

Abilene Approval Chart for Curriculum Changes

A = Approve I = Information Item R = Respond In Writing

Course Number: _____ **or Degree Plan(s): Nuclear Physics Track**

Short description:

Create a new undergraduate Physics track aimed for entry into nuclear physics fields or the new NSE program at ACU.

		Dept./School	College	Dean	TEC	AUAC/Grad	Provost
	Campus-Level Academic Review¹						
	Change to a Course Include signatures from all chairs/program directors for cross-listed courses. ¹						
1.	Title (description unchanged)	A	A	A	I	I	I
2.	Description (not affecting content)	A	A	A	I	I	I
3.	Course term(s)	A	I	A	I	I	I
4.	Content (change of course outcomes)	A	A	A	I	I	A
5.	Number of credit hours	A	A	A	A	A	A
6.	Course number within the hundred	A	A	I	I	I	I
7.	Course number beyond the hundred	A	A	A	A	A	A
8.	Prerequisites	A	A	A	I	I	I
9.	Course restriction (e.g., majors only, junior standing)	A	A	A	A	A	A
10.	Level change (U to G or G to U)	A	A	A	A	A	A
11.	Cross list course	A	A	A	A	A	A
12.	Department of record	A	A	A	A	A	A
13.	Open or close a course	A	A	A	A	A	A
	Change to a Degree Plan						
14.	Educational Program — Revise	A	A	A	A	A	A
15.	Educational Program — Adopt/revise admission requirements	A	A	A	A	A	A
16.	GPA — Revise program-required GPA	A	A	A	A	A	A
17.	Minor — Revise	A	A	A	A	A	A

		Dept./School	College	Dean	TEC	AUAC/Grad	Provost	Campus Faculty	Senior VPAA	President
	Full Review									
	Change to Catalog Information (for Campus)									
18.	General requirements for Bachelor's and Associate Degrees	-	-	-	-	A	A	A	A	I
19.	Policies governing academic probation and suspension	-	-	-	-	A	A	A	A	I
20.	Requirements for graduating with honors	-	-	-	-	A	A	A	A	I
	Change to a Degree Plan									
21.	Educational Program — Add or Discontinue ^{2 3}	A	A	A	A	A	A	A	A	I
22.	Educational Program — Discontinue (Provost-proposed)	R	-	R	A	A	A	A	A	I
23.	Minor — Add or Discontinue	A	A	A	A	A	A	-	A	I
24.	Minor — Discontinue (Provost-proposed)	R	-	R	A	A	A	-	A	I
25.	Degree — Add or Discontinue	A	A	A	A	A	A	A	A	I
26.	Degree — Discontinue (Provost-proposed)	R	-	R	A	A	A	A	A	I

		Dept./School	College	Dean	TEC	AUAC/Grad	Provost	Campus Faculty	Senior VPAA	President
	Change to General Education Requirements for Undergraduates (System)									
27.	Change course outcomes of an included course	A	A	A	A	A	A	-	A	I
28.	Add or drop a required course from the General Education Requirements	A	-	A	-	A	A	A	A	I
29.	Add or drop a course from a menu within the General Education Requirements	A	-	A	-	A	A	-	A	I
30.	Comprehensive revision of General Education Requirements	-	-	-	-	A	A	A	A	I

Notes

² Any change to a cross-listed course requires the signature of both department chairs or program directors overseeing the course to ensure that the courses stay in sync. This includes courses taught at other campuses (e.g., BIBL 101 and BIBO 101).

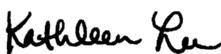
³ For undergraduate majors, a minimum of 30 hours is required. These programs must have a minimum of 6 elective hours, unless the requirements of external accrediting bodies make it impossible. Master's programs must include a minimum of 30 hours, and doctoral programs must include a minimum of 30 hours beyond the master's.

⁴ When a department/school or dean proposes closing a program, approval routing follows the typical process beginning with the department/school. An administrative proposal by the provost or senior vice president for academic affairs would follow the "provost-proposed" routing on the chart.

