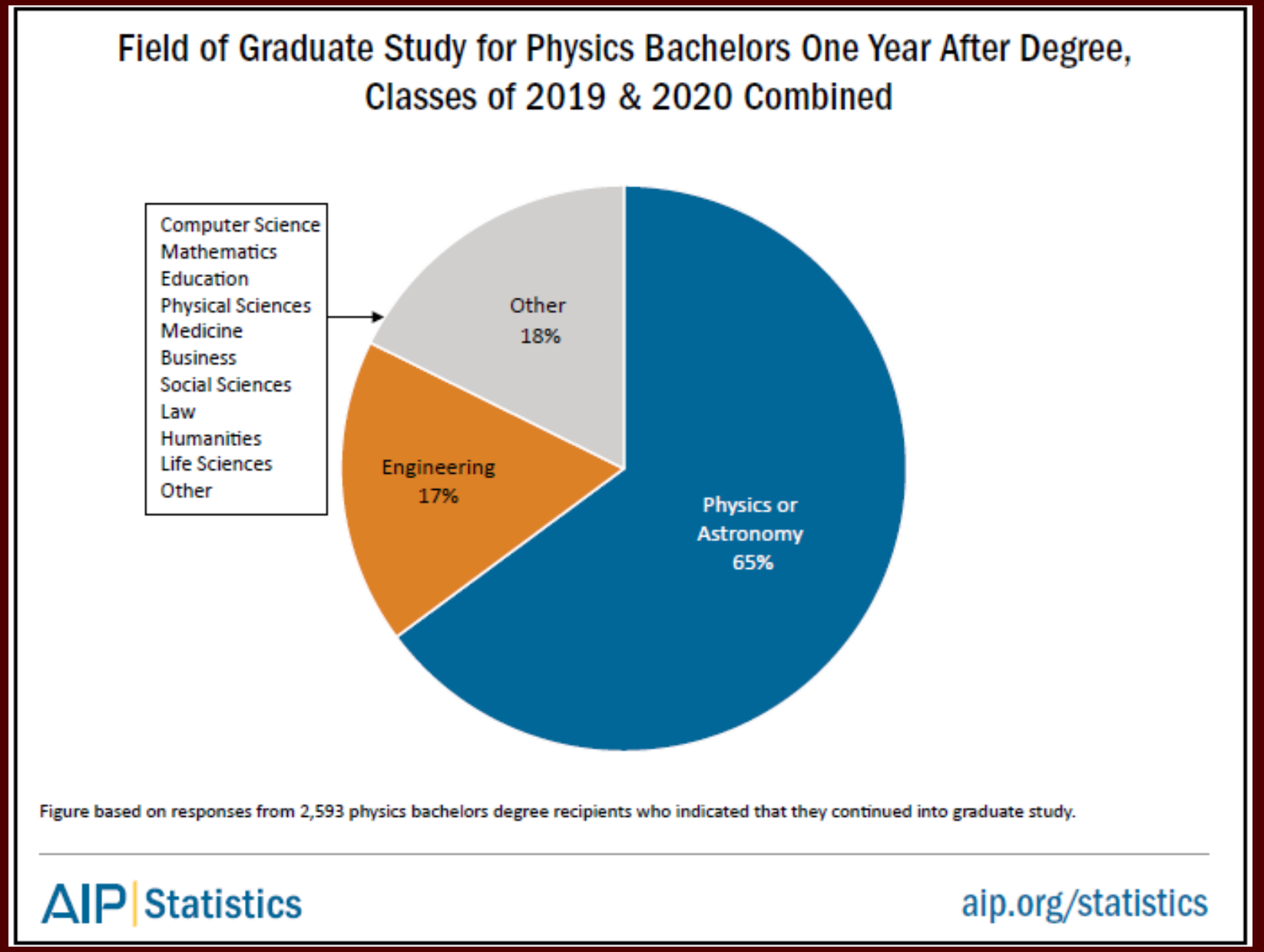
Get a Job!


AIP PHYSICS TRENDS
Spring 2024
Where New Physics Bachelors Work
Other 10%
Civilian Gov't National Lab 9%
Active Military 4%
High School 6%
College & University 11%
Private Sector 60%
@AIP_Stats
aip.org/statistics


AIP PHYSICS TRENDS
Fall 2023
Field of Employment for New Physics Bachelors
Engineering 27%
Computer or Information Systems 16%
Other STEM 16%
Education 12%
Physics or Astronomy 11%
Non-STEM: Regularly Solves Technical Problems 12%
Non-STEM: Rarely or Never Solves Technical Problems 6%
0 5 10 15 20 25 30
Percent
@AIP_Stats
aip.org/statistics

Texas A&M Physics – All Degrees
Employment Outcomes (Fall 2022 – Summer 2024)

- ABATIX
- Applied Research Labs at UT (x2)
- DataAnnotation
- Los Alamos National Lab
- Lockheed Martin (x2)
- MP Materials
- Peterbilt Motor Company
- Raytheon
- Standard Data (x2)
- ST Genetics
- St. Philip's Early College High School
- Texas Center for Applied Technology
- Univ. of Texas at Arlington
- US Military (Air Force, Marines, Navy)
- Visa



Go to Graduate School!

