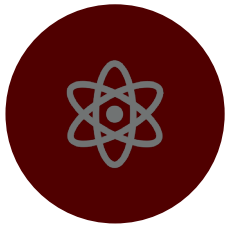
FALL 2024
INCOMING STUDENT PRESENTATION

TEXAS A&M UNIVERSITY
Physics & Astronomy

AGENDA

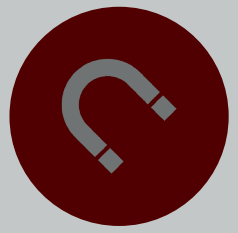
ACTIVITY	ESTIMATED TIME
Department Information *(families welcome)*	9:15 a.m.
Shirt Size *(before leaving for lunch)*	10:30 a.m.
Lunch Break	10:45 a.m.
Schedule Building in MPHY 237 *(students only)*	12:00 noon
Parent and Guardian Presentation in Rudder 601	1:30 p.m.
Registration *(students only)*	2:30 p.m.
Out	3:00 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?

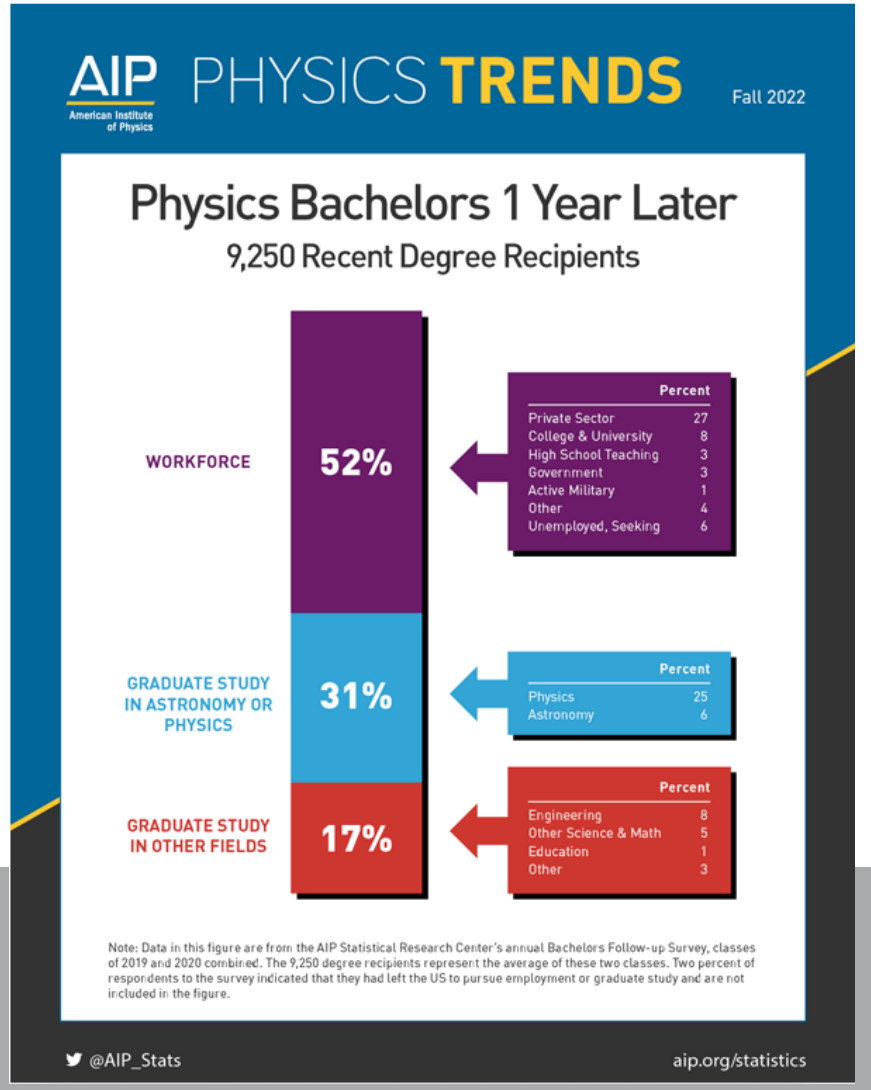
What will your first semester at Texas A&M look like?

OWNING YOUR MAJOR

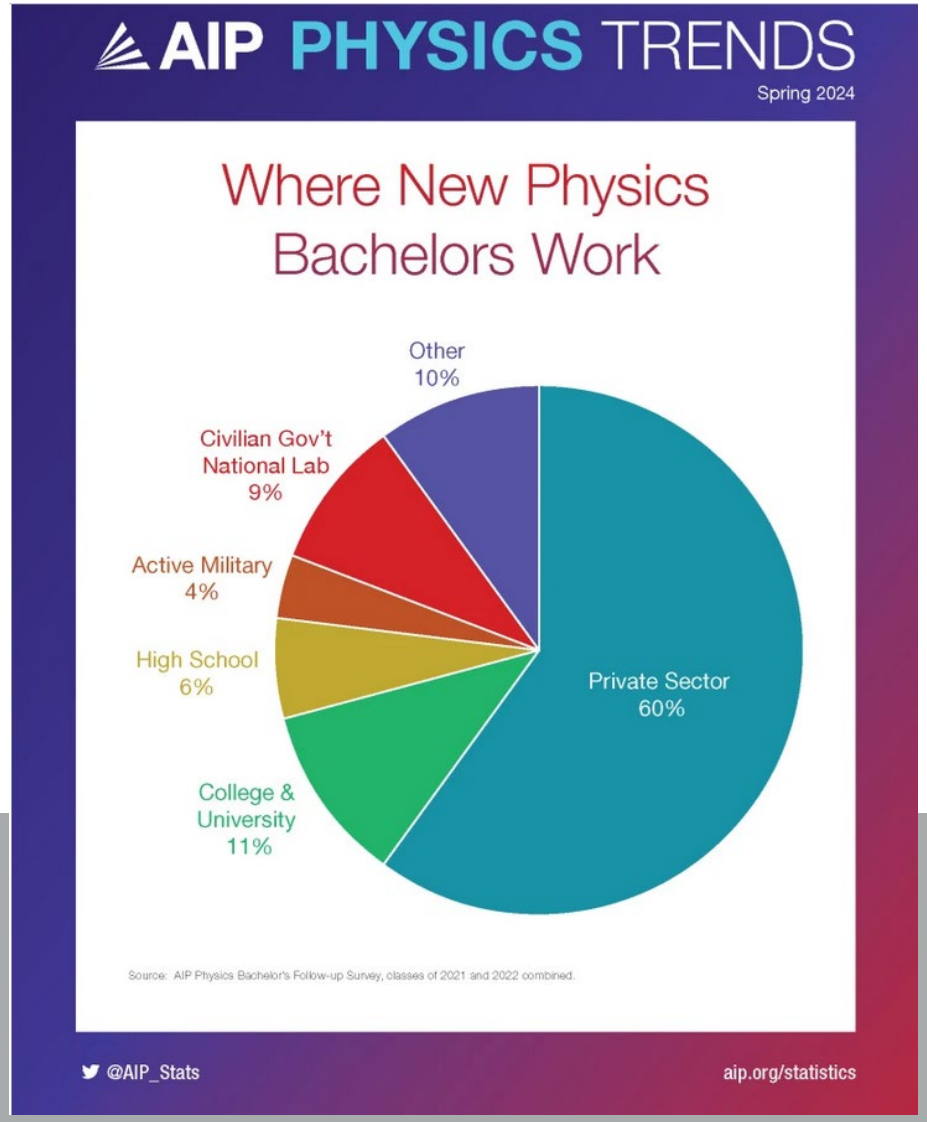
What can you do with a Physics degree?

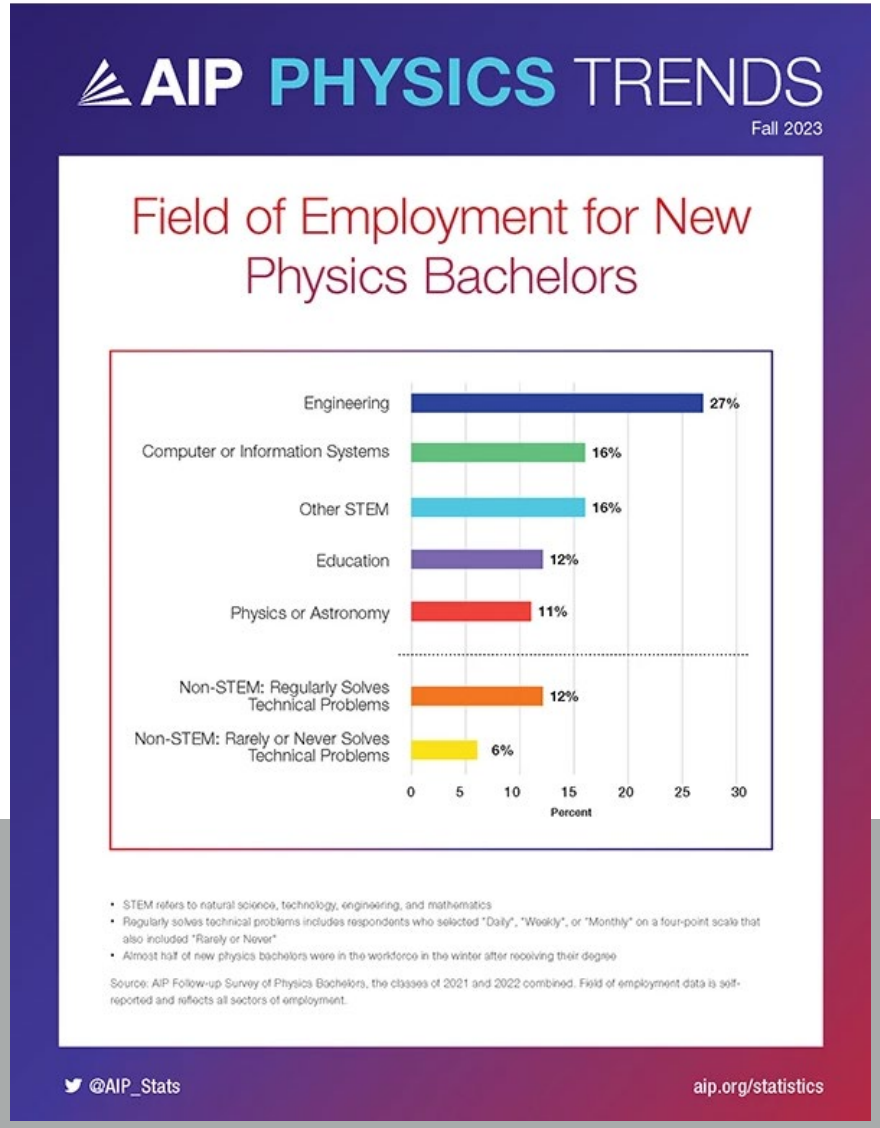
TEXAS A&M UNIVERSITY

PHYSICS MAJOR EMPLOYMENT VS. GRADUATE STUDIES



GET A JOB!

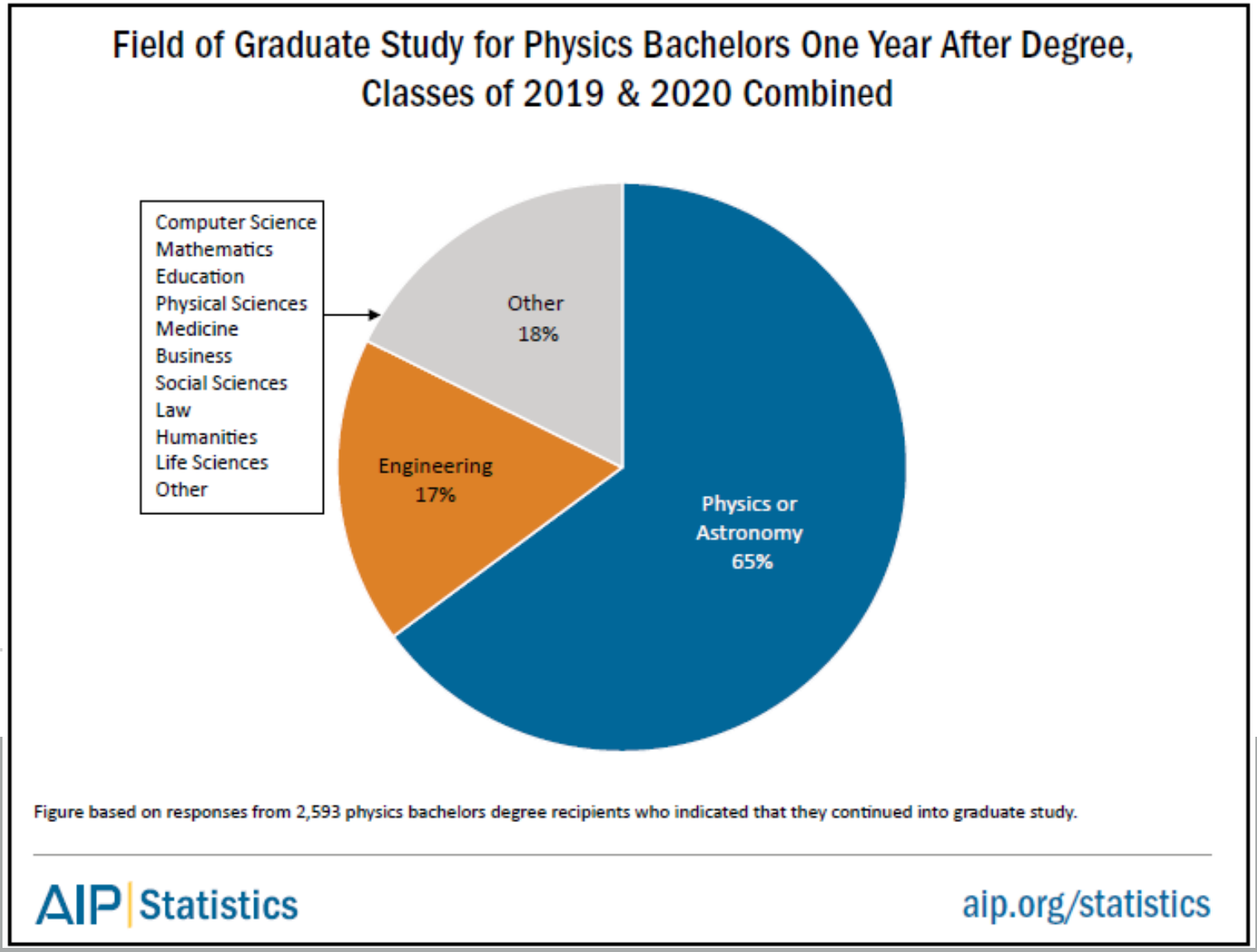

AIP PHYSICS TRENDS
Spring 2024
Where New Physics Bachelors Work
Other 10%
Civilian Gov't National Lab 9%
Active Military 4%
High School 6%
College & University 11%
Private Sector 60%
Source: AIP Physics Bachelor's Follow-up Survey, classes of 2021 and 2022 combined.
@AIP_Stats
aip.org/statistics