Department/School(s)

	04-21-2026
Chair Signature	Date
Chair/Program Director Signature	Date

College Academic Council(s)

	04/21/2026
Chair Signature	Date
Chair Signature	Date

Dean(s)

	4/22/2026
Signature	Date
Signature	Date

Teacher Education Council

Signature	Date
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**Campus Academic Council:
Abilene Undergraduate or Abilene Graduate**

Signature	Date
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Provost

Signature	Date
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University General Education Council

Signature	Date
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University Faculty

Abilene Faculty Senate Chair signature

Date

Dallas Faculty Council Chair signature

Date

Senior Vice President for Academic Affairs

Signature

Date

President

Signature

Date

Abilene New Track or Minor Application Instructions

Use this template to propose a new track of an existing degree program or a non-degree plan, which includes a minor. For a new educational program — undergraduate major, graduate degree, or certificate — use the [New Program Application](#).

Process Overview

Step 1: Develop and Refine Proposal

The applicant completes the proposal and submits it to the vice provost, who requests any revisions necessary to create an accurate, complete picture of the track or minor and ensure that it aligns with institutional policies and processes so that it will be ready to implement upon approval. After the vice provost is satisfied with revisions, the vice provost sends the proposal for review to:

1. the library dean's designee for library resources review
2. the SACSCOC liaison for substantive change review

Step 2: Curriculum Approval Process

After all reviews are complete, the vice provost will return the full proposal to the applicant, who will begin the process outlined on the campus approval chart to add a new track or minor. This includes approval by the department/school, college academic council, dean, Teacher Education Council if it's a teaching certification program, campus academic council, and provost for a new track, with the addition of the senior vice president for academic affairs for a new minor.

New Track or Minor Application

1. Program Identification
 - A. Title of track or minor

Nuclear Physics
 - B. Identify as track or minor

This is a track
 - C. Home department or school (and associated degree program, if track)

Physics
 - D. Developer(s) and credentials

Dr. Larry Isenhower, PhD
Dr. Jim Drachenberg, PhD
 - E. Where program will be offered and delivery method

ACU Abilene Campus, Face to Face

F. Proposed date of implementation

August 2026

2. Program Details

A. Description. Summarize this course of study in 50 to 200 words.

This track is focused on preparing students for entry into the nuclear industry or for continued education in nuclear physics or engineering. This track is unique compared to our other physics tracks through combining key physics and engineering courses to prepare students with critical skills for the nuclear and power generation industry. The track is also created with advice from the new NSE program director to ensure students have the best set of courses to be prepared for entering ACU's new NSE graduate program.

B. Market need. What students will be drawn to this program? What types of careers will they pursue after graduation? What is the job market/outlook like in this area?

This program is aimed to expand the options available to the many students who hear about the new Molten Salt Research Reactor at ACU's NEXT lab. The NSE program targets students interested in graduate studies and this track will target those at the undergraduate level and will prepare them to enter the workforce directly or to pursue further study in graduate programs at ACU or elsewhere.

C. Estimate total enrollment for each of the first five years.

We anticipate that this new track will attract approximately 3-5 new students each year and may take 1-3 students away from other available majors at ACU.

Year 1 - 4

Year 2 - 8

Year 3 - 13

Year 4 - 18

Year 5 - 25

3. Rationale and Need for Program

A. Mission fit. How does the course of study fit with the university's mission to educate students for Christian service and leadership throughout the world? How does the course of study fit with the university's current strategic plan or emphases?

The new NSE program and NEXT lab will draw significant attention to ACU. This program is the undergraduate physics major aimed at meeting the needs of students interested in these programs. Students considering ACU due to hearing about these two programs will likely be looking for nuclear related undergraduate degrees. Offering such a program will allow ACU to prepare students across all levels of experience for this important field. Finally, this nuclear physics program will provide a significant source of students that will choose to enter ACU's NSE program.

Students in this program will be able to support the R2 goals of the strategic plan through supporting the continued success of the NEXT lab by providing student researchers who are better prepared for the needs of NEXT research programs by combining experience in physics, math, engineering, and computer science. In addition, students from this program will be able to enter the NSE program with additional experience that is directly related to their graduate work. This will reduce the time students need to graduate and also increase the size of impact these students can make during their time in the NSE program.

