

Approval Chart for Curriculum Changes

A = Approve I= Information Item¹ R= Advise & Respond²

Course Number _____ or Degree Plan(s) PHYM
 State the requested change and reason. A memo may be attached if more space is necessary.

See attached.

Circle the number that corresponds to the requested change. Degree plan changes are on the second page.

		COUNCIL ¹								
	Change to a Course	Dept./School	College Academic	Deans	TEC	UGEC	UUAC	GRAD	Provost	President
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 (substantive change)	A	A	A		I			A	A
5.	Number of hours (lecture, lab, contact)	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 fee(s)	A	--	A		--			A	I
10.	From U to G or G to U	A	A	A		A			A	A
11.	Cross list with another department: U or G level	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
14.	New course — See website for application and process. This change includes combining or splitting a course(s).	A	A	A		A			A	A

Note: When an academic unit does not have a council, the UGEC and/or UUAC will serve as its academic council, depending on the nature of the issue.

Approval Chart for Curriculum Changes

A = Approve I= Information Item¹ R= Advise & Respond²

		COUNCIL ³							Board of Trustees
Change to a Degree Plan		Dept./School	College Academic	Deans	TEC	UGEC	UUAC	GRAD	
1.	University Requirements — Change in approved course content ⁶	A	A	A		A			A
2.	University Requirements — Add or drop a required course from the University Requirements chart ⁶	A	A	A		A			A
3.	University Requirements — Add or drop a course from a menu within the University Requirements ⁶	A	--	--		A			A
4.	University Requirements — Change hours within a menu on the University Requirements chart ⁶	A	A	A		A			A
5.	Major — Revision of major ^{4,5}	A	A	A		A			A
6.	Major — Adopt or change admission requirements	A	A	A		A			A
7.	Major — Add ^{4,5}	A	A	A		A			I
8.	Major — Discontinue (proposed by the department or college)	A	A	A		A			I
9.	Major — Discontinue (proposed by the Provost)				See below.				
10.	GPA — Revise major or cumulative requirement	A	A	A		A			A
11.	Minor — Revise course selection	A	A	A		I			I
12.	Minor — Add	A	A	A		A			A
13.	Minor — Discontinue (proposed by the department or college)	A	A	A		A			A
14.	Minor — Discontinue (proposed by the Provost)				See below.				
15.	Degree — Add	A	A	A		A			I
16.	Degree — Discontinue (proposed by the department or college)	A	A	A		A			I
17.	Degree — Discontinue (proposed by the Provost)				See below.				
18.	Any change to a graduate degree program	A	A	A		A			A

		COUNCIL ³							Board of Trustees
Provost-Proposed Change		Provost	Department	Dean	TEC	UUAC	Graduate	Faculty	
1.	Major/Graduate Program — Discontinue (proposed by the Provost)	A	R	R		A		A	I
2.	Minor — Discontinue (proposed by the Provost)	A	R	R		A		--	--
3.	Degree — Discontinue (proposed by the Provost)	A	R	R		A		A	I

Approval Chart for Curriculum Changes

A = Approve I= Information Item¹ R= Advise & Respond²

COUNCIL ³										
	Change to the Catalog Information	Dept./School	College Academic	Deans	UGEC	UUAC	GRAD	Provost	Faculty	President
1.	General requirements for graduation including course requirements that are common to all majors for all degrees ⁷	--	--	--	A			A	A	A
2.	Admission requirements	--	--	--	A			A	A	A
3.	Policies governing academic probation and suspension	--	--	--	A			A	A	A
4.	Requirements for graduating with honors	--	--	--	A			A	A	A
5.	Other academic policy changes	--	--	--	A			A	--	A

¹ Councils may request additional information about "Information" items. These items are approved as "Consent Agenda."

² The Dean and Department should respond to the Provost's recommendation to close a program in writing. Advise & Respond (R) requires that the voting body should receive the written responses at least one week prior to the vote.

³ All courses that meet University Requirements for general education must go through UGEC. Courses or degrees offered only to students seeking teacher certification must go through the Teacher Education Council. All undergraduate changes must go before the UUAC. All graduate degree plan changes must go through the Graduate Council.

⁴ A minimum of 30 hours is required for a major. A maximum is specified for each degree (e.g., BA, BS). The university minimum for elective hours is 6, unless the requirements of external accrediting bodies make it impossible.

⁵ Program or course changes that apply to any major that includes Teacher Certification will be reviewed by the college, the Teacher Education Council (TEC), and then the UUAC.

⁶ Courses that satisfy ACU's University Requirements (General Education) will normally have lower-level numbering, be free of prerequisites and co-requisites, appeal to more than one or two majors, and "not narrowly focus on those skills, techniques, and procedures specific to a particular occupation or profession" (SACS 2.7.3). Departments may request exceptions to the first three criteria.

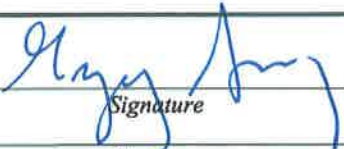
⁷ The UUAC approved the clarification that "general requirements for graduation" means the enumerated items in the "General Requirements for Bachelor's Degrees" section of the catalog.