Texas A&M Physics Degrees (all tracks) Graduate Schools and Fields of Study

- Brown University
- Colorado School of Mines
- Duke University
- Johns Hopkins University
- Indiana University
- Michigan State
- Rice University
- Texas A&M University
- Univ. of Illinois - Urb.-Champ.
- University of Maryland
- University of Michigan
- University of Texas, Austin
- University of Toronto
- Virginia Tech

- Accelerator Physics
- Atomic and Molecular Optics
- Chemistry
- Condensed Matter
- Data Science
- Finance
- Math
- Mechanical Engineering
- Nuclear Engineering
- Nuclear Physics

Physics and Astronomy Undergrads December 2024 & May 2025 (45 Students)

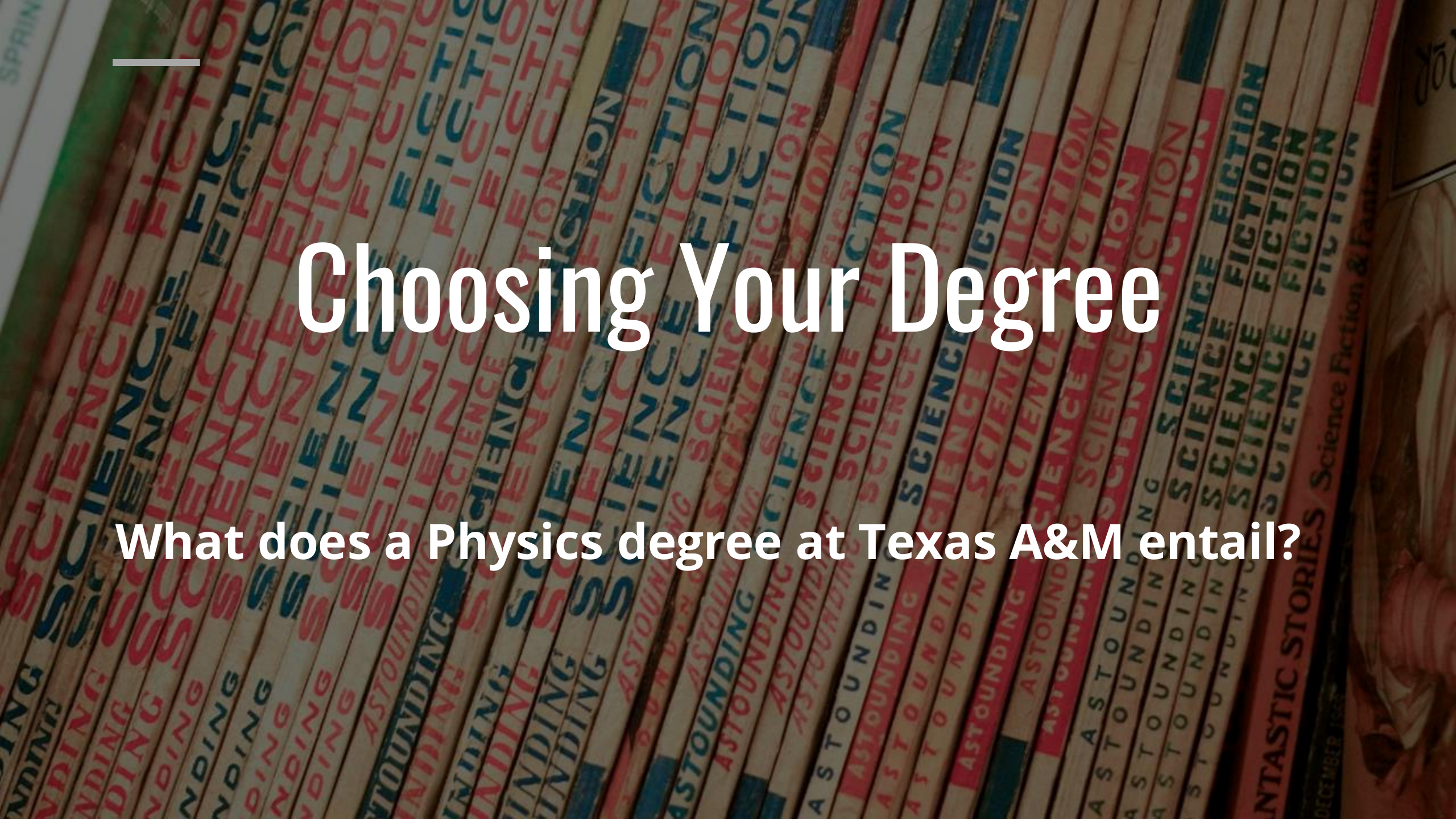
Grad School

- Clemson University
- Duke University
- New Mexico State Univ.
- Ohio State University (x2)
- Texas A&M University
- Texas State University
- Univ. of Cal., San Diego
- Univ. of Cal., Santa Barbara
- University of Iowa
- UT Southwestern Medical School

(biophysics, quantitative finance, materials physics, medical physics)

Employment

- Argonne National Lab
- Epic Systems
- iCode
- Lockheed Martin
- Oak Ridge National Lab (Internship)
- Standard Data
- Texas A&M (research asst. in Math)
- Texas A&M (research intern in Physics)
- Valent Partners



Choosing Your Degree

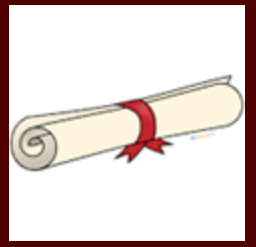
What does a Physics degree at Texas A&M entail?