The nuclear industry needs workers at all levels of experience and ACU should ensure that we are preparing Christ-centered students to match this range of needs of the industry.

- B. Disciplinary benchmarking. Name some institutions who have a similar track or minor and discuss how this proposal compares. Which Texas universities or other peer institutions already offer this course of study?

There are very few nuclear physics BS programs but several nuclear engineering BS programs exist that have a similar focus and also have connections to a local graduate program. These programs take a core engineering degree and then add elective courses for the nuclear concentration. We have identified 3 programs that look to be good comparisons for the goals of this program: New Mexico State, Purdue University, and the University of Massachusetts - Lowell.

At New Mexico State students take 60 hours of nuclear engineering courses. 27 of those hours are substantially similar to physics or engineering courses offered at ACU but with a specific nuclear engineering application focus rather than a broader focus as taught at ACU. Our program will have 12 hours of nuclear specific courses plus other courses needed for a physics degree rather than an engineering degree. Here is a link to the New Mexico State website: <https://ne.unm.edu/undergraduate/shared-credit-program.html>

Students in the accelerated program take 9 hours of graduate credit as undergraduate students, which is similar to our proposed expectation for an accelerated MS program at ACU. We also will require students to apply to the NSE program during the Fall of their Junior year and once accepted they will be eligible to take graduate NSE program courses and have those count toward elective hours in the undergraduate degree as well as their graduate degree.

Purdue University offers a 4+1 program in nuclear engineering. Students apply to the program after their fourth undergraduate semester. After being admitted, they complete 12 credits of 500-600-level courses in their junior and senior years. They complete the master degree with 18 credits during the fifth year.

University of Massachusetts - Lowell offers a 4+1 program in Radiological Sciences and Protection. Students enter through the B.S. in Physics - Radiological Health Physics Option. Upon committee approval, students apply to the 4+1 program in the second semester of the junior year. Students are then permitted to take up to six graduate-level courses (two 3-credit courses) counted toward the master degree during their senior year. After applying for baccalaureate graduation and with committee approval, students will fully matriculate to the master program.

- C. Make a case for why we should maintain all existing tracks in this major (if a track) or note which ones will be closed.

This new track is uniquely focused on nuclear physics and nuclear power careers. Given the expanding presence and importance of ACU's impact on this field of study it seems appropriate to have a degree specifically targeting this area. The two most similar tracks are the PHYS Physics and PHYN Engineering Physics tracks. The PHYS track is focused on continued study in physics or astrophysics and so provides a broad set of courses that prepare students for any sub-field of physics. The PHYN track is intended to help students start a career in industry without additional graduate studies or for engineering majors interested in a double major with physics. The new nuclear physics track has similar goals to these but specifically targets students to be ready for careers or future study in nuclear science or engineering. We acknowledge that this is not a significant difference for physics programs at most schools but ACU's unique situation thanks to the upcoming MSRR makes this new track likely valuable.

4. Curriculum

- A. Degree plan. List the requirements **as they would appear in the catalog**. For undergraduate degree plans, include 74 credit hours of major requirements and electives, and mark which courses are the capstone and writing-intensive courses. Minors are 18 hours with at least 6 hours of upper-division courses.

Nuclear Physics, BS (PHYS-PHNP)

BS: Nuclear Physics Degree Plan (PHNP)

General Departmental Requirements

Physics majors must develop mathematical skills as well as experimental, theoretical, and computational abilities. If the student does not qualify to take Precalculus II ([MATH 124](#)) when the student enters ACU, his or her graduation may be delayed.

General Education Requirements

Please see the [General Education](#) section of this catalog.