Revised 3-8-17

Curriculum/Catalog Changes Signature Page

Department/School Chair(s)	
 Signature	<u>11/5/18</u> Approval date
_____ Signature	_____ Approval date

College Academic Council(s)	
 Signature	<u>12-7-2018</u> Approval date
_____ Signature	_____ Approval date

Dean(s)	
 Signature	<u>12/12/18</u> Approval date
_____ Signature	_____ Approval date

Teacher Education Council	
_____ Chair's signature	_____ Approval date

General Education Council	
_____ Chair's signature	_____ Approval date

Undergraduate Academic Council	
_____ Chair's signature	_____ Approval date

Graduate Council	
_____ Chair's signature	_____ Approval date

Provost	
_____ Signature	_____ Approval date

Faculty	
_____ Chair of faculty senate	_____ Approval date

President	
_____ Signature	_____ Approval date

Proposed Changes to the PHYM Degree track under PHYS

The PHYM track was originally intended as a dual purpose track to allow either those interested in becoming an MD to pursue a physics-based degree fulfilling the pre-medicine requirements, or those students who wished to become medical physicists. By combining these two possibilities into one degree track, we made some compromises for each type of degree. After discussions with graduate schools for medical physics and changes that have occurred in medical school entry requirements, we have determined that it would be more beneficial for students pursuing either of these paths to split them into separate degree tracks.

To that end, we propose the following changes to PHYM that will serve to better situate students in this degree track for entrance into and success in a medical physics degree program. A separate application may be made at a later date to address the possibility of a pre-med option with physics concentration.

Much of the comments from graduate school administrators we spoke with (University of Wisconsin-Madison, Duke, UT Southwestern) wanted us to be certain that the physics part of the curriculum is not watered down in favor of Chemistry or Biology with the exception of a needed physiology course. They also emphasized the importance of linear algebra.

Thus, we suggest the following changes to the degree track.

Remove CHEM 322 (Organic Chemistry II) 3 hrs, CHEM 324 (Organic Chemistry II Lab) 1 hr, CHEM 453 (Biochem I) 3 hrs, CHEM 463 (Biochem I Lab) 1 hr, and MATH 123 (Elem. Statistics) 3 hrs from the list of requirements. This totals 11 hours removed.

Add BIOL 492 (Physiology) 3 hrs, PHYS 491 (Quantum Mechanics) 3 hrs, PHYS 481 (Thermodynamics) 3 hrs, MATH 325 (Linear Algebra) 3 hrs. This totals 12 hours added to the track requirement. MATH 325 Linear algebra will satisfy the same University requirement as Math 123. The extra hour removes the 1 elective hour from the track.

Total Track hours 52, Total Major hours 20, total core hours 56 giving 128 hour degree plan.

Abilene Christian University

2018-2019 Catalog

Physics, Medical Physics, BS (PHYS-PHYM)

BS: Physics Degree Plan (PHYS)

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.

University Requirements

Please see the [University Requirements](#) section of this catalog.

Major Requirements

Physics

- [ENGR 115 - Introduction to Engineering and 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 university 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 university requirements and are not included in total major hours

Total: 20 Credit Hours

Medical Physics (PHYM)

- BIOL 112 - General Biology I Credit Hours: 3
- BIOL 114 - General Biology I Laboratory Credit Hours: 1
- BIOL 113 - General Biology II Credit Hours: 3
- BIOL 115 - General Biology II Laboratory Credit Hours: 1
- BIOL 492 Physiology Credit Hours: 3
- CHEM 131 - General Chemistry Laboratory I Credit Hours: 1
- CHEM 133 - General Chemistry I Credit Hours: 3
- CHEM 132 - General Chemistry Laboratory II Credit Hours: 1
- CHEM 134 - General Chemistry II Credit Hours: 3
- CHEM 221 - Organic Chemistry Laboratory I Credit Hours: 1
- CHEM 223 - Organic Chemistry I Credit Hours: 3
- CHEM 322 - Organic Chemistry Laboratory II Credit Hours: 1
- CHEM 324 - Organic Chemistry II Credit Hours: 3
- CHEM 453 - Biochemistry I: Foundations of Biochemistry Credit Hours: 3
- CHEM 463 - Biochemistry Laboratory I Credit Hours: 1
- CS 120 - Programming I Credit Hours: 3

- MATH 123 - Elementary Statistics Credit Hours: 3 *
- MATH 286 - Calculus III Credit Hours: 3
- MATH 325 - Linear Algebra Credit Hours: 3 *
- MATH 361 - Ordinary Differential Equations Credit Hours: 4
- PHYS 135 - Introduction to Electric Circuits Credit Hours: 3
- PHYS 136 - Introduction to Electric Circuits Laboratory Credit Hours: 1
- PHYS 360 - Electricity and Magnetism Credit Hours: 3
- PHYS 461 - Nuclear Physics 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

*Hours may also fulfill university requirements and are not included in total major hours

Total: 54 52 Credit Hours

Electives

Minimum - 10 Credit Hour

Total Major Hours: 72

Other Graduation Requirements

Minimum grade for PHYS courses: C

Minimum GPA for graduation: 2.00

Minimum advanced hours: 33

Minimum total hours: 128

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

[illegible]