TAMU Physics Degree Options

- Bachelor of Science in Physics (no track)
- Bachelor of Science in Physics – track options
  - Astrophysics
  - Business
  - Computational Science
  - Semiconductors and Modern Materials
  - Physical Science Teaching
  - Physics and Mathematics Teaching
- Bachelor of Arts in Physics

https://physics.tamu.edu/academics/prospective-undergraduates/degree-options/

Degree Options



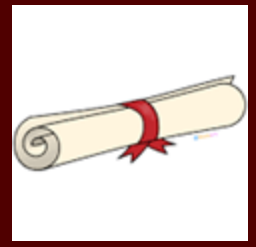
BS – PHYS (no track)

- Includes all upper-division Physics courses
- Best preparation for grad school in Physics
- Requires Physics or Astronomy research
- Getting off-track will delay graduation by one year

BA – PHYS

- Removes upper-level Physics courses from senior year
- Most flexible degree option
- Requires completion of a minor
- Typically completed by students with an additional degree/set of classes
- Getting off-track is unlikely to delay graduation

Degree Options



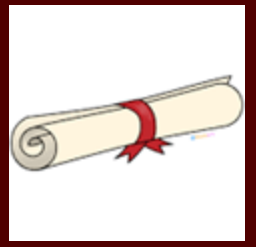
BS – PHYS, Astrophysics Track

- Best preparation for grad school in Astronomy or Astrophysics
- Requires Physics (astro related) or Astronomy research
- Getting off-track will delay graduation by one semester
- Track courses – ASTR: 314, 320, 401, 403, 420, 491 (3 hours)

BS- PHYS, Business Track

- All track courses taught by Mays Business School (except Economics)
- Getting off-track will delay graduation by one semester
- Track courses – MGMT 209, ECON 202, ACCT 209, MGMT 309, MKTG 409, FINC 409, Econ. or Stat. elective

Degree Options



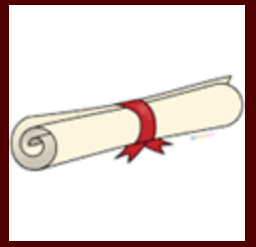
BS – PHYS, Computational Science Track

- All track courses taught by the Dept. of Electrical and Computer Engineering
- Getting off-track will delay graduation by one semester
- Track classes – CSCE: 120, 221, 222, 312, PHYS 401

BS- PHYS, Semiconductors and Modern Materials Track

- Includes CHEM 107/117 and directed electives
- Most track courses taught by the Dept. of Materials Science and Engineering
- Getting off-track will delay graduation by one semester
- Track classes – CHEM 107/117, MSEN 222, SMM Directed Electives x 4

Degree Options



BS – PHYS, Physical Science Teaching Track

- Requires being accepted to the aggieTEACH program
- Getting off-track will delay graduation by one year
- Track classes – all required courses for the Physical Science content area and teacher certification

BS – PHYS, Physics and Mathematics Teaching Track

- Requires being accepted to the aggieTEACH program
- Getting off-track will delay graduation by one year
- Track classes – all required courses for the Physics and Mathematics content area and teacher certification

aggieTEACH


INTERESTED IN EXPANDING YOUR CAREER OPTIONS?
THINK ABOUT TEACHING!
aggieteach.tamu.edu
aggieTEACH
TEXAS A&M UNIVERSITY
Double your career potential by obtaining a Texas Secondary Teaching Certificate as you earn your degree.
LEARN to TEACH and make an IMPACT with aggieTEACH!
NEXT STEPS > REGISTER FOR ARSC 201 AND VISIT AGGIETEACH.TAMU.EDU

DEPARTMENTAL HONORS IN PHYSICS AND ASTRONOMY

- **Admission** *(must meet **at least one** of the following criteria)*
  - SAT score ≥1310 (minimum scores of 570 Verbal and 730 Math)
  - ACT score ≥ 28 (minimum scores of 27 Verbal and 29 Math)
  - A 5 on the AP Cal AB or BC test **or** a 30+ on the MPE *(for 2023 incoming students only)*
  - 3.5 GPA at TAMU *(for continuing students)*

- **Requirements** *(must complete **all** the following criteria)*
  - 21 hours of Honors coursework in Physics and Astronomy
  - 6 Honors credits at 300-level or above
  - 3 Honors credits at 400-level or above
  - 3 – 6 hours of Honors PHYS/ASTR 491
  - Includes an Honors Research Thesis

https://physics.tamu.edu/academics/honors/

UNDERGRADUATE RESEARCH THESES 2024 & 2025

QUANTUM COMPUTING AND LEGALISM: IS THE LAW PREPARED FOR THIS BREAKTHROUGH?

*Jordan Bass, Advisor: Dr. Nicholas Suntzeff and Dr. Grigory Rogachev (2024)

THEORETICAL MODELING OF SATURATION DISTORTIONS OBSERVED IN SATURATED ABSORPTION SPECTROSCOPY

*Alex Hilty, Advisor: Alexandre Kolomenski (2025)

CHARACTERIZING BEST METHODS FOR IMPROVING LIGHT YIELD IN CSI(TL) SCINTILLATORS

Kensington Vincent, Advisor: Dr. Rupak Mahapatra (2024)

PRECISION VALIDATION OF THE PERFORMANCE OF THE OTMB SYSTEM FOR THE CMS MUON SYSTEM

Kyla Martinez, Advisor: Dr. Alexei Safonov and Dr. Jason Gilmore (2024)

ASSYMETRIC OFFNER SPECTROGRAPH

*Evan Batteas, Advisor: Dr. Jennifer Marshall (2025)

EFFECTS OF HIGH TEMPERATURE ON SHAPE MEMORY ALLOYS

*Andrew Pai, Advisor: Dr. Joe Ross (2025)

*Honors in Physics and Astronomy

Knowing Your Department

What are the department's policies?

Department of Physics and Astronomy Policies

Students are responsible for knowing and following ALL department policies.

All students are admitted as Bachelor of Arts. Tracks can be declared at the end of the first year.

Students will be required to meet with an advisor if any midterm grade is reported as F. Midterms are reported until students have 30 TAMU hours.

Degree Planners will be required in the 4th and 6th semesters (based on courses). Students will also be required to meet with an advisor in the 6th semester.

A minor can't be declared in the area of a track.