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
• STEM refers to natural science, technology, engineering, and mathematics
• Regularly solves technical problems includes respondents who selected "Daily", "Weekly", or "Monthly" on a four-point scale that also included "Rarely or Never"
• Almost half of new physics bachelors were in the workforce in the winter after receiving their degree
Source: AIP Follow-up Survey of Physics Bachelors, the classes of 2021 and 2022 combined. Field of employment data is self-reported and reflects all sectors of employment.
@AIP_Stats
aip.org/statistics

TEXAS A&M B.A. AND B.S. IN PHYSICS
EMPLOYMENT OUTCOMES (FALL 2021 – FALL 2023)

- ABATIX
- A&M Consolidated Middle School
- Applied Research Labs at UT (x3)
- Kennedy Space Center
- JP Morgan Chase
- Lockheed Martin (x2)
- US Military (Air Force, Marines, Navy)
- Naval Nuclear Labs
- Northrup Grumman
- ProAutomated
- Raytheon Intelligence and Space
- Standard Data
- Texas Center for Applied Technology

GO TO GRADUATE SCHOOL!



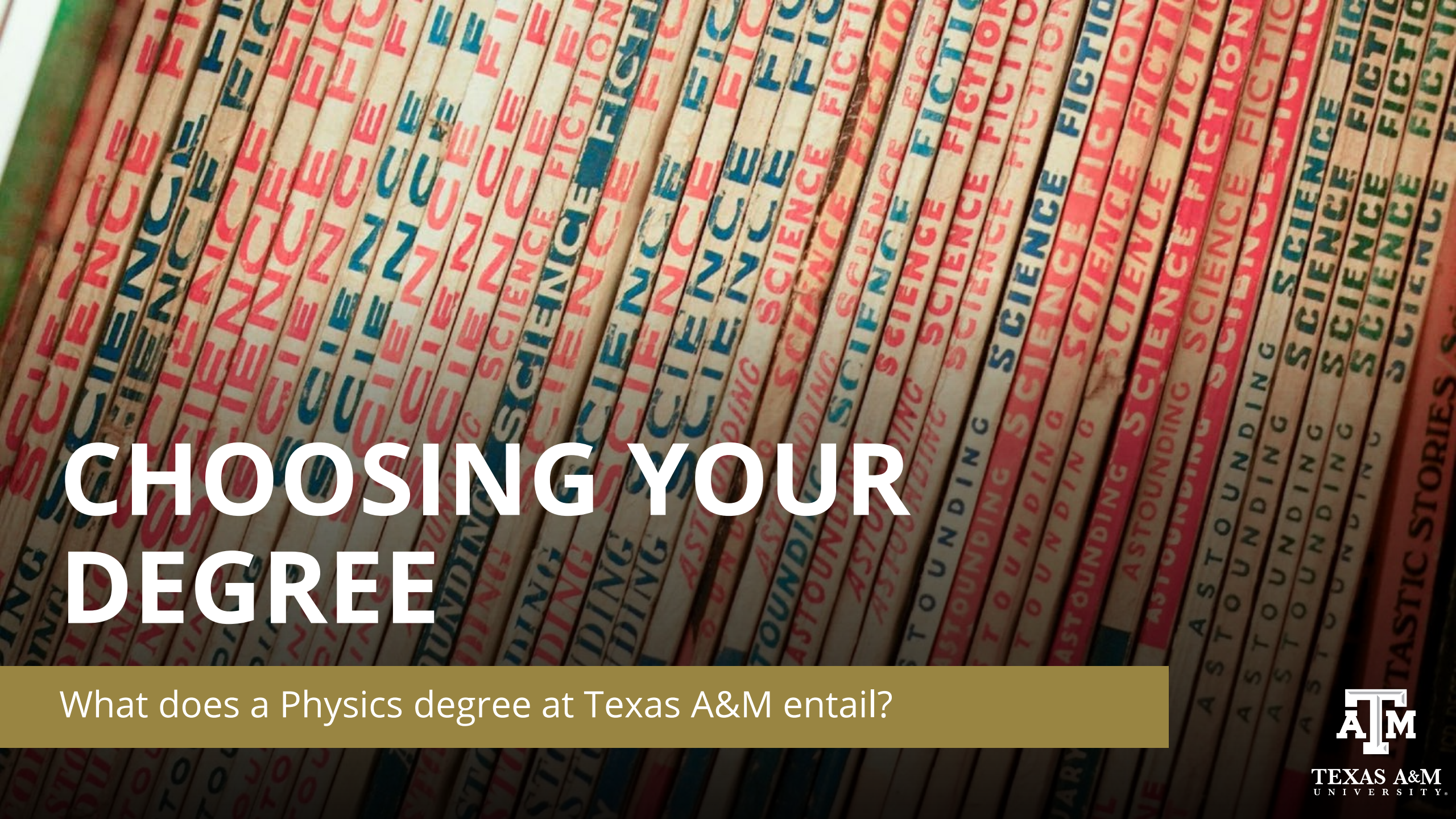
TEXAS A&M B.A. AND B.S. IN PHYSICS GRADUATE SCHOOLS AND FIELDS OF STUDY

- **Brown University**
- **Colorado School of Mines**
- **Indiana University**
- **Rice University**
- **Rochester Institute of Technology**
- **Texas A&M University**
- **University of Colorado, Boulder**
- **University of Maryland**
- **University of Michigan**
- **University of Texas, Austin**
- **University of Toronto**
- **University of Washington**

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

PHYSICS AND ASTRONOMY CLASS OF 2024 (25 STUDENTS)

- Baylor (math)
- Brown University
- Duke University
- Johns Hopkins
- Texas A&M University (x2)
- University of Virginia
- University of Wisconsin, Madison
- University of Houston (engineering)
- Los Alamos National Lab (fellowship)
- MP Materials
- National Science Foundation (fellowship)
- ST Genetics



CHOOSING YOUR DEGREE

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

TEXAS A&M UNIVERSITY

TAMU PHYSICS DEGREE OPTIONS

- **Bachelor of Science in Physics**
- **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**

Each BS degree shares a set of core Physics classes, then includes specialized courses for each "track."

TEXAS A&M UNIVERSITY
Physics & Astronomy

SCAN ME

DEGREE OPTIONS FOR UNDERGRADUATES

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

BACHELOR OF SCIENCE

- **Includes all upper-level PHYS courses**
  - Good preparation for grad school in Physics
- **Requires Physics or Astronomy research**
  - The list of faculty members with their research areas can be found on the Research tab of our Physics website
  - https://physics.tamu.edu/research/
- **Getting off track in this degree plan will delay graduation by a year**

BS in Physics 2024 - 2025 Catalog

Freshman Year

This plan is unofficial and should be used for reference only.

First Semester*	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 101 Topics in Cont. Physics[1]	(1-0)	1		ASTR 102 Observational Astronomy	(0-3)	1
MATH 171 Analytic Geom. and Calculus[1]	(4-0)	4		PHYS 206 Newtonian Mech. for Engr. and Sci.[1]	(3-0)	3
PHYS 150 Intro to Programming for Physics	(3-0)	3		PHYS 226 Physics of Motion Lab for Sci.[1]	(0-2)	1
ENGL 104 Comp. and Rhetoric	(3-0)	3		MATH 172 Calculus[1]	(4-0)	4
HIST 105 History of the U.S.[2]	(3-0)	3		Language, Philosophy and Culture elective[2]	(3-0)	3
				HIST 106 History of the U.S.[2]	(3-0)	3
		14				15

Sophomore Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 207 Elect. & Mag. for Engr. and Sci.[1]	(3-0)	3		PHYS 225 Electronic Circuits	(1-4)	3
PHYS 227 Elect. & Mag. Lab for Sci.[1]	(0-3)	1		PHYS 309 Modern Physics[1]	(3-0)	3
PHYS 221 Optics and Thermal Physics[1]	(3-0)	3		PHYS 331 Theoretical Methods I[1]	(3-0)	3
MATH 221 Several Variable Calculus[1]	(4-0)	4		POLS 207 State & Local Govt.	(3-0)	3
MATH 308 Differential Equations[1]	(3-0)	3		Communication elective[3]		3
		14				15

Junior Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 302 Adv. Mechanics I	(3-0)	3		PHYS 303 Adv. Mechanics II	(3-0)	3
PHYS 304 Adv. Elect. and Magn. I	(3-0)	3		PHYS 305 Adv. Elec. and Magn. II	(3-0)	3
PHYS 332 Theoretical Methods II	(3-0)	3		PHYS 327 Experimental Physics[4]	(1-2)	2
Social and Behavioral Sciences elective[2]		3		PHYS 328 Experimental Physics II[4]	(1-1)	1
Creative Arts elective[2]	(3-0)	3		PHYS 412 Quantum Mechanics I	(3-0)	3
				POLS 206 American Nat'l. Govt.	(3-0)	3
		15				15

Senior Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 408 Thermo. and Stat. Mechanics	(4-0)	4		PHYS 401 Computational Physics[5]	(3-0)	3
PHYS 414/416 Quant. Mech. II/Solid State	(3-0)	3		PHYS 425 Physics Lab	(0-6)	2
PHYS 426 Physics Lab	(0-6)	2		PHYS 491/ASTR 491 Research[9]	(0-6)	2
PHYS 491/ASTR 491 Research[9]	(0-6)	2		Science or Technical elective[6]		3
Physics elective[8]		3		Electives[7]		7
		14				18

NOTES:
1. A physics major must complete the foundation courses (ASTR 102, PHYS 101, 150, 206/226, 207/227, 221, 309, 331, MATH 171, 172, 221, 308) with a grade of 'C' or better and have a 2.0 cumulative GPR before taking non-foundation upper-level physics courses.
2. Any course in this category from the approved University Core Curriculum list of courses.
3. Any approved Communication course, except THAR 407.
4. PHYS 327 is an approved W course. PHYS 328 is an approved C course.
5. To register for PHYS 401 a student **must** be able to program in a high level language.
6. Any upper-division course within the College of Science, College of Geosciences or College of Engineering (except 485/491)
7. Electives should be chosen in consultation with the student's advisor. Three hours must be in the area of International and Cultural Diversity, and three hours must be in the area of Cultural Discourse. These may be in addition to other University Core Curriculum courses, or, if a course in this category satisfies another area of the Core, it can be used to meet both requirements.
8. Chosen from ASTR 314, PHYS 414/416, PHYS 489, MATH 460, or any graduate offering in PHYS or ASTR.
9. A combination of PHYS 291, PHYS 491, ASTR 291 and ASTR 491 must equal 4 hours. Students with U1 or U2 classification should take PHYS/ASTR 291. Students with U3 or U4 classification should take PHYS/ASTR 491.

*ARSC 101 or an equivalent course is required for all Freshmen students in their first semester. This is a 0 credit hour course graded S/U.

Beginning in the Sophomore Year - Second Semester: PHYS courses are offered only once a year in the semester shown on this plan.

BA in Physics 2024 - 2025 Catalog

Freshman Year

This plan is unofficial and should be used for reference only.