Major Requirements

Physics

- [PHYS 115 - Introduction to Physics](#) Credit Hours: 2
- [ENGR 116 - Introduction to Engineering and Physics Laboratory](#) Credit Hours: 1
- [PHYS 220 - Engineering Physics I](#) Credit Hours: 3 *
- [PHYS 221 - Engineering Physics I Laboratory](#) Credit Hours: 1
- [PHYS 222 - Engineering Physics II](#) Credit Hours: 3 *
- [PHYS 223 - Engineering Physics II Laboratory](#) Credit Hours: 1
- [PHYS 330 - Modern Physics](#) Credit Hours: 3
- [PHYS 331 - Modern Physics Laboratory](#) Credit Hours: 1
- [PHYS 362 - Optics](#) Credit Hours: 3
- [PHYS 363 - Optics Laboratory](#) Credit Hours: 1
- [PHYS 379 - Philosophy, Religion and Science](#) Credit Hours: 3 *
- [PHYS 497 - Physics Capstone I](#) Credit Hours: 2 (capstone and writing- intensive course)
- [PHYS 498 - Physics Capstone II](#) Credit Hours: 2 (capstone course)
-
- *Hours may also fulfill general education requirements and are not included in total major hours

Mathematics

- [MATH 185 - Calculus I](#) Credit Hours: 3 *
- [MATH 186 - Calculus II](#) Credit Hours: 3
-
- *Hours may also fulfill general education requirements and are not included in total major hours

Total: 20 Credit Hours

Nuclear Physics (PHNP)

- [CS 120 - Programming I](#) Credit Hours: 3

- [PHYS 135 - Introduction to Electric Circuits](#) Credit Hours: 3
- [PHYS 136 - Introduction to Electric Circuits Laboratory](#) Credit Hours: 1
- ENGR 223 - Statics and Mechanics of Materials Credit Hours: 4
- ENGR 281 - Thermodynamics Credit Hours: 3
- ENGR 333 - Fluid Mechanics Credit Hours: 3
- MECH 334 - Heat and Mass Transfer Credit Hours: 3
- [MATH 286 - Calculus III](#) Credit Hours: 3
- MATH 278 – Computational Mathematics Lab Credit Hours: 1
- [MATH 361 - Ordinary Differential Equations](#) Credit Hours: 4
- [PHYS 360 - Electricity and Magnetism](#) Credit Hours: 3
- [PHYS 371 - Classical Mechanics](#) Credit Hours: 3
- [PHYS 463 - Math of Physics and Engineering](#) Credit Hours: 3
- [PHYS 481 - Thermodynamics](#) Credit Hours: 3
- [PHYS 491 - Quantum Mechanics](#) Credit Hours: 3
- PHYS 461 - Nuclear Physics Credit Hours: 3
- CHEM 362 - Nuclear Chemistry

Total: 49 Credit Hours

Electives

5 hours

Total Major Hours: 74

Other Graduation Requirements

Minimum grade for PHYS courses: C

Minimum GPA for graduation: 2.00

Minimum advanced hours: 33 Credit Hours

Minimum total hours: 128 Credit Hours

*Courses numbered 0** do not count in minimum hours required for degree.*

- B. Course coordination. Attach a memo or email of support from the department chair of each department outside the home department that will provide a course for the track or minor.

These letters are available in the accompanying folder.

- C. Courses. Create a table with one row for every course, existing and new, included in the track or minor requirements. Create five columns that provide the following information:
1. Rotation and frequency (e.g., fall odd years)
 2. Whether the course is required or on a menu
 3. Which track(s, existing and new) the course serves, if applicable
 4. Current faculty credentialed to teach (everyone who is eligible to teach the course, not just who *will* teach the course)

Course	Rotation/ Frequency	Required?	Tracks Served	Names of Credentialed Faculty
PHYS 115	Every fall	Yes	All PHYS	All PHYS
PHYS 116	Every Fall	Yes	All PHYS and ENGR	All ENGR and PHYS
PHYS 220	Every semester	Yes	All PHYS and ENGR	All PHYS
PHYS 221	Every semester	Yes	All PHYS and ENGR	All PHYS
PHYS 222	Every semester	Yes	All PHYS and ENGR	All PHYS
PHYS 223	Every semester	Yes	All PHYS and ENGR	All PHYS
PHYS 330	Every Spring	Yes	All PHYS	All PHYS
PHYS 331	Every Spring	Yes	All PHYS	All PHYS
PHYS 362	Every Fall	Yes	All PHYS	All PHYS
PHYS 363	Every Fall	Yes	All PHYS	All PHYS
PHYS 379	Every Spring	Yes	All PHYS	All PHYS and need BIBM co-teacher
PHYS 497	Every Fall	Yes	All PHYS	All PHYS
PHYS 498	Every Spring	Yes	All PHYS	All PHYS
MATH 185	Every Semester	Yes	All PHYS, MATH, ENGR	David Hendricks Randy Nguyen John Ehrke Jordan Broussard Hana Jang Alexander Karabegov
MATH 186	Every Semester	Yes	All PHYS, MATH, ENGR	David Hendricks Randy Nguyen John Ehrke Jordan Broussard Hana Jang Alexander Karabegov