Department of Physics and Astronomy Policies

Students are responsible for knowing and following ALL department policies.

Physics Foundation Courses must be completed with a grade of C or better.

Foundation courses can only be attempted 3 times, except for PHYS 309 and 331, which follow the rule for upper-division classes.

Upper-division Physics and Astronomy courses may only be attempted 2 times.

Department of Physics and Astronomy Policies

Students are responsible for knowing and following ALL department policies.

Beginning in the 4th semester, Physics classes are only offered once a year. Getting behind in these classes will extend your time to graduation.

All classes must be passed before moving on to the next set of classes.

UIN should be included in all messages to faculty and staff.

Your official TAMU email is NetID@email.tamu.edu. You should check your official TAMU email at least once a day.

Words of Wisdom from the Class of 2028

What have you learned from your first semester?

“This past semester has taught me a lot about myself academically and personally. For the first time, I had to actually study instead of just skimming through the material. This was a really big adjustment for me since I was so used to getting A’s without having to prepare. I had to set aside time to actively work on my assignments and review the material instead of getting to it whenever I felt like it. ” - LF

“I didn’t have to study a lot in high school. I don’t think I’m exceptionally intelligent or anything, just a good test taker. I realized very quickly that this was not going to be the case anymore. After the first couple of weeks, it became abundantly clear that there were too many things to learn and too little time. One thing I would recommend to all freshmen like myself is group studying. I’ve found that asking and answering questions are some of the most effective ways for me to study.” - RM

“Another huge area of growth has been learning to live independently for the first time. Learning to live away from my family has taught me more about who I am and how I function in a new environment. I have learned that I thrive on structure and really benefit from scheduling my days. Taking the time to map out when to study, complete homework, and attend to personal needs is what allows me to stay organized and reduce stress.” - LN

“Another major lesson I’ve learned, especially from living on my own in an apartment, is that grocery shopping and feeding yourself is hard. You have to stay organized, or you’ll quickly end up with a messy apartment or an empty fridge. If you’ve never grocery shopped before, it can be overwhelming. You need to plan meals, keep track of what you have, and use things before they spoil – or else you’ll waste money.” - KP

Words of Wisdom from the Class of 2025

What do you wish you had known when you started in physics?

“Become friends with those in your cohort. You get a study group, and you spend a lot of time around these people, so it’s better to be friends with them. Also, it’s nice to have others who are experiencing the same things you are and to do non-physics things with.” KH (BS - Physics, BS-MATH)

“The importance of time management. I heard everyone say it was important to manage my time, but it didn’t really click until my junior year when my poor time management really started to pile up.” JP (BS - Physics)

“That having friends in the major who are good people and smart is like the best thing ever.” AC (BS - Physics, Business track)

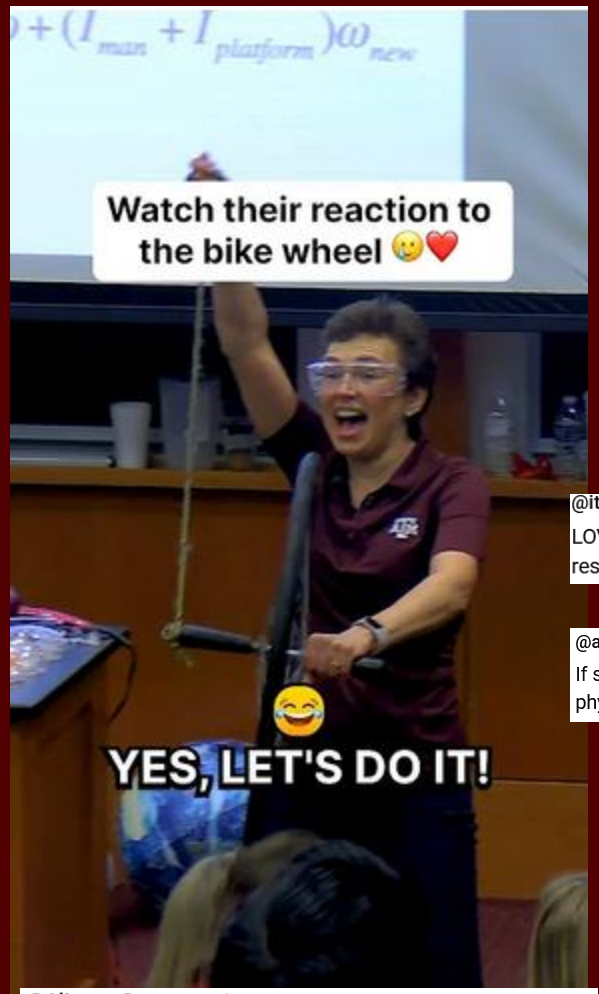
“I wish I had known to start performing research sooner. I also should have engaged in more leadership roles.” HH (BS - Physics, Astrophysics track)

“To be prepared before every lecture and review the textbook multiple times before a test (this applies in general, though.” FL (BS - Physics, Astrophysics track)

“The need for programming.” KS (BA - Physics, math and geology minors)

Outreach on YouTube

3.62 million subscribers!



TAMU Physics & Astronomy
@tamuphysastr
301M Views
9.7M Likes
76K Comments

@Alice-nn3oo 9 months ago
This teacher is the best! Such genuine joy in teaching is hard to come across!

@itsdeltime 9 months ago
LOVE her passion for teaching and LOVE to hear the responses from her students. Amazing.

@arinalikes5911 9 months ago
If she was my teacher maybe i would not have quit physics 😅

@BOREDFU 4 days ago
Her enthusiasm and personality made it really fun to learn 😊👌

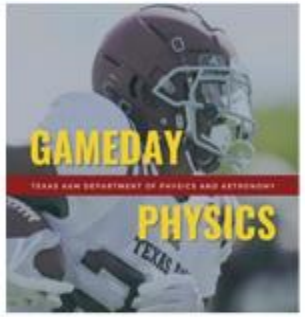
@doesntevenmatt3r 1 day ago
I hope she becomes a science teacher. We need more with this much enthusiasm

More Outreach!