First Semester*	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 101 Topics in Cont. Physics[1]	(1-0)	1		ASTR 102 Observational Astronomy	(0-3)	1
MATH 171 Analytic Geom. and Calculus[1]	(4-0)	4		PHYS 206 Newtonian Mech. for Engr. and Sci.[1]	(3-0)	3
PHYS 150 Intro to Programming for Physics	(3-0)	3		PHYS 226 Physics of Motion Lab for Sci.[1]	(0-2)	1
ENGL 104 Comp. and Rhetoric	(3-0)	3		MATH 172 Calculus[1]	(4-0)	4
HIST 105 History of the U.S.[2]	(3-0)	3		Language, Philosophy and Culture elective[2]	(3-0)	3
				HIST 106 History of the U.S.[2]	(3-0)	3
		14				15

Sophomore Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 207 Elect. & Mag. for Engr. and Sci.[1]	(3-0)	3		PHYS 225 Electronic Circuits	(1-4)	3
PHYS 227 Elect. & Mag. Lab for Sci.[1]	(0-3)	1		PHYS 309 Modern Physics[1]	(3-0)	3
PHYS 221 Optics and Thermal Physics[1]	(3-0)	3		PHYS 331 Theoretical Methods I[1]	(3-0)	3
MATH 221 Several Variable Calculus[1]	(4-0)	4		Elective[3]		7
MATH 308 Differential Equations[1]	(3-0)	3				
		14				16

Junior Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 302 Adv. Mechanics I	(3-0)	3		PHYS 327 Experimental Physics[5]	(1-2)	2
PHYS 304 Adv. Elect. and Magn. I	(3-0)	3		PHYS 328 Experimental Physics II[5]	(1-1)	1
PHYS 332 Theoretical Methods II	(3-0)	3		PHYS 412 Quantum Mechanics I	(3-0)	3
Social and Behavioral Sciences elective[2]	(3-0)	3		Communication elective[4]		3
POLS 206 American Nat'l. Govt.		3		POLS 207 State and Local Govt.		3
				Electives[3]		3
		15				15

Senior Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
Science or Technical elective[6]	(3-0)	3		Physics Elective[7]	(3-0)	3
Electives[3]		13		Creative Arts elective[2]		3
				Electives[3]		9
		16				15

NOTES:
1. A physics major must complete the foundation courses (ASTR 102, PHYS 101, 150, 206/226, 207/227, 221, 309, 331, MATH 171, 172, 221, 308) with a grade of 'C' or better and have a 2.0 cumulative GPR before taking non-foundation upper-level physics courses.
2. Any course in this category from the approved University Core Curriculum list of courses.
3. A minor is required and, along with other free electives, should be chosen in consultation with the student's advisor. Three hours must be in the area of International and Cultural Diversity, and three hours must be in the area of Cultural Discourse. These may be in addition to other University Core Curriculum courses, or if a course in this category satisfies another area of the Core, it can be used to meet both requirements. Electives may be selected from any 100-499 course not used elsewhere, except ENGL 103; MATH 100-148, MATH 165-166, MATH 365, MATH 366; PHYS 201, PHYS 202.
4. PHYS 327 is an approved W course. PHYS 328 is an approved C course.
5. Any approved Communication course, except THAR 407.
6. Any upper-division course within the College of Science, College of Geosciences or College of Engineering (except 485/491).
7. Select from ASTR 314, PHYS 401, PHYS 414, PHYS 416, PHYS 418, PHYS 489, MATH 460.

***ARSC 101or an equivalent course is required for all Freshmen students in their first semester. This is a 0 credit hour course graded S/U.**

Beginning in the Sophomore Year - Second Semester: PHYS courses are offered only once a year in the semester shown on this plan.

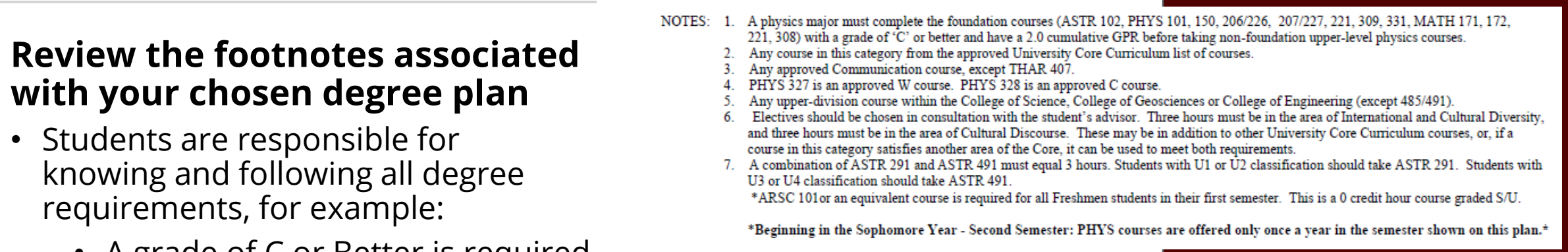
BACHELOR OF ARTS

- **Removes upper-level PHYS courses from Senior Year**
  - Most flexible degree option with ample electives
- **Requires completion of a minor**
  - A list of all potential minors can be found on the Aggie One Stop website
  - https://aggie.tamu.edu/registration-and-records/degree-programs/adding-and-removing-a-minor
- **Getting off track in this degree plan is unlikely to delay graduation**

IMPORTANT NOTES FOR ALL DEGREES

Review the footnotes associated with your chosen degree plan

- Students are responsible for knowing and following all degree requirements, for example:
  - A grade of C or Better is required in all Physics Foundation Courses, even though a grade of D is considered passing
  - All upper-level PHYS courses are only offered once a year
  - The BA Degree requires that you complete a minor



NOTES:
1. A physics major must complete the foundation courses (ASTR 102, PHYS 101, 150, 206/226, 207/227, 221, 309, 331, MATH 171, 172, 221, 308) with a grade of 'C' or better and have a 2.0 cumulative GPR before taking non-foundation upper-level physics courses.
2. Any course in this category from the approved University Core Curriculum list of courses.
3. Any approved Communication course, except THAR 407.
4. PHYS 327 is an approved W course. PHYS 328 is an approved C course.
5. Any upper-division course within the College of Science, College of Geosciences or College of Engineering (except 485/491).
6. Electives should be chosen in consultation with the student's advisor. Three hours must be in the area of International and Cultural Diversity, and three hours must be in the area of Cultural Discourse. These may be in addition to other University Core Curriculum courses, or, if a course in this category satisfies another area of the Core, it can be used to meet both requirements.
7. A combination of ASTR 291 and ASTR 491 must equal 3 hours. Students with U1 or U2 classification should take ASTR 291. Students with U3 or U4 classification should take ASTR 491.

*ARSC 101or an equivalent course is required for all Freshmen students in their first semester. This is a 0 credit hour course graded S/U.

Beginning in the Sophomore Year - Second Semester: PHYS courses are offered only once a year in the semester shown on this plan.

ASTROPHYSICS TRACK

- **Includes Astronomy courses**
  - Good preparation for grad school in Astrophysics or Astronomy
- **Requires Astronomy research**
  - The list of Astronomy faculty members can be found on the Research tab of our Physics website
  - https://physics.tamu.edu/research/
- **Getting off track in this degree plan will delay graduation by at least one semester**

BS in Physics – Astrophysics Track 2024 - 2025 Catalog

Freshman Year

This plan is unofficial and should be used for reference only.

First Semester*	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 101 Topics in Cont. Physics[1]	(1-0)	1		ASTR 102 Observational Astronomy	(0-3)	1
MATH 171 Analytic Geom. and Calculus[1]	(4-0)	4		PHYS 206 Newtonian Mech. for Engr. and Sci.[1]	(3-0)	3
PHYS 150 Intro to Programming for Physics	(3-0)	3		PHYS 226 Physics of Motion Lab for Sci.[1]	(0-2)	1
ENGL 104 Comp. and Rhetoric	(3-0)	3		MATH 172 Calculus[1]	(4-0)	4
HIST 105 History of the U.S.[2]	(3-0)	3		Language, Philosophy and Culture elective[2]	(3-0)	3
				HIST 106 History of the U.S.[2]	(3-0)	3
		14				15

Sophomore Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 207 Elect. & Mag. for Engr. and Sci.[1]	(3-0)	3		PHYS 225 Electronic Circuits	(1-4)	3
PHYS 227 Elect. & Mag. Lab for Sci.[1]	(0-3)	1		PHYS 309 Modern Physics[1]	(3-0)	3
PHYS 221 Optics and Thermal Physics[1]	(3-0)	3		PHYS 331 Theoretical Methods I[1]	(3-0)	3
MATH 221 Several Variable Calculus[1]	(4-0)	4		ASTR 314 Survey of Astronomy	(3-0)	3
MATH 308 Differential Equations[1]	(3-0)	3		Communication elective[3]	(3-0)	3
		14				15

Junior Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 302 Adv. Mechanics I	(3-0)	3		PHYS 303/305 Adv. Mech. II/Adv. E&M	(3-0)	3
PHYS 304 Adv. Elect. And Magn. I	(3-0)	3		PHYS 327 Experimental Physics[4]	(1-2)	2
PHYS 332 Theoretical Methods II	(3-0)	3		PHYS 328 Experimental Physics II[4]	(1-1)	1
ASTR 320 Astrophysical Research I	(3-0)	3		PHYS 412 Quantum Mechanics I	(3-0)	3
POLS 206 American National Government	(3-0)	3		ASTR 420 Astrophysical Research II	(3-0)	3
				POLS 207 State and Local Government	(3-0)	3
		15				15

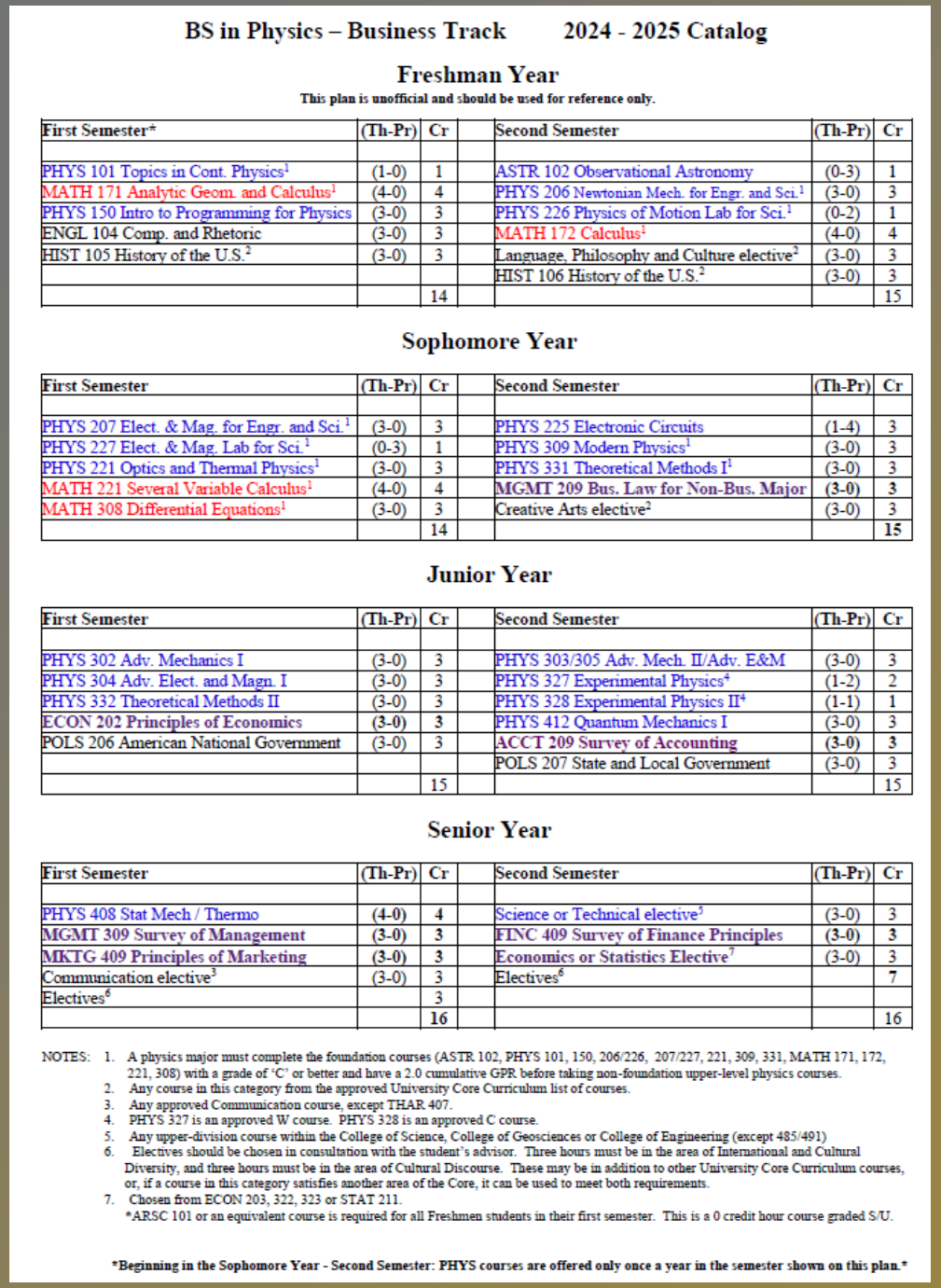
Senior Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 408 Thermo. And Stat. Mechanics	(4-0)	4		Science or Technical elective[5]	(3-0)	3
ASTR 401 Stars & Extrasolar Planets	(3-0)	3		ASTR 403 Extragalactic Astronomy	(3-0)	3
Creative Arts elective[2]	(3-0)	3		Social and Behavioral Sciences elective[2]	(3-0)	3
ASTR 291/491 Research[7]	(0-9)	3		Electives[6]		7
Electives[6]		3				
		16				16

NOTES:
1. A physics major must complete the foundation courses (ASTR 102, PHYS 101, 150, 206/226, 207/227, 221, 309, 331, MATH 171, 172, 221, 308) with a grade of 'C' or better and have a 2.0 cumulative GPR before taking non-foundation upper-level physics courses.
2. Any course in this category from the approved University Core Curriculum list of courses.
3. Any approved Communication course, except THAR 407.
4. PHYS 327 is an approved W course. PHYS 328 is an approved C course.
5. Any upper-division course within the College of Science, College of Geosciences or College of Engineering (except 485/491).
6. Electives should be chosen in consultation with the student's advisor. Three hours must be in the area of International and Cultural Diversity, and three hours must be in the area of Cultural Discourse. These may be in addition to other University Core Curriculum courses, or, if a course in this category satisfies another area of the Core, it can be used to meet both requirements.
7. A combination of ASTR 291 and ASTR 491 must equal 3 hours. Students with U1 or U2 classification should take ASTR 291. Students with U3 or U4 classification should take ASTR 491.