CS 120	Every semester	Yes		All SITC
PHYS 135	Every semester	Yes	All PHYS and ENGR	All PHYS and EE
PHYS 136	Every Fall	Yes	All PHYS and EE	All PHYS and EE
ENGR 223	Every semester	Yes	All ENGR	All ENGR
MECH 281	Every Spring	Yes	ME and GE	All MECH
ENGR 333	Every Fall	Yes	All ENGR	All ENGR
MECH 334	Every Spring	Yes	MECH	All MECH
MATH 286	Every Semester	Yes	All PHYS, MATH	David Hendricks Randy Nguyen John Ehrke Jordan Broussard Hana Jang Alexander Karabegov
MATH 278	Every Semester	Yes	All PHYS, MSDS, MATH	David Hendricks Randy Nguyen John Ehrke Jordan Broussard Hana Jang
MATH 361	Every Semester	Yes	MATH, PHYS, PHYN, PHYM	David Hendricks Randy Nguyen John Ehrke Jordan Broussard Hana Jang Alexander Karabegov
PHYS 360	Every Spring	Yes	All PHYS	All PHYS
PHYS 371	Every Fall	Yes	All PHYS	All PHYS
PHYS 463	Every Spring	Yes	PHYS, PHYN, PHYM	All PHYS
PHYS 481	Every Fall	Yes	Elective in all PHYS	All PHYS
PHYS 491	Every Spring	Yes	PHYS, PHYN, PHYM	All PHYS
PHYS 461	Even Springs	Yes	Elective in all PHYS	All PHYS
MATH 325	Every Spring	menu	MATH, PHYS, PHYM,	David Hendricks Randy Nguyen John Ehrke Jordan Broussard Hana Jang Alexander Karabegov
MATH 341	Even Fall	menu	MATH, PHYC	John Ehrke David Hendricks Randy Nguyen Hana Jang Jordan Broussard
CHEM 362	Even Springs	menu	elective	All CHEM

PHYS 453	Every Spring	menu	PHYC, elective for other PHYS	All PHYS
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D. New courses. For each new course included in the program requirements, list the following information. The vice provost will insert a curriculum approval schedule to set deadlines for introducing each new course.

1. Proposed subject code and course number
2. Course title and description
3. Existing tracks/programs in which the courses will also be used, if applicable

No new courses are required. This track does take advantage of some newly created courses in the CHEM and MATH departments. It is hoped that some NSE courses will be available as advanced electives to students on this track as well.

5. Required Institutional Support

A. Faculty requirements and availability.

1. Describe the new track or minor's impact on faculty workload. Your narrative should provide supporting evidence that the number of full-time faculty members will be adequate to support the program.

This track is not expected to be large enough to cause the need for new sections of any classes. As noted in the Department of Engineering note. This small increase may trigger an earlier need for new faculty for the few ENGR and MECH courses we are including in this track. It is important to note that our expected size of 3-5 students each year is much smaller than the current student load of 30+ students already in these courses for the ENGR majors. Also expected growth of the ENGR tracks and new construction management degrees exceeds the expected growth from this track.

2. If program delivery requires a faculty hire, provide an expected salary range and forecast potential faculty availability.

None expected

3. If the plan includes part-time instructors, include total cost per year for adjunct pay.

None expected

B. Impact on existing programs. Identify any existing programs/majors from which the new program would draw students and estimate enrollment effects on existing programs in the home department or other departments.

Based on discussions with current ACU students, we anticipate that 1-2 physics majors and 1-3 engineering majors will instead choose this new track each year.

C. Staff requirements. Indicate need for new staff (providing expected salary range and forecast suitable applicant availability) and evaluate effect on existing loads of current staff who will serve the program.