Physics Shows
physicsshow.tamu.edu

Just Add Science
justaddscience.tamu.edu

Real Physics Live
realphysicslive.com



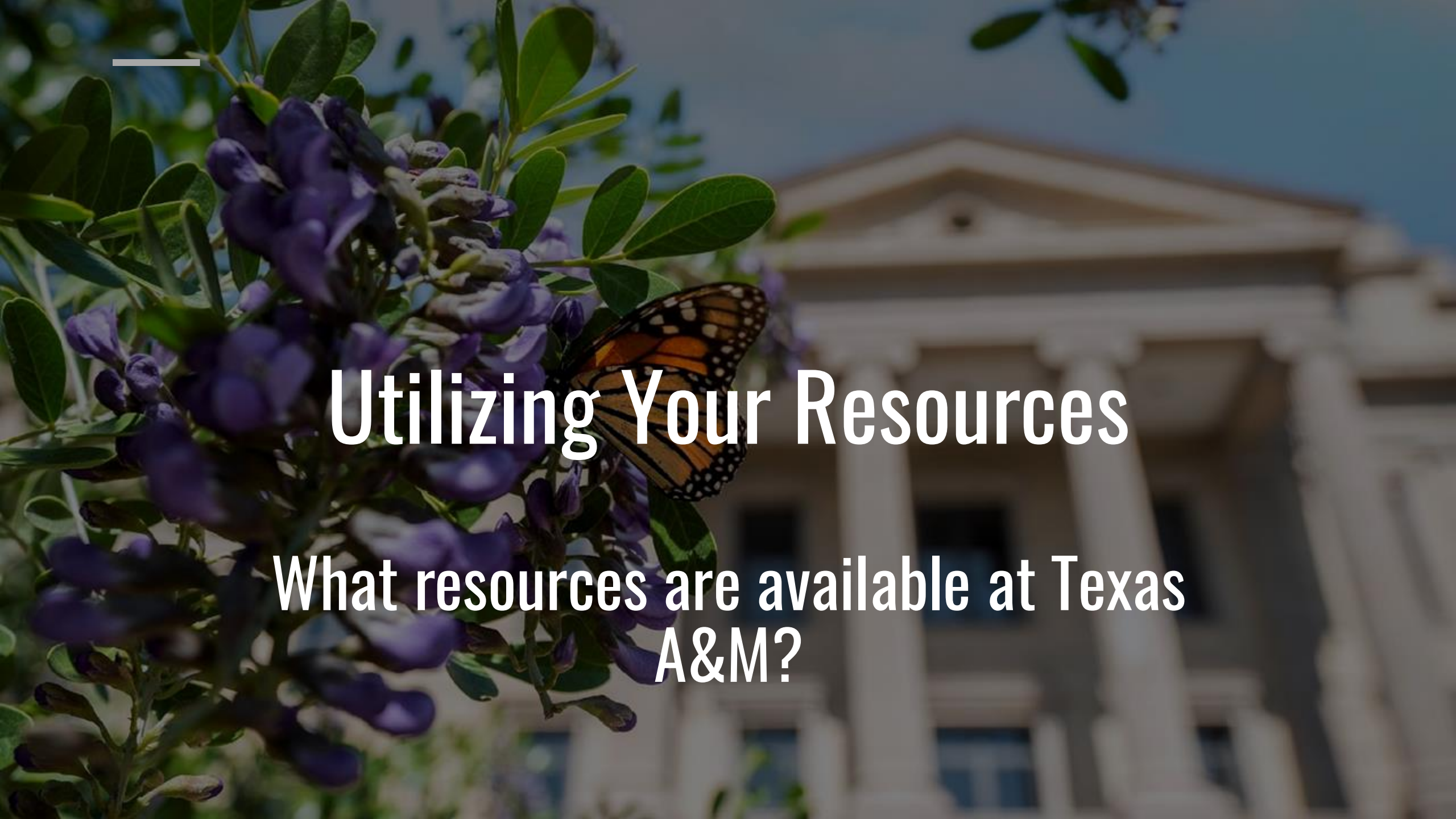
Gameday Physics
gameday.physics.tamu.edu

Mitchell Institute Star Parties
mitchell.tamu.edu/outreach/star-parties

Saturday Morning Physics
cyclotron.tamu.edu/smp

Discover, Explore and Enjoy Physics and Engineering (DEEP)
physics.tamu.edu/outreach/deep

Physics and Engineering Festival
March 28, 2026



Utilizing Your Resources

What resources are available at Texas A&M?

TAMU Resources

Pocket Pantry

- Provides temporary relief to students who are experiencing food insecurity
- Non-perishable food and toiletries available
- Located in Blocker 529
- For a list of all pantries and their locations, please visit: https://studentlife.tamu.edu/sas/food-resources/

Learning Assistance Resources

- Study Hub (online)
- Academic Success Center (SI, Tutoring, Academic Coaching)
- Help Desks (Physics and Chemistry)
- Math Learning Center
- University Writing Center

University Health Services

- **Mental Health Services – Student Services Building**
- **Medical Services – A.P. Beutel Health Center**
- **TELUS Health Student Support App**

TAMU Resources

Disability Resources

- Accommodation Coordination
- Testing Center
- Assistive Technology Services (ATS)
- Communication Access Services
- Physical Accessibility

Arts & Sciences Career Services

- Schedule with a career advisor
- Explore career options
- Create a resume
- Find student employment opportunities (Jobsforaggies)
- Find after graduation employment (HireAggies)
- Career Fairs

Aggie Career Success Handbook QR code

Navigate 360 App

- Make to-do lists and set reminders
- See your class schedule
- Receive alerts about holds
- Schedule an advising appointment – https://tamu.zoom.us/my/sherreekessler

Available now in the App and Android Store
Search for "Navigate Student" or scan to download

Building Your Schedule

What will your first semester at Texas A&M look like?