*ARSC 101or an equivalent course is required for all Freshmen students in their first semester. This is a 0 credit hour course graded S/U.

Beginning in the Sophomore Year - Second Semester: PHYS courses are offered only once a year in the semester shown on this plan.



BS in Physics – Business Track 2024 - 2025 Catalog

Freshman Year

This plan is unofficial and should be used for reference only.

First Semester*	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 101 Topics in Cont. Physics[1]	(1-0)	1		ASTR 102 Observational Astronomy	(0-3)	1
MATH 171 Analytic Geom. and Calculus[1]	(4-0)	4		PHYS 206 Newtonian Mech. for Engr. and Sci.[1]	(3-0)	3
PHYS 150 Intro to Programming for Physics	(3-0)	3		PHYS 226 Physics of Motion Lab for Sci.[1]	(0-2)	1
ENGL 104 Comp. and Rhetoric	(3-0)	3		MATH 172 Calculus[1]	(4-0)	4
HIST 105 History of the U.S.[2]	(3-0)	3		Language, Philosophy and Culture elective[2]	(3-0)	3
				HIST 106 History of the U.S.[2]	(3-0)	3
		14				15

Sophomore Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 207 Elect. & Mag. for Engr. and Sci.[1]	(3-0)	3		PHYS 225 Electronic Circuits	(1-4)	3
PHYS 227 Elect. & Mag. Lab for Sci.[1]	(0-3)	1		PHYS 309 Modern Physics[1]	(3-0)	3
PHYS 221 Optics and Thermal Physics[1]	(3-0)	3		PHYS 331 Theoretical Methods I[1]	(3-0)	3
MATH 221 Several Variable Calculus[1]	(4-0)	4		MGMT 209 Bus. Law for Non-Bus. Major	(3-0)	3
MATH 308 Differential Equations[1]	(3-0)	3		Creative Arts elective[2]	(3-0)	3
		14				15

Junior Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 302 Adv. Mechanics I	(3-0)	3		PHYS 303/305 Adv. Mech. II/Adv. E&M	(3-0)	3
PHYS 304 Adv. Elect. and Magn. I	(3-0)	3		PHYS 327 Experimental Physics[4]	(1-2)	2
PHYS 332 Theoretical Methods II	(3-0)	3		PHYS 328 Experimental Physics II[4]	(1-1)	1
ECON 202 Principles of Economics	(3-0)	3		PHYS 412 Quantum Mechanics I	(3-0)	3
POLS 206 American National Government	(3-0)	3		ACCT 209 Survey of Accounting	(3-0)	3
				POLS 207 State and Local Government	(3-0)	3
		15				15

Senior Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 408 Stat Mech / Thermo	(4-0)	4		Science or Technical elective[5]	(3-0)	3
MGMT 309 Survey of Management	(3-0)	3		FINC 409 Survey of Finance Principles	(3-0)	3
MKTG 409 Principles of Marketing	(3-0)	3		Economics or Statistics Elective[7]	(3-0)	3
Communication elective[3]	(3-0)	3		Electives[6]		7
Electives[6]		3				
		16				16

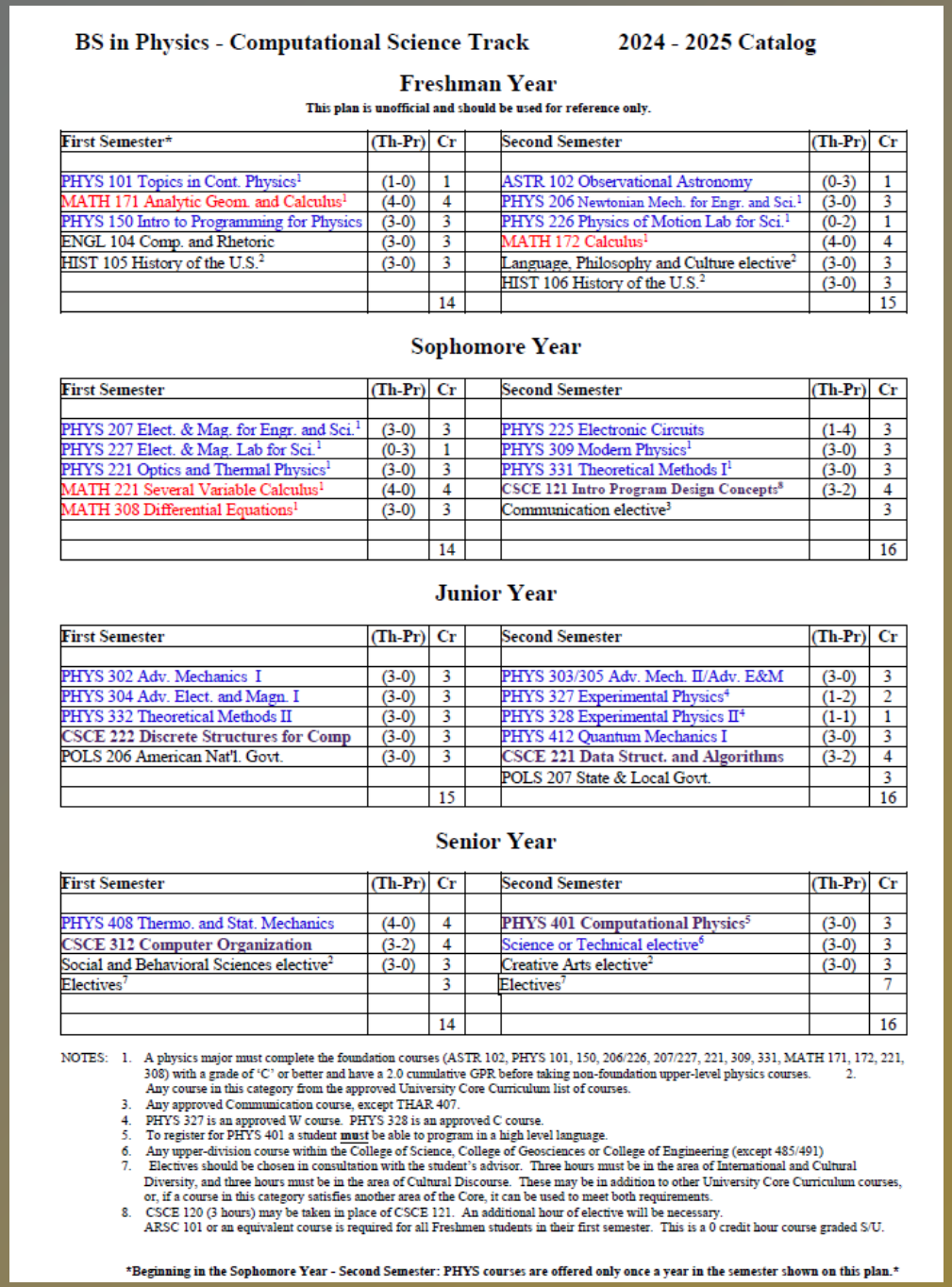
NOTES:
1. A physics major must complete the foundation courses (ASTR 102, PHYS 101, 150, 206/226, 207/227, 221, 309, 331, MATH 171, 172, 221, 308) with a grade of 'C' or better and have a 2.0 cumulative GPR before taking non-foundation upper-level physics courses.
2. Any course in this category from the approved University Core Curriculum list of courses.
3. Any approved Communication course, except THAR 407.
4. PHYS 327 is an approved W course. PHYS 328 is an approved C course.
5. Any upper-division course within the College of Science, College of Geosciences or College of Engineering (except 485/491)
6. Electives should be chosen in consultation with the student's advisor. Three hours must be in the area of International and Cultural Diversity, and three hours must be in the area of Cultural Discourse. These may be in addition to other University Core Curriculum courses, or, if a course in this category satisfies another area of the Core, it can be used to meet both requirements.
7. Chosen from ECON 203, 322, 323 or STAT 211.

*ARSC 101 or an equivalent course is required for all Freshmen students in their first semester. This is a 0 credit hour course graded S/U.

Beginning in the Sophomore Year - Second Semester: PHYS courses are offered only once a year in the semester shown on this plan.

BUSINESS TRACK

- **Includes Business courses**
  - Provides foundational knowledge in management, economics, accounting, marketing, and finance
  - Track courses taught by Mays Business School
  - Relevant for positions in policy, consulting, government work
- **Getting off track in this degree plan will delay graduation by at least one semester**



BS in Physics - Computational Science Track **2024 - 2025 Catalog**

Freshman Year

This plan is unofficial and should be used for reference only.

First Semester*	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 101 Topics in Cont. Physics[1]	(1-0)	1		ASTR 102 Observational Astronomy	(0-3)	1
MATH 171 Analytic Geom. and Calculus[1]	(4-0)	4		PHYS 206 Newtonian Mech. for Engr. and Sci.[1]	(3-0)	3
PHYS 150 Intro to Programming for Physics	(3-0)	3		PHYS 226 Physics of Motion Lab for Sci.[1]	(0-2)	1
ENGL 104 Comp. and Rhetoric	(3-0)	3		MATH 172 Calculus[1]	(4-0)	4
HIST 105 History of the U.S.[2]	(3-0)	3		Language, Philosophy and Culture elective[2]	(3-0)	3
				HIST 106 History of the U.S.[2]	(3-0)	3
		14				15

Sophomore Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 207 Elect. & Mag. for Engr. and Sci.[1]	(3-0)	3		PHYS 225 Electronic Circuits	(1-4)	3
PHYS 227 Elect. & Mag. Lab for Sci.[1]	(0-3)	1		PHYS 309 Modern Physics[1]	(3-0)	3
PHYS 221 Optics and Thermal Physics[1]	(3-0)	3		PHYS 331 Theoretical Methods I[1]	(3-0)	3
MATH 221 Several Variable Calculus[1]	(4-0)	4		CSCE 121 Intro Program Design Concepts[8]	(3-2)	4
MATH 308 Differential Equations[1]	(3-0)	3		Communication elective[3]		3
		14				16

Junior Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 302 Adv. Mechanics I	(3-0)	3		PHYS 303/305 Adv. Mech. II/Adv. E&M	(3-0)	3
PHYS 304 Adv. Elect. and Magn. I	(3-0)	3		PHYS 327 Experimental Physics[4]	(1-2)	2
PHYS 332 Theoretical Methods II	(3-0)	3		PHYS 328 Experimental Physics II[4]	(1-1)	1
CSCE 222 Discrete Structures for Comp	(3-0)	3		PHYS 412 Quantum Mechanics I	(3-0)	3
POLS 206 American Nat'l. Govt.	(3-0)	3		CSCE 221 Data Struct. and Algorithms	(3-2)	4
				POLS 207 State & Local Govt.		3
		15				16

Senior Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 408 Thermo. and Stat. Mechanics	(4-0)	4		PHYS 401 Computational Physics[5]	(3-0)	3
CSCE 312 Computer Organization	(3-2)	4		Science or Technical elective[6]	(3-0)	3
Social and Behavioral Sciences elective[2]	(3-0)	3		Creative Arts elective[2]	(3-0)	3
Electives[7]		3		Electives[7]		7
		14				16

NOTES:
1. A physics major must complete the foundation courses (ASTR 102, PHYS 101, 150, 206/226, 207/227, 221, 309, 331, MATH 171, 172, 221, 308) with a grade of 'C' or better and have a 2.0 cumulative GPR before taking non-foundation upper-level physics courses.
2. Any course in this category from the approved University Core Curriculum list of courses.
3. Any approved Communication course, except THAR 407.
4. PHYS 327 is an approved W course. PHYS 328 is an approved C course.
5. To register for PHYS 401 a student **must** be able to program in a high level language.
6. Any upper-division course within the College of Science, College of Geosciences or College of Engineering (except 485/491)
7. Electives should be chosen in consultation with the student's advisor. Three hours must be in the area of International and Cultural Diversity, and three hours must be in the area of Cultural Discourse. These may be in addition to other University Core Curriculum courses, or, if a course in this category satisfies another area of the Core, it can be used to meet both requirements.
8. CSCE 120 (3 hours) may be taken in place of CSCE 121. An additional hour of elective will be necessary.

ARSC 101 or an equivalent course is required for all Freshmen students in their first semester. This is a 0 credit hour course graded S/U.

Beginning in the Sophomore Year - Second Semester: PHYS courses are offered only once a year in the semester shown on this plan.

COMPUTATIONAL SCIENCE TRACK

- **Includes Computer Science and Computational Physics courses**
  - Provides foundational knowledge in computing and data structures
  - Track courses taught by the Department of Electrical & Computer Engineering
  - Relevant for positions in data science
- **Getting off track in this degree plan will delay graduation by a year**

BS in Physics – Semiconductors and Modern Materials Track 2024 - 2025 Catalog

Freshman Year

This plan is unofficial and should be used for reference only.