We expect that the staff currently supporting the engineering and physics departments will be adequate for the anticipated growth of this degree.

D. Library resources. Identify discipline-specific library resources necessary to serve the requirements of the program. These may be existing holdings and services and new ones.

1. Describe how faculty and students will access information electronically and on site, and explain how they will receive instruction about how to do this.
2. Describe requirements to support students in their access to and use of learning resources.

This track will not require the addition of any new resources, however it will likely take advantage of additions being made for the new NSE program. We believe that the number of students in this program will not change the cost estimates made for these resources in the NSE program.

E. Physical resources. Identify needs for classroom, lab, and office space and impacts on existing space use. List necessary equipment. Provide costs for any construction or equipment.

No additional resources are expected beyond possibly needing to shift a few classes to larger classrooms. Any additional lab costs should be covered with lab fees already set in those courses. No new faculty are needed so no other additional spaces will be needed to support this program.

F. Scholarships. Will the unit provide any unique scholarships to students in the program?

None are anticipated at the start of this track, but given the unique connection to the NEXT lab and the MSRR there may be opportunities to create new scholarships.

G. Recruiting. To whom should the degree be marketed? What additional recruiting beyond general recruiting to the university will be needed, and what costs will we incur?

All students who show an interest in the MSRR and NEXT lab are potential candidates. Students interested in careers in the nuclear power, health physics, and medical physics areas would also be good candidates to consider this track. In addition any students interested in math, chemistry, physics, and engineering are also good targets.

H. Additional cost to deliver track or minor. Total expenses from sections A to H. Clarify which expenses are one-time and which are ongoing.

No additional costs are expected.

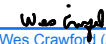
Stop here and submit to the vice provost. Section 6 is not required for all applications, and you will only need to complete it if requested by the SACSCOC liaison.

6. Additional Information Required if Requested

- A. Employment demand and career possibilities.
 - 1. Identify jobs that graduates would be qualified to pursue.
 - 2. Use official databases to establish the job market for graduates of the program. Use the U.S. Bureau of Labor Statistics and Texas Workforce Commission; other sources that may be helpful are authorities on regional labor markets (e.g., metropolitan Chambers of Commerce) and current industry reports.
 - 3. Use the [crosswalk document provided by IPEDS](#) to take the program's existing CIP code and find the associated occupations in the [Standard Occupational Classification](#) system provided by the Bureau of Labor Statistics. Use the associated SOC number to find entry-level and mean wages in that field in Texas from the Texas Workforce Commission ([Texas Wages](#) — Wages by Workforce Development Area).
- B. Student support services. Describe specific programs, services, and activities that will support students enrolled in the program. Some examples of academic support services are teaching and resource centers, tutoring, academic advising, counseling, disability services, diversity and inclusion offices, teaching laboratories, career services, testing centers, student life, and information technology.
- C. Describe financial resources available to support the new program, including a budget for the first year of the program; projected revenues, expenditures, and cash flow; amount of resources going to external institutions or organizations contracted to provide support services for the program; the operational, management, and physical resources available for the change.
- D. Provide contingency plans in the event required resources do not materialize.

Approvals

The proposal aligns with institutional policies and processes, and the campus is prepared to support the proposed track or minor as presented.

 Wes Crawford (Apr 10, 2026 09:46:32 CDT)	04/10/2026
Vice Provost	Date

The library has sufficient resources to support the track or minor, or the comments below outline additional acquisitions required and their associated costs.

04/10/2026	04/10/2026
Associate Dean of the Library	Date
Comments, if needed:	

This proposal does not require additional review for institutional accreditation purposes, or I have worked with the faculty to gather the information necessary to notify SACSCOC or gain its approval.

Chris Riley	04/10/2026
SACSCOC Liaison	Date

When all signatures are complete, attach an Approval Chart for Curriculum Changes, conduct the department faculty vote to approve the new track or minor, and continue the approval process as specified by the approval chart.

Updated 8/19/2024

Signature: Mark McCallon
Mark McCallon (Apr 10, 2026 10:26:10 CDT)

Email: MCCALLONM@ACU.EDU