AP Credits

- **Please discuss accepting AP credits with an advisor before accepting.**
- The **Physics 1 and 2 tests should not be accepted by Physics majors**.
  - These exams award credit for PHYS 201 and 202, which cannot be used anywhere in a Physics degree.
- If you earn a 5 on the Cal AB or BC test, we recommend you seriously consider your math skills before deciding where you will start.
  - General suggestion: **start one class earlier than you can** (i.e., MATH 171 for the AB and MATH 172 for the BC).
- We strongly encourage all students to **take PHYS 206 and 207 at TAMU**.
  - Historically, AP and Dual Credit classes provide good foundation, but not always enough to successfully move on to higher-level Physics courses.
- **Please note – Until AP credits have been accepted, you will not be able to register for the next class in the sequence.**

Dual Credit

- Dual credit courses will automatically be added to your record when you submit your transcripts.
- Courses taken through dual credit **will not affect your TAMU GPA**.
- General suggestions:
  - **Retake the last Calculus class you took.**
  - **Start in PHYS 206/226.**
- The decision of which courses to use and which to retake is yours.

Texas A&M Core Curriculum – 42 hours

Required Core Areas:

- **Communication** *(ENGL 103/104 – 3 hours and 1 Communication elective – 3 hours)*
- **Mathematics** *(met within major)*
- **Life and Physical Sciences** *(met within major)*
- **American History** *(6 hours)*
- **Government/Political Science** *(POLS 206 – 3 hours and POLS 207 – 3 hours)*
- **Language, Philosophy and Culture** *(3 hours)*
- **Creative Arts** *(3 hours)*
- **Social and Behavioral Science** *(3 hours)*

International and Cultural Diversity (ICD) and Cultural Discourse (CD) Requirements

- **In addition to the state Core Curriculum, TAMU requires all students to take:**
  - One 3-hour course in International and Cultural Diversity
  - One 3-hour course in Cultural Discourse

Please note – A course **cannot count in 2 state Core Curriculum areas**, but a course may count as both:

- A state Core requirement **and** a TAMU International and Cultural Diversity requirement, **or**
- A state Core requirement **and** a TAMU Cultural Discourse requirement

The majority of classes that can count for both a state Core requirement and a TAMU ICD or CD requirement are in *Language, Philosophy and Culture*, *Creative Arts*, or *Social and Behavioral Science*.

Fall Schedule - Freshmen

PHYS 150 (3 hours)	**ARSC 101**** (0 hours) **Section 540, 541 (1st gen.), or 542**
MATH 150 or 171* (4 hours)	**PHYS 101** (1 hour)
*MPE Scores 1 – 21 will take MATH 150, 22 – 33 will take MATH 171 **Students in the Corps, University Honors, certain Residence Halls, and some scholarships will take a different Hullabaloo U course	

- **12 credit hours** is considered full-time for university and financial aid purposes.
  - Most students take **between 12 and 15 hours their first semester**.
  - Your remaining courses to reach 12+ hours will be based on your interests, future plans, and credits previously earned.
- Students **with credit for MATH 151/171 or higher may take PHYS 206/226** in the fall. There are benefits to waiting, but *only you can make the decision*.

Fall Schedule - Transfer

Required First-Semester Courses	
PHYS 207 (3 hours)	**PHYS 227** (1 hour)
PHYS 221 (3 hours)	**MATH 221** (4 hours)
MATH 308 (3 hours)	**PHYS 102** (1 hour)
If there is space left in your schedule after completing the above courses, please register for **PHYS 150** (3 hours)	

- **12 credit hours** is considered full-time for university and financial aid purposes.
  - Most students take **between 12 and 15 hours their first semester**. For transfer students starting in the Fall, these 14 hours of coursework must be completed to stay on track for graduation.
- If you have **already completed PHYS 207/227, MATH 251/253, and/or MATH 308** at your transfer institution, then your remaining courses to reach 12+ hours will be based on your interests, future plans, and other credits previously earned.

Credit Hour Expectations

1 credit hour of **lecture** ≈ 1 hour in class per week

A **3-credit hour course** will generally meet**:**

- Monday, Wednesday and Friday (MWF) for **50 minutes each day**
- Tuesday and Thursday (TR) for **75 minutes each day**
- Monday and Wednesday (MW) for **75 minutes each day** (usually evening classes)