First Semester*	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 101 Topics in Cont. Physics[1]	(1-0)	1		ASTR 102 Observational Astronomy[1]	(0-3)	1
MATH 171 Analytic Geom. and Calculus[1]	(4-0)	4		PHYS 206 Newtonian Mech. for Engr. and Sci.[1]	(3-0)	3
PHYS 150 Intro to Programming for Physics[1]	(3-0)	3		PHYS 226 Physics of Motion Lab for Sci.[1]	(0-2)	1
ENGL 104 Comp. and Rhetoric	(3-0)	3		MATH 172 Calculus[1]	(4-0)	4
HIST 105 History of the U.S.[2]	(3-0)	3		CHEM 107 Gen. Chem. For Engr. Stud.	(3-0)	3
				CHEM 117 Gen. Chem. For Engr. Lab	(0-3)	1
		14				13

Sophomore Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 207 Elect. & Mag. for Engr. and Sci.[1]	(3-0)	3		PHYS 225 Electronic Circuits	(1-4)	3
PHYS 227 Elect. & Mag. Lab for Sci.[1]	(0-2)	1		PHYS 309 Modern Physics[1]	(3-0)	3
PHYS 221 Optics and Thermal Physics[1]	(3-0)	3		PHYS 331 Theoretical Methods I[1]	(3-0)	3
MATH 221 Several Variable Calculus[1]	(4-0)	4		MSEN 222 Materials Science	(3-0)	3
MATH 308 Differential Equations[1]	(3-0)	3		HIST 106 History of the U.S.[2]	(3-0)	3
		14				15

Junior Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 302 Adv. Mechanics I	(3-0)	3		PHYS 303/305 Adv. Mech. II/Adv. E&M II	(3-0)	3
PHYS 304 Adv. Elect. And Magn. I	(3-0)	3		PHYS 327 Experimental Physics[4]	(1-2)	2
PHYS 332 Theoretical Methods II	(3-0)	3		PHYS 328 Experimental Physics II[4]	(1-1)	1
MP Directed Elective[7]	(3-0)	3		PHYS 412 Quantum Mechanics I	(3-0)	3
POLS 206 American National Government	(3-0)	3		MP Directed Elective[7]	(3-0)	3
				Social and Behavioral Science[2]	(3-0)	3
		15				15

Senior Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 408 Thermo. And Stat. Mechanics	(4-0)	4		Science or Technical Elective [5]	(3-0)	3
MP Directed Elective[7]	(3-0)	3		MP Directed Elective[7]	(3-0)	3
Creative Arts elective[2]	(3-0)	3		POLS 207 State and Local Government	(3-0)	3
Language, Philosophy and Culture elective[2]	(3-0)	3		Communication elective[3]	(3-0)	3
Electives[6]		3		Electives[6]		6
		16				18

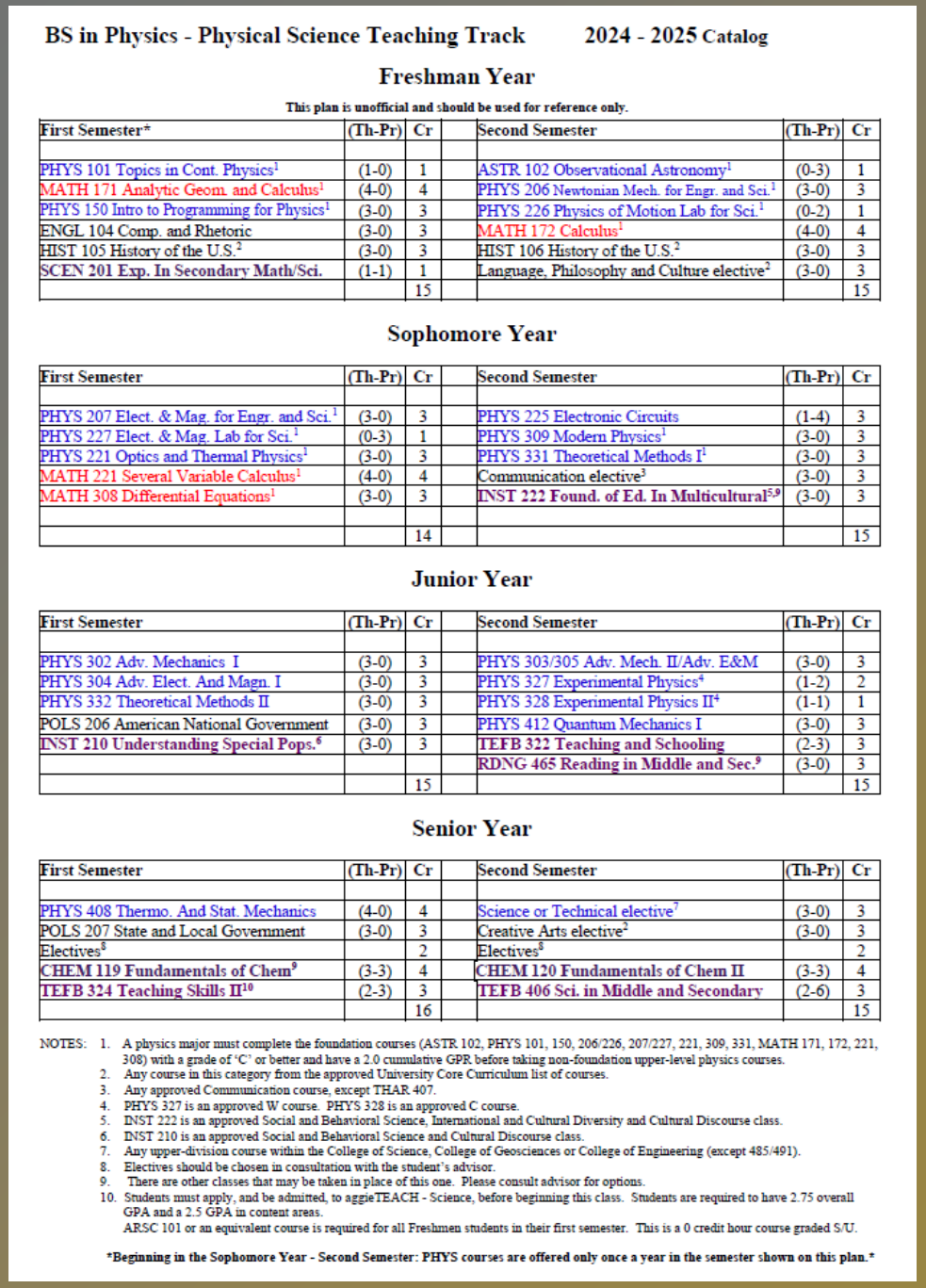
NOTES:
1. A physics major must complete the foundation courses (ASTR 102, PHYS 101, 150, 206/226, 207/227, 221, 309, 331, MATH 171, 172, 221, 308) with a grade of 'C' or better and have a 2.0 cumulative GPR before taking non-foundation upper-level physics courses.
2. Any course in this category from the approved University Core Curriculum list of courses.
3. Any approved Communication course, except PERF 407.
4. PHYS 327 is an approved W course. PHYS 328 is an approved C course.
5. Any upper-division course within the College of Science, College of Geosciences or College of Engineering (except 485/491).
6. Electives should be chosen in consultation with the student's advisor. Three hours must be in the area of International and Cultural Diversity, and three hours must be in the area of Cultural Discourse. These may be in addition to other University Core Curriculum courses, or, if a course in this category satisfies another area of the Core, it can be used to meet both requirements.
7. A minimum of 6 hours must be chosen from MSEN 210, 250, 260, 305, 320, 325, 415, 420, 430, 458 and 472. A maximum of 6 hours can be chosen from BAEN 354, CHEM 466, 468, ECEN 370, 440, MEEN 360, 455, 458, 471, NUEN 456 and PHYS 416.

*ARSC 101 or an equivalent course is required for all Freshmen students in their first semester. This is a 0 credit hour course graded S/U.

*** Beginning in the Sophomore Year – Second Semester: PHYS courses are offered only once a year in the semester shown on this plan. ***

SEMICONDUCTORS AND MODERN MATERIALS TRACK

- **Includes Materials Physics directed electives**
  - Provides foundational knowledge in chemistry and materials science
  - Track courses taught by the Department of Materials Science and Engineering, with electives offered by various departments in the College of Engineering
- **Getting off track in this degree plan will delay graduation by at least one semester**



BS in Physics - Physical Science Teaching Track **2024 - 2025 Catalog**

Freshman Year

This plan is unofficial and should be used for reference only.

First Semester*	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 101 Topics in Cont. Physics[1]	(1-0)	1		ASTR 102 Observational Astronomy[1]	(0-3)	1
MATH 171 Analytic Geom. and Calculus[1]	(4-0)	4		PHYS 206 Newtonian Mech. for Engr. and Sci.[1]	(3-0)	3
PHYS 150 Intro to Programming for Physics[1]	(3-0)	3		PHYS 226 Physics of Motion Lab for Sci.[1]	(0-2)	1
ENGL 104 Comp. and Rhetoric	(3-0)	3		MATH 172 Calculus[1]	(4-0)	4
HIST 105 History of the U.S.[2]	(3-0)	3		HIST 106 History of the U.S.[2]	(3-0)	3
SCEN 201 Exp. In Secondary Math/Sci.	(1-1)	1		Language, Philosophy and Culture elective[2]	(3-0)	3
		15				15

Sophomore Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 207 Elect. & Mag. for Engr. and Sci.[1]	(3-0)	3		PHYS 225 Electronic Circuits	(1-4)	3
PHYS 227 Elect. & Mag. Lab for Sci.[1]	(0-3)	1		PHYS 309 Modern Physics[1]	(3-0)	3
PHYS 221 Optics and Thermal Physics[1]	(3-0)	3		PHYS 331 Theoretical Methods I[1]	(3-0)	3
MATH 221 Several Variable Calculus[1]	(4-0)	4		Communication elective[3]	(3-0)	3
MATH 308 Differential Equations[1]	(3-0)	3		INST 222 Found. of Ed. In Multicultural[5,9]	(3-0)	3
		14				15

Junior Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 302 Adv. Mechanics I	(3-0)	3		PHYS 303/305 Adv. Mech. II/Adv. E&M	(3-0)	3
PHYS 304 Adv. Elect. And Magn. I	(3-0)	3		PHYS 327 Experimental Physics[4]	(1-2)	2
PHYS 332 Theoretical Methods II	(3-0)	3		PHYS 328 Experimental Physics II[4]	(1-1)	1
POLS 206 American National Government	(3-0)	3		PHYS 412 Quantum Mechanics I	(3-0)	3
INST 210 Understanding Special Pops.[6]	(3-0)	3		TEFB 322 Teaching and Schooling	(2-3)	3
				RDNG 465 Reading in Middle and Sec.[9]	(3-0)	3
		15				15

Senior Year

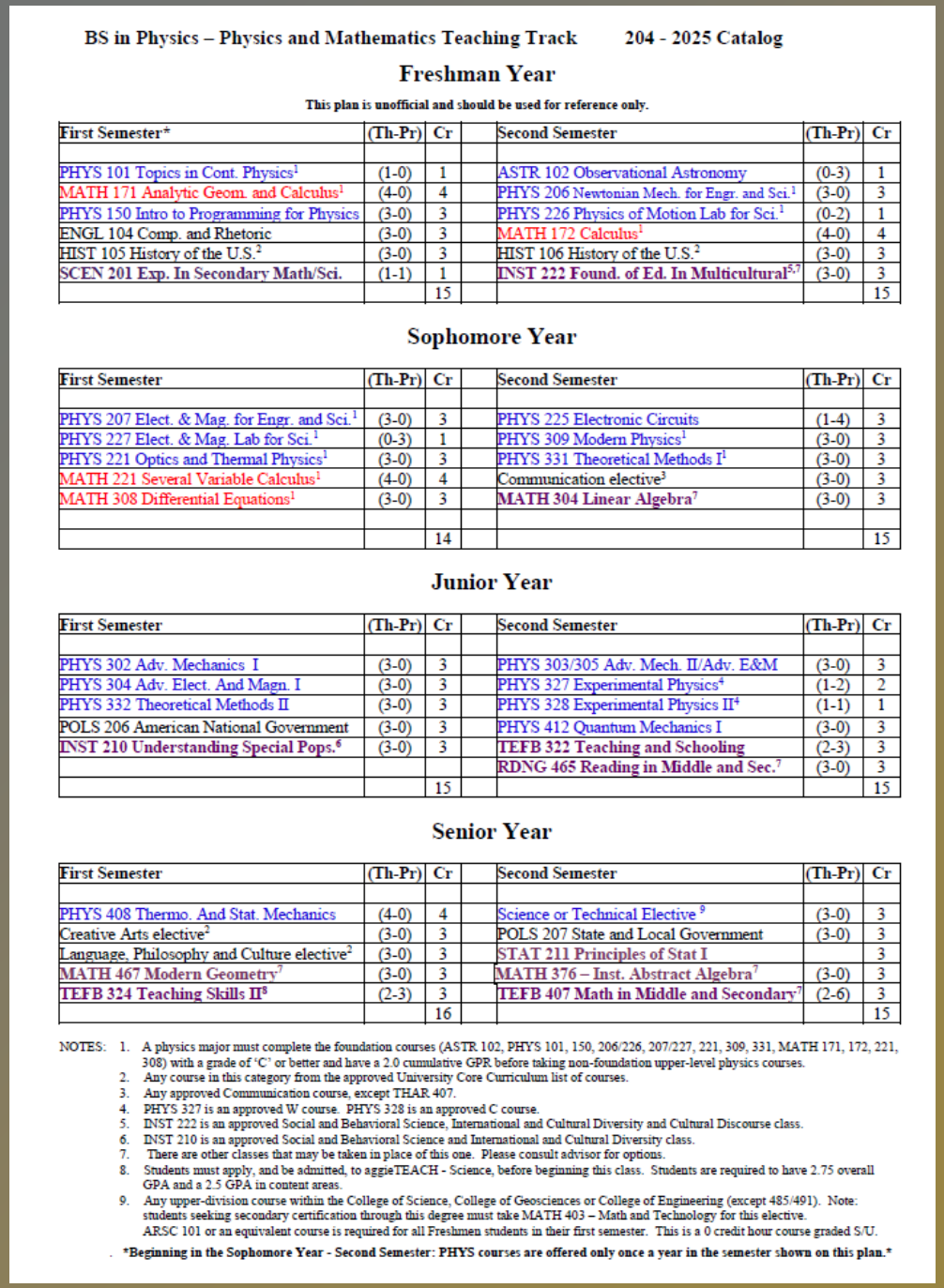
First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 408 Thermo. And Stat. Mechanics	(4-0)	4		Science or Technical elective[7]	(3-0)	3
POLS 207 State and Local Government	(3-0)	3		Creative Arts elective[2]	(3-0)	3
Electives[8]		2		Electives[8]		2
CHEM 119 Fundamentals of Chem[9]	(3-3)	4		CHEM 120 Fundamentals of Chem II	(3-3)	4
TEFB 324 Teaching Skills II[10]	(2-3)	3		TEFB 406 Sci. in Middle and Secondary	(2-6)	3
		16				15

NOTES:
1. A physics major must complete the foundation courses (ASTR 102, PHYS 101, 150, 206/226, 207/227, 221, 309, 331, MATH 171, 172, 221, 308) with a grade of 'C' or better and have a 2.0 cumulative GPR before taking non-foundation upper-level physics courses.
2. Any course in this category from the approved University Core Curriculum list of courses.
3. Any approved Communication course, except THAR 407.
4. PHYS 327 is an approved W course. PHYS 328 is an approved C course.
5. INST 222 is an approved Social and Behavioral Science, International and Cultural Diversity and Cultural Discourse class.
6. INST 210 is an approved Social and Behavioral Science and Cultural Discourse class.
7. Any upper-division course within the College of Science, College of Geosciences or College of Engineering (except 485/491).
8. Electives should be chosen in consultation with the student's advisor.
9. There are other classes that may be taken in place of this one. Please consult advisor for options.
10. Students must apply, and be admitted, to aggieTEACH - Science, before beginning this class. Students are required to have 2.75 overall GPA and a 2.5 GPA in content areas.
ARSC 101 or an equivalent course is required for all Freshmen students in their first semester. This is a 0 credit hour course graded S/U.

Beginning in the Sophomore Year - Second Semester: PHYS courses are offered only once a year in the semester shown on this plan.

PHYSICAL SCIENCE TEACHING TRACK

- **Includes teaching certification through the aggieTEACH program**
  - Provides preparation for teaching science at the middle school or high school level
  - Includes classes to earn a Secondary Education (SEED) minor
- **Getting off track in this degree plan will delay graduation by a year**



BS in Physics – Physics and Mathematics Teaching Track 204 - 2025 Catalog

Freshman Year

This plan is unofficial and should be used for reference only.

First Semester*	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 101 Topics in Cont. Physics[1]	(1-0)	1		ASTR 102 Observational Astronomy	(0-3)	1
MATH 171 Analytic Geom. and Calculus[1]	(4-0)	4		PHYS 206 Newtonian Mech. for Engr. and Sci.[1]	(3-0)	3
PHYS 150 Intro to Programming for Physics	(3-0)	3		PHYS 226 Physics of Motion Lab for Sci.[1]	(0-2)	1
ENGL 104 Comp. and Rhetoric	(3-0)	3		MATH 172 Calculus[1]	(4-0)	4
HIST 105 History of the U.S.[2]	(3-0)	3		HIST 106 History of the U.S.[2]	(3-0)	3
SCEN 201 Exp. In Secondary Math/Sci.	(1-1)	1		INST 222 Found. of Ed. In Multicultural[5,7]	(3-0)	3
		15				15

Sophomore Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 207 Elect. & Mag. for Engr. and Sci.[1]	(3-0)	3		PHYS 225 Electronic Circuits	(1-4)	3
PHYS 227 Elect. & Mag. Lab for Sci.[1]	(0-3)	1		PHYS 309 Modern Physics[1]	(3-0)	3
PHYS 221 Optics and Thermal Physics[1]	(3-0)	3		PHYS 331 Theoretical Methods I[1]	(3-0)	3
MATH 221 Several Variable Calculus[1]	(4-0)	4		Communication elective[3]	(3-0)	3
MATH 308 Differential Equations[1]	(3-0)	3		MATH 304 Linear Algebra[7]	(3-0)	3
		14				15

Junior Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 302 Adv. Mechanics I	(3-0)	3		PHYS 303/305 Adv. Mech. II/Adv. E&M	(3-0)	3
PHYS 304 Adv. Elect. And Magn. I	(3-0)	3		PHYS 327 Experimental Physics[4]	(1-2)	2
PHYS 332 Theoretical Methods II	(3-0)	3		PHYS 328 Experimental Physics II[4]	(1-1)	1
POLS 206 American National Government	(3-0)	3		PHYS 412 Quantum Mechanics I	(3-0)	3
INST 210 Understanding Special Pops.[6]	(3-0)	3		TEFB 322 Teaching and Schooling	(2-3)	3
				RDNG 465 Reading in Middle and Sec.[7]	(3-0)	3
		15				15

Senior Year

First Semester	(Th-Pr)	Cr		Second Semester	(Th-Pr)	Cr
PHYS 408 Thermo. And Stat. Mechanics	(4-0)	4		Science or Technical Elective [9]	(3-0)	3
Creative Arts elective[2]	(3-0)	3		POLS 207 State and Local Government	(3-0)	3
Language, Philosophy and Culture elective[2]	(3-0)	3		STAT 211 Principles of Stat I		3
MATH 467 Modern Geometry[7]	(3-0)	3		MATH 376 – Inst. Abstract Algebra[7]	(3-0)	3
TEFB 324 Teaching Skills II[8]	(2-3)	3		TEFB 407 Math in Middle and Secondary[7]	(2-6)	3
		16				15

NOTES:
1. A physics major must complete the foundation courses (ASTR 102, PHYS 101, 150, 206/226, 207/227, 221, 309, 331, MATH 171, 172, 221, 308) with a grade of 'C' or better and have a 2.0 cumulative GPR before taking non-foundation upper-level physics courses.
2. Any course in this category from the approved University Core Curriculum list of courses.
3. Any approved Communication course, except THAR 407.
4. PHYS 327 is an approved W course. PHYS 328 is an approved C course.
5. INST 222 is an approved Social and Behavioral Science, International and Cultural Diversity and Cultural Discourse class.
6. INST 210 is an approved Social and Behavioral Science and International and Cultural Diversity class.
7. There are other classes that may be taken in place of this one. Please consult advisor for options.
8. Students must apply, and be admitted, to aggieTEACH - Science, before beginning this class. Students are required to have 2.75 overall GPA and a 2.5 GPA in content areas.
9. Any upper-division course within the College of Science, College of Geosciences or College of Engineering (except 485/491). Note: students seeking secondary certification through this degree must take MATH 403 – Math and Technology for this elective.

ARSC 101 or an equivalent course is required for all Freshmen students in their first semester. This is a 0 credit hour course graded S/U.

Beginning in the Sophomore Year - Second Semester: PHYS courses are offered only once a year in the semester shown on this plan.

PHYSICS AND MATHEMATICS TEACHING TRACK

- **Includes teaching certification through the aggieTEACH program**
  - Provides preparation for teaching math and science at the middle school or high school level
  - Includes classes to earn a Secondary Education (SEED) minor
- **Getting off track in this degree plan will delay graduation by a year**


INTERESTED IN EXPANDING YOUR CAREER OPTIONS?
THINK ABOUT TEACHING!
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TEXAS A&M UNIVERSITY
Double your career potential by obtaining a Texas Secondary Teaching Certificate as you earn your degree.
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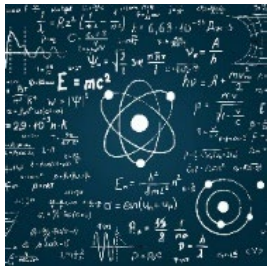
NEXT STEPS > REGISTER FOR ARSC 201 AND VISIT AGGIETEACH.TAMU.EDU

MID-POINT CHECK-IN

Which degree option most interests you so far and why?

(If you don't know yet, that's okay too!)



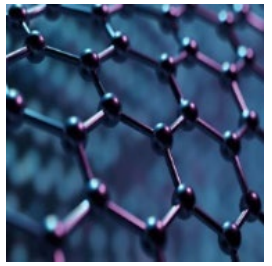
❑ BS

❑ BA

❑ Astrophysics

❑ Business

❑ Computational Science



❑ Materials Physics

❑ Physical Science Teaching

❑ Physics and Math Teaching

KNOWING YOUR DEPARTMENT

What can you expect when joining our Department?

TEXAS A&M UNIVERSITY

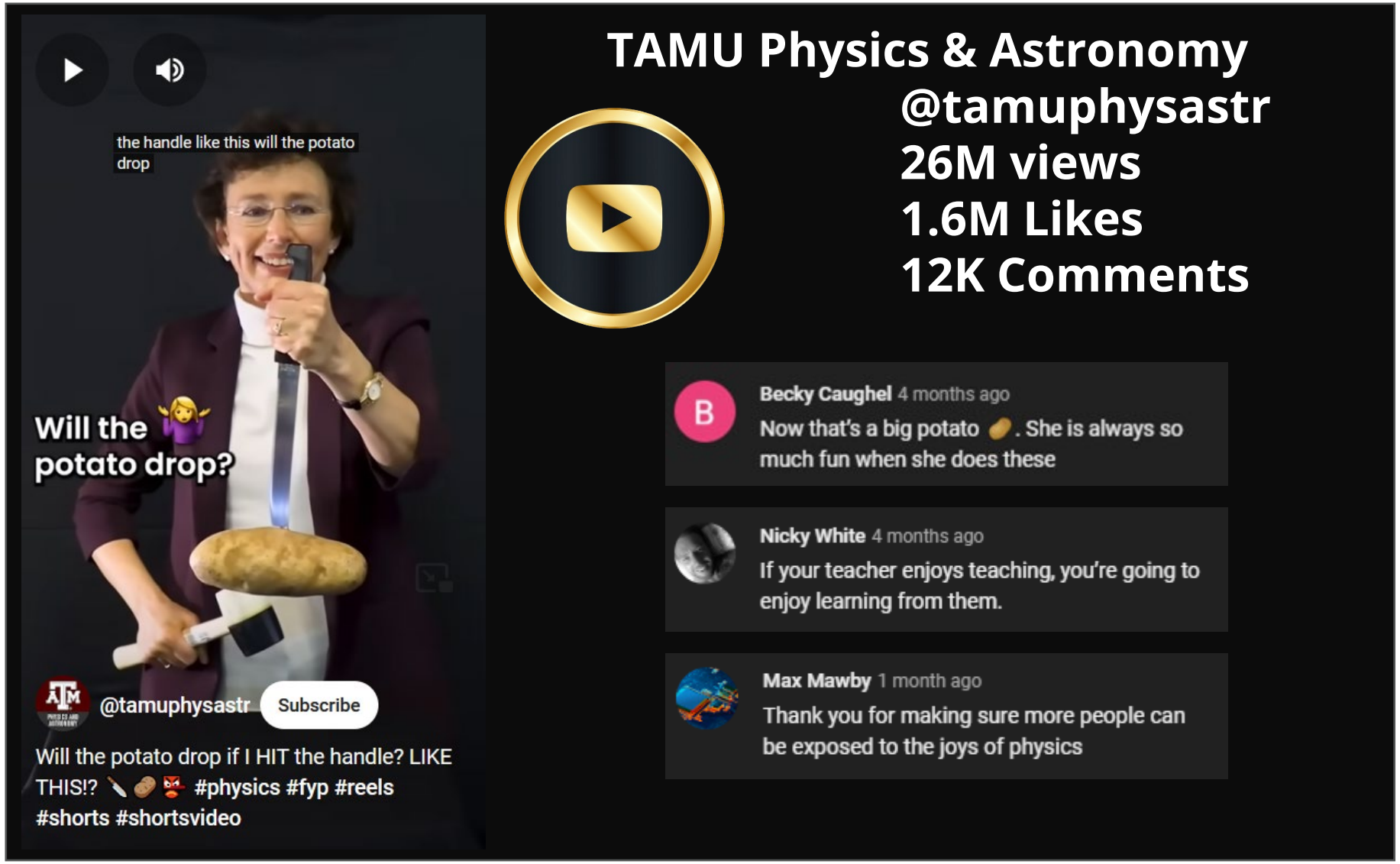
OUTREACH ON TELEVISION

Dr. Tatiana Erukhimova on CBS Morning

Physics Professor Tatiana Erukhimova and TV host Jennifer Hudson

Chris Millard/Warner Bros.