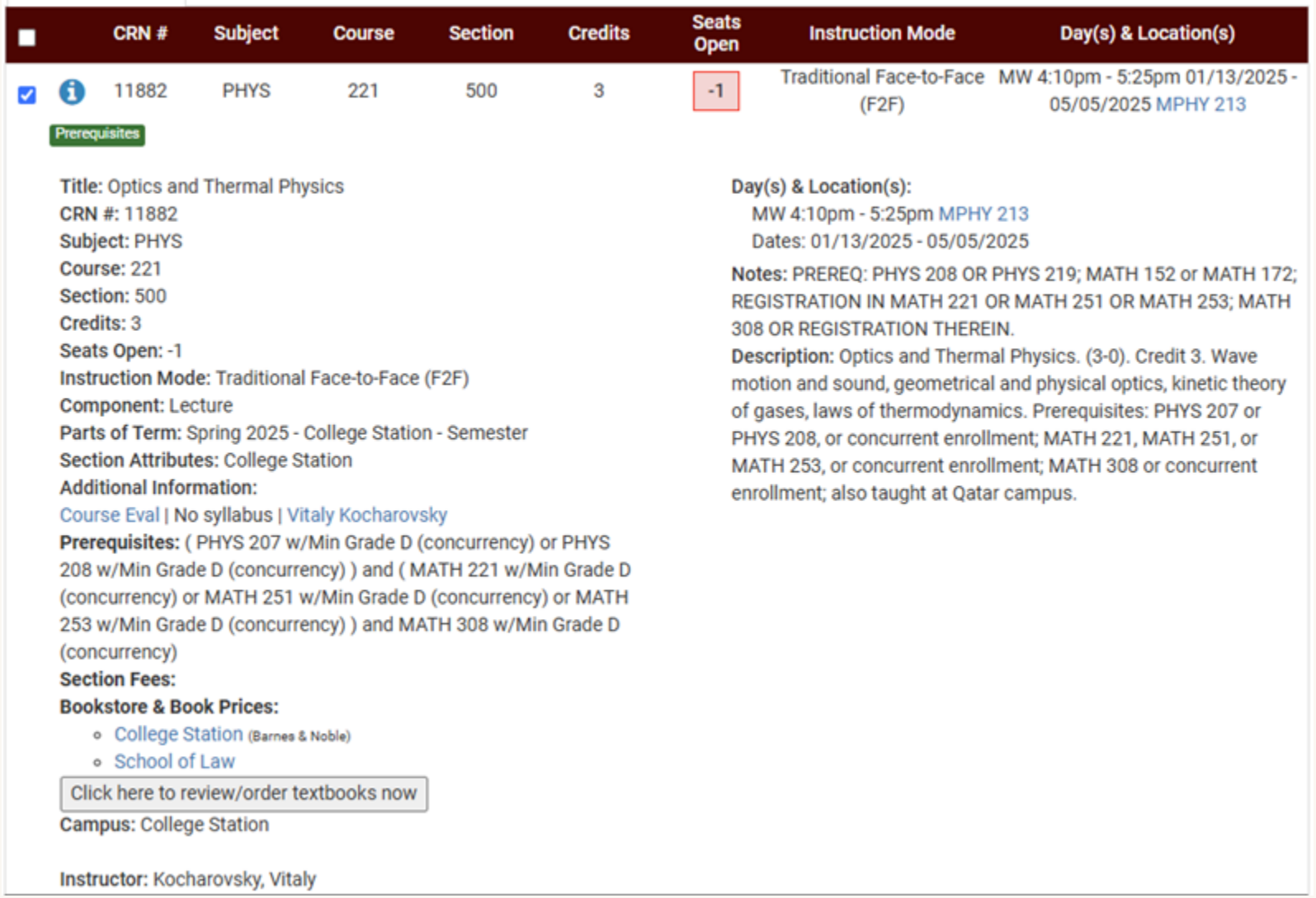
1 credit hour of **lab** ≈ 3 hours in the lab per week

- Labs usually meet in a **3-hour block once a week**

Schedule **study time** for at least **2 – 3 hours per credit hour** each week

- e.g., for a 3 credit hour class, schedule at least 6 – 9 hours of studying per week

Important Info about the Section!



	CRN #	Subject	Course	Section	Credits	Seats Open	Instruction Mode	Day(s) & Location(s)
☑	11882	PHYS	221	500	3	-1	Traditional Face-to-Face (F2F)	MW 4:10pm - 5:25pm 01/13/2025 - 05/05/2025 MPHY 213

Prerequisites

Title: Optics and Thermal Physics
CRN #: 11882
Subject: PHYS
Course: 221
Section: 500
Credits: 3
Seats Open: -1
Instruction Mode: Traditional Face-to-Face (F2F)
Component: Lecture
Parts of Term: Spring 2025 - College Station - Semester
Section Attributes: College Station
Additional Information:
Course Eval | No syllabus | Vitaly Kocharovsky
Prerequisites: (PHYS 207 w/Min Grade D (concurrency) or PHYS 208 w/Min Grade D (concurrency)) and (MATH 221 w/Min Grade D (concurrency) or MATH 251 w/Min Grade D (concurrency) or MATH 253 w/Min Grade D (concurrency)) and MATH 308 w/Min Grade D (concurrency)
Section Fees:
Bookstore & Book Prices:
- College Station (Barnes & Noble)
- School of Law

Click here to review/order textbooks now
Campus: College Station

Instructor: Kocharovsky, Vitaly

Day(s) & Location(s):
MW 4:10pm - 5:25pm MPHY 213
Dates: 01/13/2025 - 05/05/2025

Notes: PREREQ: PHYS 208 OR PHYS 219; MATH 152 or MATH 172; REGISTRATION IN MATH 221 OR MATH 251 OR MATH 253; MATH 308 OR REGISTRATION THEREIN.
Description: Optics and Thermal Physics. (3-0). Credit 3. Wave motion and sound, geometrical and physical optics, kinetic theory of gases, laws of thermodynamics. Prerequisites: PHYS 207 or PHYS 208, or concurrent enrollment; MATH 221, MATH 251, or MATH 253, or concurrent enrollment; MATH 308 or concurrent enrollment; also taught at Qatar campus.

Notes

- Terms of Use and Location Update
- Prereq and Test Score Error
- Student Attribute Error
- Time Conflict Error
- Field of Study Restriction

Always check for: '**attributes**', '**restrictions**', '**corequisites**', and '**prerequisites**' before trying to add a class to your schedule.

Contact Your Academic Advisor

We're here to help!