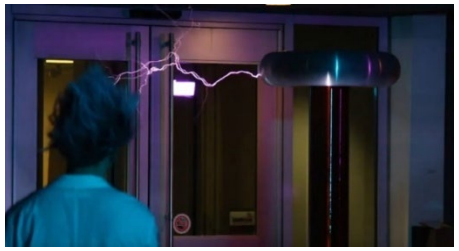
OUTREACH ON YOUTUBE



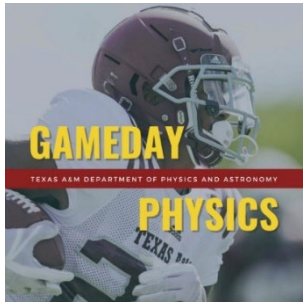
K-12 AND COMMUNITY OUTREACH

Physics Shows
physicsshow.tamu.edu

Just Add Science
justaddscience.tamu.edu



Real Physics Live
realphysicslive.com



Gameday Physics
gameday.physics.tamu.edu

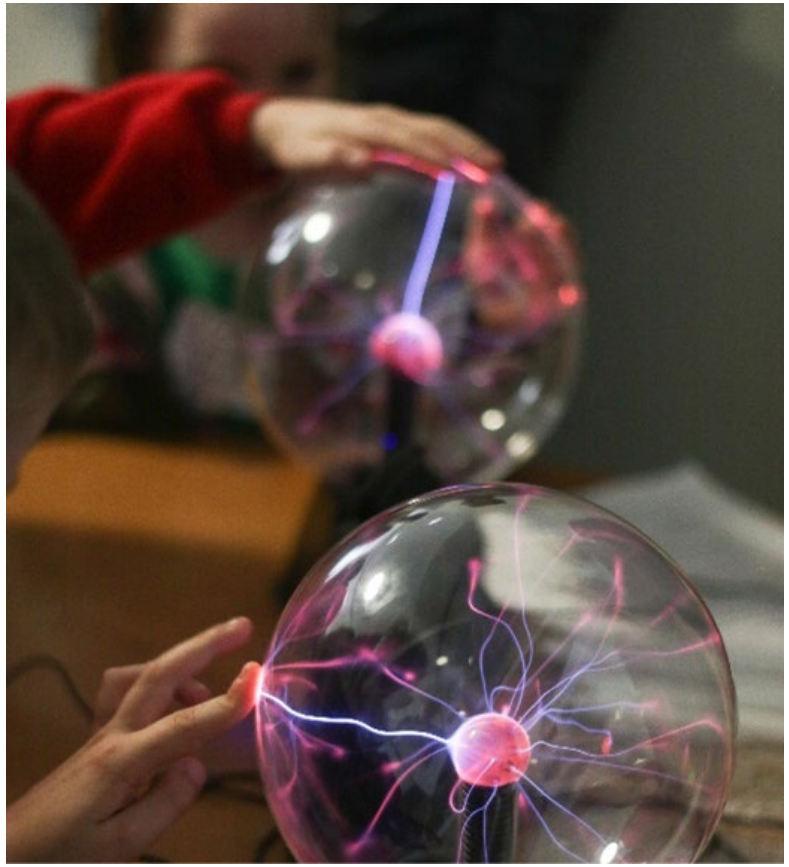
Mitchell Institute Star Parties
mitchell.tamu.edu/outreach/star-parties

Saturday Morning Physics
cyclotron.tamu.edu/smp

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

PHYSICS & ENGINEERING FESTIVAL

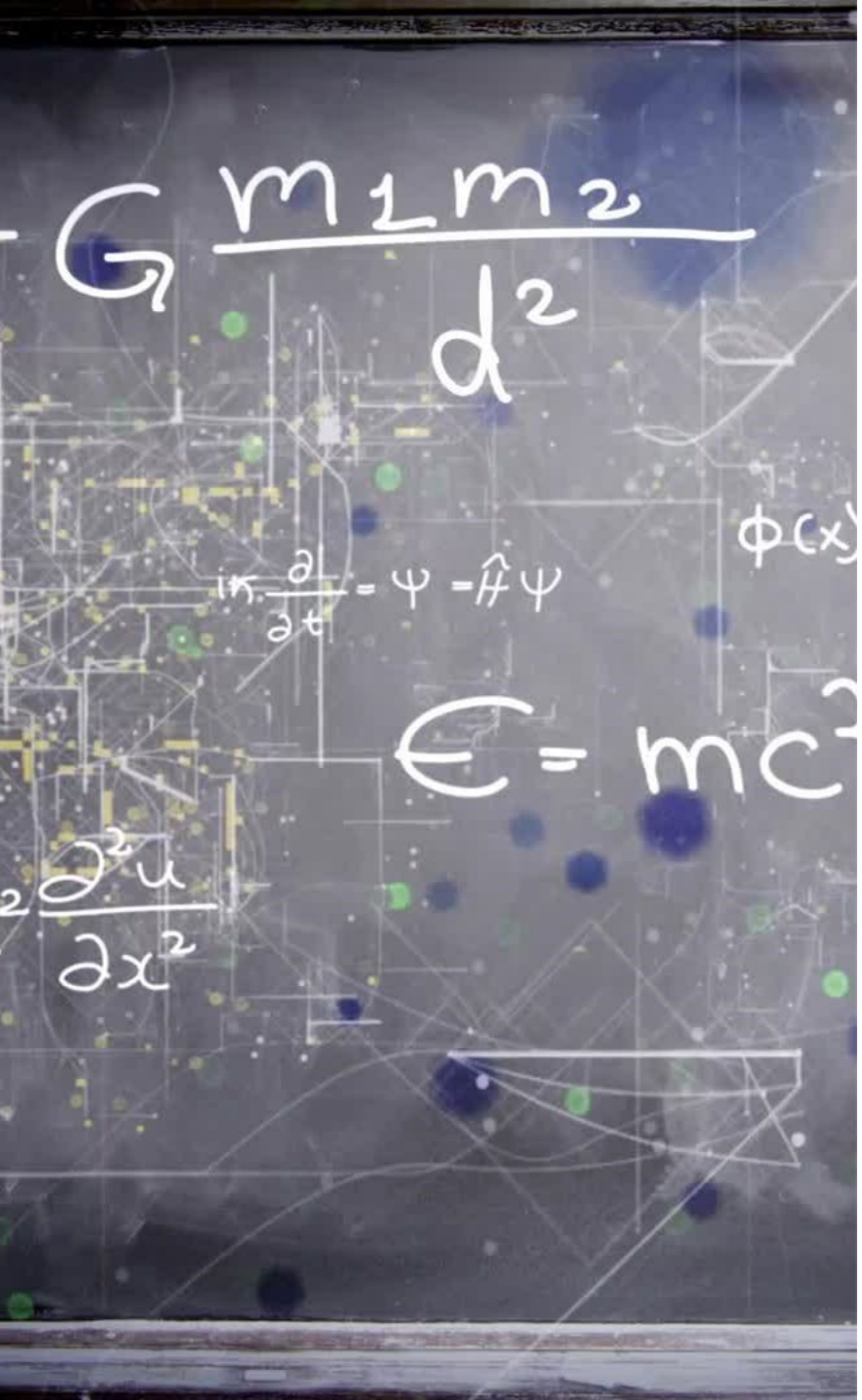
Date TBD



UNDERGRADUATE RESEARCH

The Department of Physics and Astronomy has a long history of award-winning undergraduate research in many areas:

- Applied Physics
- Astronomy, Astrophysics and Cosmology
- Atomic Physics
- Condensed Matter Physics
- Materials Physics
- Nuclear Physics
- Quantum Optics
- Quantum Computing
- String Theory



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

QUANTUM COMPUTING AND LEGALISM: IS THE LAW PREPARED FOR THIS BREAKTHROUGH?
*Jordan Bass, Advisor: Dr. Nicholas Suntzeff and Dr. Grigory Rogachev

CHARACTERIZING BEST METHODS FOR IMPROVING LIGHT YIELD IN CSI(TL) SCINTILLATORS
Kensington Vincent, Advisor: Dr. Rupak Mahapatra

PRECISION VALIDATION OF THE PERFORMANCE OF THE OTMB SYSTEM FOR THE CMS MUON SYSTEM
Kyla Martinez, Advisor: Dr. Alexei Safonov and Dr. Jason Gilmore

INVARIANT MASS DISTRIBUTION OF x_c CANDIDATES
*Vishwam Anand Khapre, Advisor: Dr. Saskia Mioduszewski

CALIBRATION MEASUREMENTS OF TWO SCIENTIFIC GRADE ASTRONOMICAL CAMERAS
*Jared Bull, Advisor: Dr. Jennifer Marshall

*Honors in Physics and Astronomy

DEPARTMENT OF PHYSICS AND ASTRONOMY POLICIES

UINs 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.**

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**.

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

Students are responsible for knowing and following all department policies.

UTILIZING YOUR RESOURCES

What resources are available at Texas A&M?

TEXAS A&M UNIVERSITY

POCKET PANTRY

- Provides temporary relief to students who are experiencing food insecurity
- Non-perishable food and toiletries available
- In the hallway outside Blocker 529, contact Courtney Shuttlesworth at cshuttles@tamu.edu
- Pantry also available in the hallway outside ofAcademic Building 104

For a list of all pantries and their locations, please visit link below.
https://studentlife.tamu.edu/sas/food-resources/

LEARNING ASSISTANCE RESOURCES

- **Study Hub (online)**: One stop shop for learning assistance
- **Academic Success Center:** SI Sessions, Tutoring, Academic Coaching, Workshops (*time management, test anxiety and test-taking skills, how to study*)
- **Help Desks:** Physics and Chemistry
- **Math Learning Center**: Help Desk, Tutoring, Week in Review
- **University Writing Center:** Writing Guides, Workshops, Editing Appointments

Help is available on campus! Do not wait, find help as soon as you start to struggle!
Ask an advisor for resources!

UNIVERSITY HEALTH SERVICES

Mental Health Services

- Individual Counseling
- Group Counseling
- Crisis Counseling
- Workshops
- Learning Disability & ADHD screening
- Career Counseling & Exploration
- Alcohol & Other Drug Services
- HelpLine

VIEW ALL MENTAL HEALTH SERVICES

Location

Student Services Building
4th Floor (Bldg 1546)
471 Houston St.
College Station, TX 77843

Hours of Operation

Monday - Friday
8:00 a.m. - 5:00 p.m.
Closed on university-observed holidays

Medical Services

- Medical Care
- EMS
- Laboratory
- Nutrition
- Pharmacy
- Physical Therapy
- Preventive Medicine
- Radiology

VIEW ALL MEDICAL SERVICES

Location

A.P. Beutel Health Center
(Bldg 520)
311 Houston St.
College Station, TX 77843

Hours of Operation

Monday - Friday
8:00 a.m. - 5:00 p.m.
Closed on university-observed holidays

MENTAL HEALTH SUPPORT

TELUS Health Student Support App

TAKE CARE OF YOUR MENTAL HEALTH

Download the TELUS Health Student Support app for 24/7 access to professional counseling by phone or chat in multiple languages.

App Store | Google Play

In addition to the many **services** University Health Services provides specifically tailored to support Aggie mental health and wellbeing, we are proud to partner with TELUS Health Student Support app to offer additional, immediate mental health assistance.

The Student Support app connects students with free, confidential professional counseling available 24/7 via app, telephone and web.

CONFIDENTIAL, REAL-TIME VIRTUAL COUNSELING AVAILABLE 24/7 VIA CHAT AND PHONE

Talk with a professional counselor at your convenience through live chat or a simple phone call.

SCHEDULED, SHORT-TERM COUNSELING APPOINTMENTS VIA TELEHEALTH WITH A PROFESSIONAL COUNSELOR

Connect with the same counselor over multiple sessions via telephone or video appointments

EXTENSIVE ON-DEMAND CONTENT LIBRARY

- Videos, articles, podcasts and infographics addressing a wide variety of mental health and wellbeing concerns.
- Anonymous mental health assessments for depression, general anxiety, alcohol and drug use.
- Free access to the LIFT app for virtual fitness sessions.

SUPPORT IN YOUR LANGUAGE

Student Support app content and support are available 24/7 in **Mandarin, Cantonese, Spanish, French** and **English**. Additional language options may be requested by appointment, depending on availability.

Your use of the Student Support app, including chats, calls, and conversations, is FREE and confidential — meaning your professors, family and friends, etc., will not know unless you tell them.

Want to learn more?