Sherree Kessler
Academic Advisor IV

- Email: skessler@tamu.edu
- Phone: 979.458.7607
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Kacie Peacock
Academic Advisor II

- Email: kaciepeacock@tamu.edu
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- Office: Blocker 529 C

Are you a First-Generation student?

The ArtSci Undergraduate Student Success (UGSS) team is here for **you**!

What is "First-Generation"?

- Classified as neither parent having earned a bachelor's degree
- Parent(s) may have completed a degree non-traditionally later in life or obtained a degree internationally

Why F2F?

- Community, support, leadership opportunities, workshops, resources to succeed, networking, service events, and so much more!

Join us for our come and go Open House event during your lunch hour today in **ACAD 107**!

Program Offerings | Cookies | F2F Goodies

FIRST TO FINISH

howdy artsci

HOWDY WEEK 2025

Follow us on social!
@tamuartsci

Friday, August 22, 2025
10 a.m. - 1 p.m.
Instructional Laboratory and Innovative Learning Building (ILSQ)

Join the College of Arts and Sciences for our 2025 Howdy Week event!

Department Booths!
Demonstrations!
Food Trucks!
and MORE!

Watch for our email with more information!

TEXAS A&M UNIVERSITY
College of Arts & Sciences

College of Arts & Sciences Programs and Services Open House

Free snacks and swag!

Discover what's possible in the College of Arts & Sciences

NSC Day 2 | **11:00am - 1:00pm**
Academic Building

- ArtSci Study Abroad
- aggieTEACH
- Career Center
- First 2 Finish
- Health Services

Come learn about the ArtSci tailored resources that help students grow, connect, and achieve their goals

WHERE AM I DINING DURING NSC?

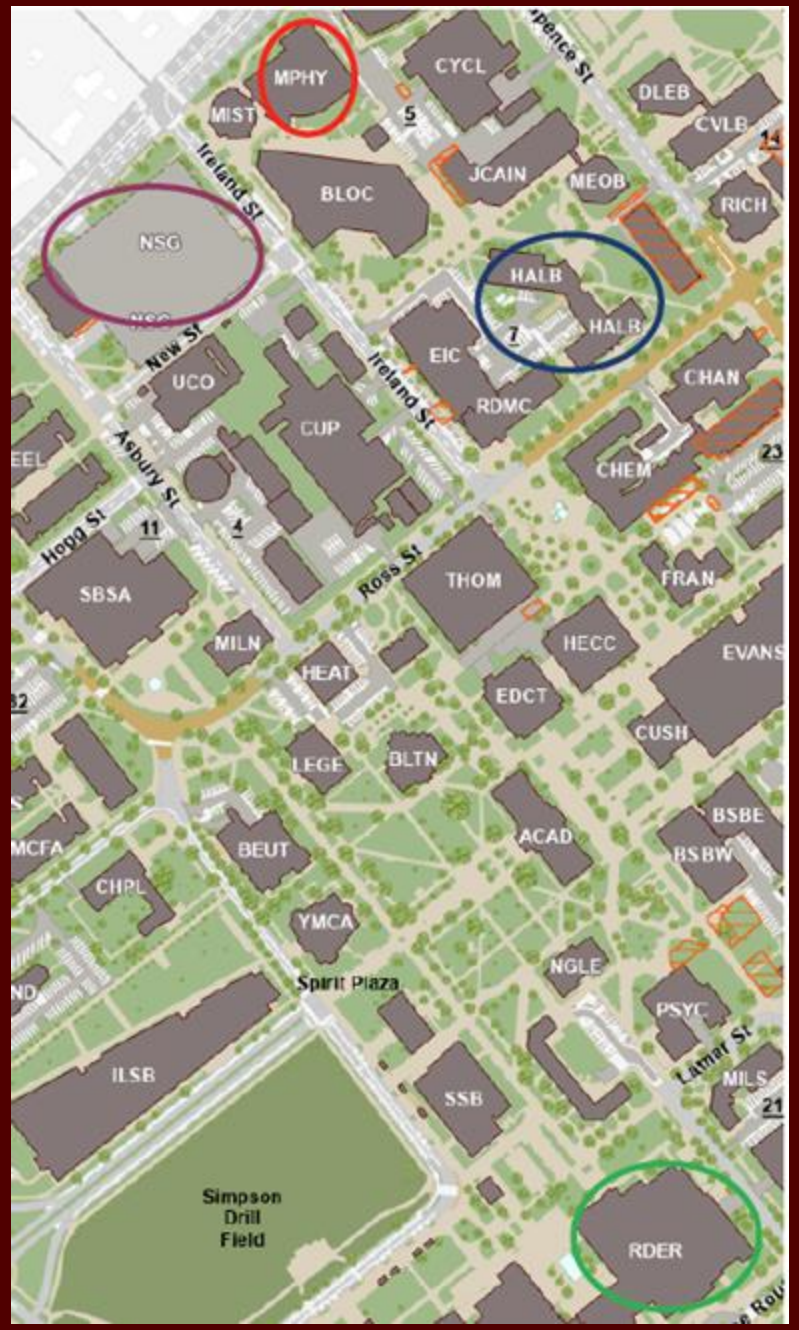
Scan the QR CODE for the full dining guide
or visit tx.ag/NSCDining

AGGIE DINING

Dining Locations Near Us:

SBISA | Chick-fil-A | Panda Express
(look at Engineering)

Location Info



MPHY – Mitchell Physics Building - advising and registration (12:30 pm)

NSG – Northside Garage

HALB - Halbouty - family presentation (1 pm)

RDER – Rudder Tower - college presentation

Thanks & Gig 'em!

Contact Physics and Astronomy

Mitchell Physics Bldg.

979.845.7717

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