- Visit the **TELUS Health Student Support app website**
- Download the Student Support app from **App Store** or **Google Play**
- Call **1.866.408.2828** (if calling from outside US or Canada, call **001.416.380.6578**)

Access the Student Support app in 5 Easy Steps

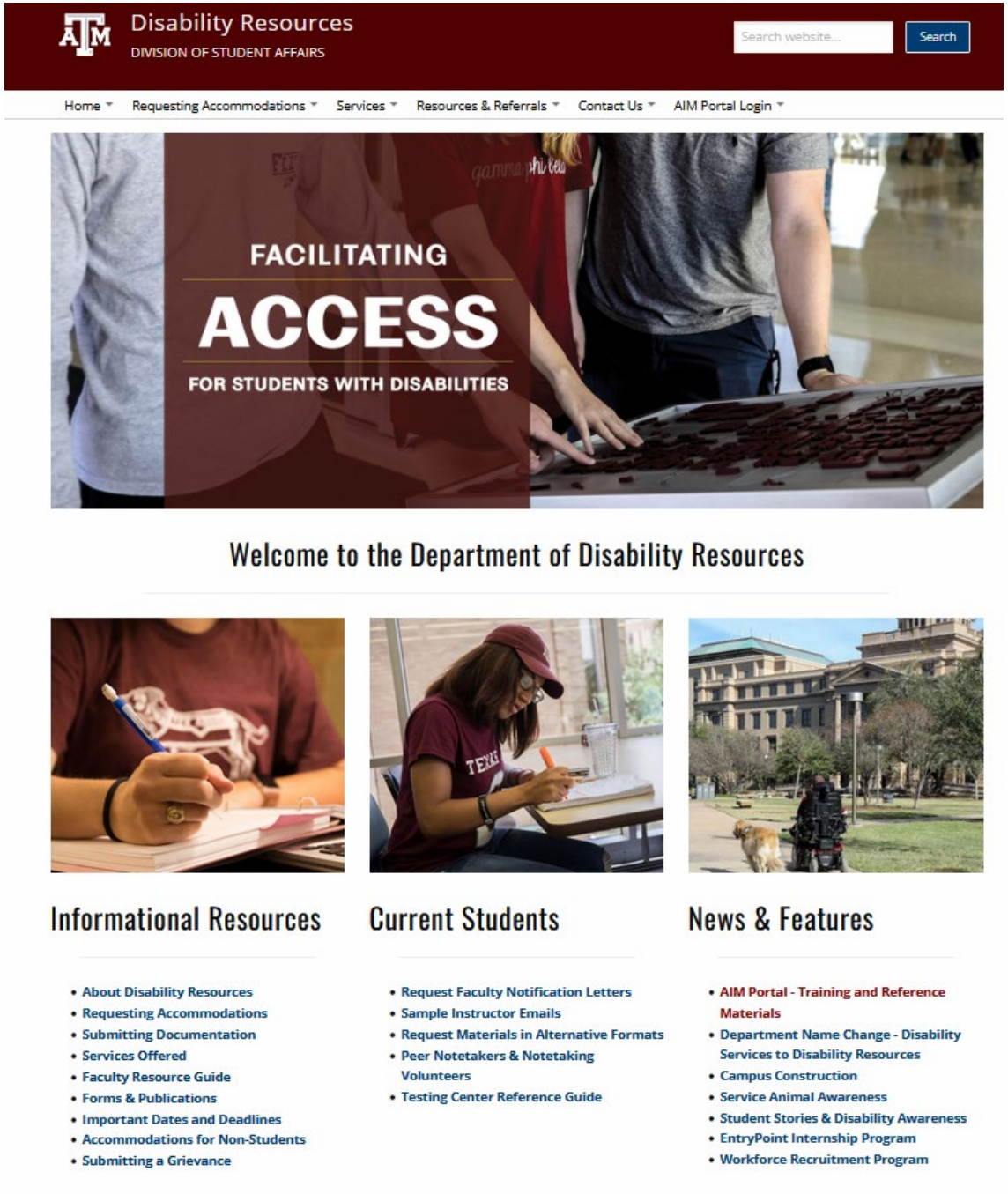
1. Search 'TELUS Health Student Support app' on your device's app store and download.
2. Open the app and go through the initial prompts.
3. Get started by completing your profile, including searching and selecting your Texas A&M University-affiliated location. Review the terms of use, consent, and if you agree, check the circle to proceed.
4. Accept push notifications to receive wellness tips from the Student Support app.
5. You are all set! You can now access content to support your emotional health and wellbeing - including assessments, podcasts, articles, webinars, and more! Need to talk? Click the phone or chat icons to receive emotional health and wellbeing support from the Student Support app 24/7/365.

Virtual care provided by:

TELUS Health

DISABILITY RESOURCES

DISABILITY.TAMU.EDU



ARTS & SCIENCES CAREER SERVICES

Come in early & often

- ✓ **Schedule an appointment with your career advisor**
- ✓ **Explore career options**
- ✓ **Create your resume**
- ✓ **Identify high impact experiences**
- ✓ **Search opportunities in HireAggies**
- ✓ **Prepare for Arts & Sciences Career Fair – Day Two: Sciences and Math, September 18, 2024**

careercenter.tamu.edu

Barclay Osborne, Associate Director
bosborne@tamu.edu
Jasmine Zenn, Assistant Director
jzenn@tamu.edu

Aggie Career Success Handbook
QR code

TEXAS A&M UNIVERSITY
Career Center

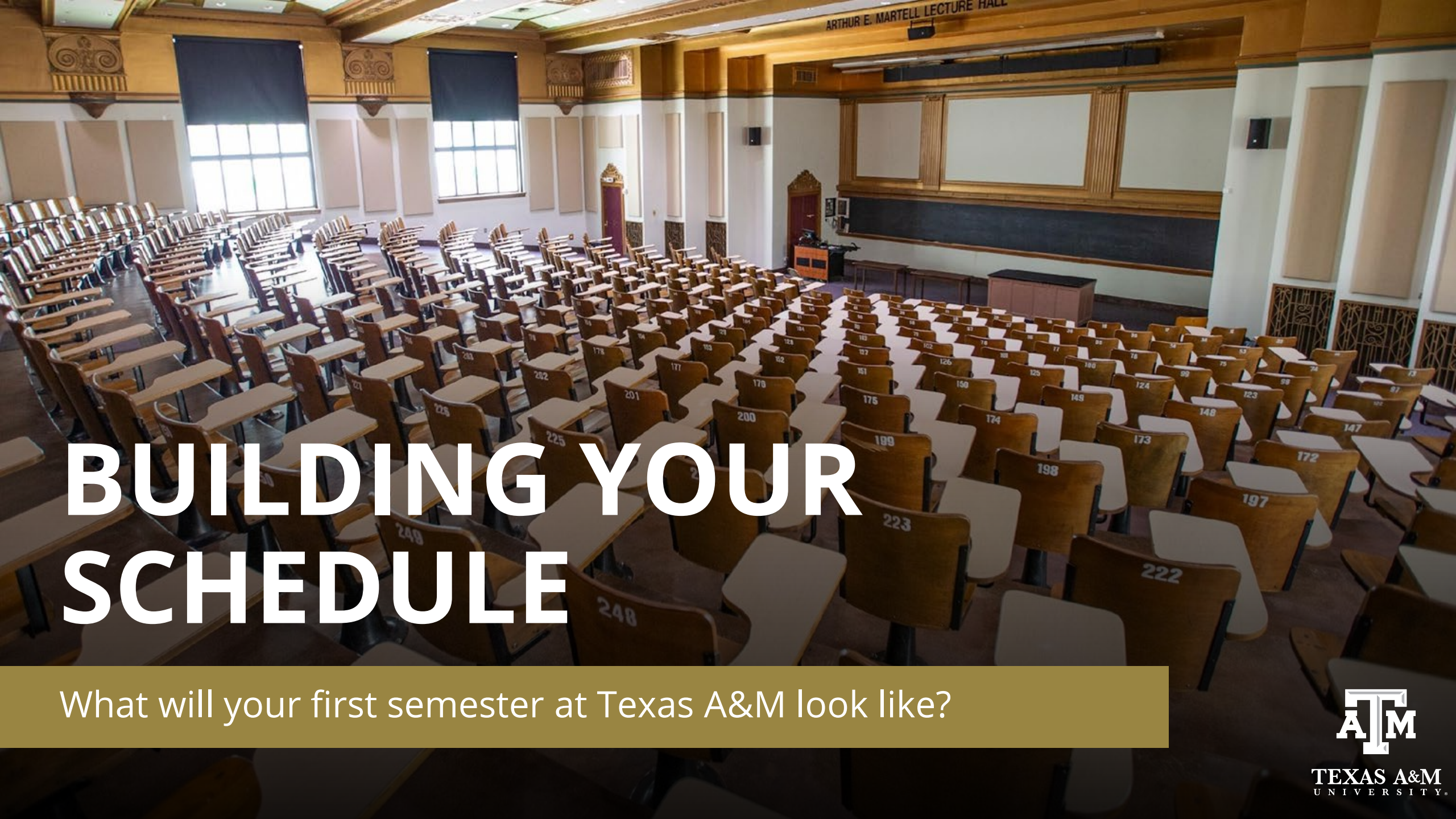
NAVIGATE

Download NAVIGATE – the app that gets you from orientation to graduation:

- Make to-do lists and set reminders
- Get automatic reminders about important deadlines
- Find campus resources
- See class schedules on your phone
- Receive alerts about holds
- Explore majors and careers
- Schedule an advising appointment
    - Emily: https://tamu.campus.eab.com/pal/rWxMjBzTtP
    - Sherree: https://tamu.campus.eab.com/pal/9uIDu9YSpu

HOW AN ACADEMIC ADVISOR CAN HELP

- Academic planning for **Physics majors**
- **Referrals** to other offices
- Contact information for **Physics tutors**
- A listening ear
- Recommendation letters
- Questions about opportunities after Physics
- Finding research



BUILDING YOUR SCHEDULE

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

TEXAS A&M UNIVERSITY

AP CREDIT

- **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.
  - We suggest **starting 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 are good experiences, but are not in-depth 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

- Texas law requires that transcripts from all college-level classes be reported to each school you attend. 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**.
- We suggest:
  - **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.

STATE CORE CURRICULUM

The Core Curriculum = 42 hours

Many students meet the requirements through AP, dual credit, or summer courses.

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)*

Texas Higher Education
COORDINATING BOARD

TAMU ICD/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*.

FIRST-SEMESTER CLASS REGISTRATION

PHYS 150 (3 hours)	**ARSC 101**** (0 hours) **Section 540, 541, 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, and certain Residence Halls 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*.

FIRST-SEMESTER FRESHMAN SEMINARS

ARSC 101 – Hullabaloo U – College of Arts & Sciences
0 credit hours, S/U (Required for most students)

The purpose of Hullabaloo U in the College of Science is to create a welcoming and affirming environment for each new student. Students will develop *self-efficacy*, *self-awareness*, and a *sense of purpose*; become *actively engaged* in the learning environment inside and outside the classroom; and become *socially connected* within the campus and College community.

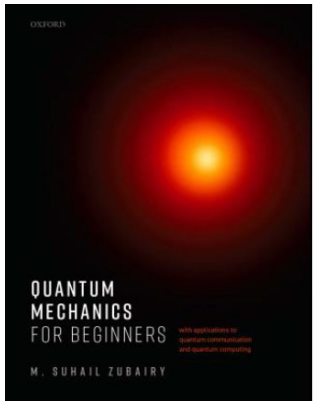
PHYS 101 – Freshman Physics Orientation
1 credit hour (Required)

This course will help students navigate their physics major and the challenges of life as a student at Texas A&M. Students will be exposed to different *areas of physics*, *critical thinking* and *problem solving*. Students will be introduced to a variety of skills that are useful in physics.

FIRST-SEMESTER PHYSICS COURSES

PHYS 150 – Intro to Programming for Physics
3 credit hours (Required)

This a physics-oriented introductory course on programming in Python, covering the basics of programming and the applications of programming in physics. The course will cover the basics of programming in the context of physics, such as variables, expressions, flow control, function, class, and data visualization. These programming concepts and techniques will be applied to several topics in physics, including energy minimization, Newtonian dynamics, and chaos.



PHYS 148 – Intro to Quantum Mechanics
3 credit hours (General Elective)

Instructor Dr. M. Suhail Zubairy *zubairy@physics.tamu.edu*

In this course basic concepts of quantum mechanics such as wave-particle duality, complementarity, quantum interference and entanglement, and their applications to fields such as quantum communication and quantum computing will be discussed at the level of a freshman student. No calculus will be used until at least 12th week of the course when Schrodinger equation in its simplest form and its applications for a particle inside a box and quantum tunneling will be discussed.

CREDIT HOUR EXPECTATIONS

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

A **3 credit hour course** will generally meet during one of the following times:

- Monday, Wednesday and Friday (M/W/F) for **50 minutes each class**
- Tuesday and Thursday (T/R) for **75 minutes each class**
- Monday and Wednesday (M/W) for **75 minutes each class** (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

COMMON REGISTRATION ERROR MESSAGES

- **Terms of Use and Location Update**
  - Must be completed every semester
- **Prerequisite and Test Score Error**
  - Check the prereqs in Howdy
- **Student Attribute Error**
  - Usually for an Honors section
- **Time Conflict Error**
  - Two or more classes overlap
- **Field of Study Restriction**
  - Section reserved for specific majors, pick another section

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

THE MOST IMPORTANT TAKEAWAYS

- How often should you check your student email?
- What should you do as soon as you begin struggling in a class or with anything else?
- How often are classes offered starting in the 4th semester? What happens if you get off track?
- What grade is required in all Physics Foundation courses to move on to the next semester of Physics courses?
- What should you include in every email to faculty or staff?

CONTACT YOUR ACADEMIC ADVISOR
I'M HERE TO HELP!

Sherree Kessler
Senior Academic Advisor

- **E-Mail:** skessler@tamu.edu
- **Phone:** 979.458.7607
- **Office:** Blocker 529C

TEXAS A&M UNIVERSITY

SCHEDULE BUILDING & REGISTRATION

MPHY 237

Schedule Building – 12:30 PM

Registration – 2:30 PM