

Welcome to the

Physical Science Education Major

in the College of Physical and Mathematical Sciences

College Advisement Center

Website: <https://science.byu.edu/advisement>
Email: science.math.advisement@byu.edu
Phone: 801-422-2674
Office: N-181 ESC

Physics & Astronomy Department

Website: physics.byu.edu
Email: physics_office@byu.edu
Phone: 801-422-4361
Office: N284 ESC

Faculty Advisor – Adam Bennion

Email: adam_bennion@byu.edu
Phone: 801-422-3095
Office: N-319 ESC

Education Advisement Center

Website: education.byu.edu
Email: eac.frontdesk@byu.edu
Phone: 801-422-3426
Office: 350 MCKB

Educator: Apply to the program at educator.byu.edu. If you have any technical issues, contact the EPP Help Center at 801-422-1190, <https://epp.byu.edu/>. You should plan to have the application completely done by the time you finish the PHY S 276 class.

STEM Alliance--Connect with STEM employers, mentors, and clubs: www.stem.byu.edu

Clubs

Acoustical Society of America – Contact: Micah Shepherd (shep@physics.byu.edu), visit www.acoustics.byu.edu/asa-student-chapter for more information

BYU Astronomical Society – Contact: Benjamin Boizelle (boizellb@byu.edu), visit www.physics.byu.edu/clubs/astrosoc/home for more information

Society of Physics Students – Contact: Benjamin Frandsen (benfrandsen@byu.edu), visit www.sps.byu.edu/sps-home for more information

YChem-Contact: Walter Paxton, E111 BNSN, paxton@chem.byu.edu, 422-4917

Geology Club-Contact: Ron Harris, rharris@byu.edu, ESC S-317

Learning outcomes can be found here: <https://learningoutcomes.byu.edu/Courses/program-courses/690128/Teaching+Physical+Science+BS/1017>

Things to Know

Resources for Graduation Planning

- Flow Charts and Major Academic Plans (MAPs) can be found here: <https://science.byu.edu/advisement/explore-majors-and-minors>.
- Academic advisors in N-181 ESC will help you understand course sequencing and help you plan classes to efficiently fill requirements. They can also help you with study skills and initial career exploration as well as connecting you with correct resources.
- Plan and register from your plan on MyMAP. Your academic advisor can help you understand how to best utilize this resource.
- Evaluate your current program. Periodically major programs are updated. An academic advisor would be happy to review the differences between the programs with you to help you determine what would be best for you.
- Consider meeting with a faculty advisor in your department. Contact info is found on the first page of this packet.

Tutoring Resources and Research

- Volunteer peer tutors are available through Y Serve if you need help with a class. Also, if you excel in a subject, consider serving your fellow students by becoming a tutor. Find out more here: <https://tutoring.byu.edu/>.
- Many departments provide TA Tutorial Labs and research opportunities. Check your department for details:
 - Chemistry and Biochemistry: C-100 BNSN, 801-422-3667, <https://www.chem.byu.edu/>
 - Computer Science: 3361 TMCB, 801-422-3027, csoffice@cs.byu.edu
 - Geological Sciences: S-389 ESC, 801-422-3918, geology@byu.edu
 - Mathematics: 275 TMCB, 801-422-2061, office@mathematics.byu.edu
 - Mathematics Education: 167 TMCB, 801-422-1735, office@mathed.byu.edu
 - Physics and Astronomy: N-283 ESC, 801-422-4361, physics_office@byu.edu
 - Statistics: 2152 WVB, 801-422-4505, statsec@stat.byu.edu

Prepare Early for a Career

- Check out Careers & Experiential Learning in 1134 WSC and at <https://ucs.byu.edu/>.
- Consider doing an internship.
 - Attend the STEM and Career Fairs held in fall and winter semesters.
 - Talk to your department about internship opportunities.
 - Use LinkedIn and Handshake (see flyer in this packet) to connect with alumni and apply for jobs/internships. BYU Connect is another great resource for networking (connect.byu.edu).
 - Talk with the college Career Director who can help you search for internships as well as assist you with many other career related strategies (see first page of this packet).
- Consider taking StDev 317 (Career Strategies) your junior year.
- Consider taking either Chem 502, CS 502, Geol 502, Math 502, PHSCS 502, or STAT 502 (1-credit Job Search Class). Class is held for 1 hour each week.



BS in Physical Science Education (690128) MAP Sheet

Physical and Mathematical Sciences, Physical Science Program

For students entering the degree program during the 2023-2024 curricular year.

This major is designed to prepare students to teach in public schools. In order to graduate with this major, students are required to complete Utah State Office of Education licensing requirements. To view these requirements go to <http://education.byu.edu/ess/licensing.html> or contact the Education Advisement Center, 350 MCKB, (801) 422-3426.

University Core and Graduation Requirements				Suggested Sequence of Courses			
University Core Requirements:				FRESHMAN YEAR			
Requirements	#Classes	Hours	Classes	1st Semester		JUNIOR YEAR	
Religion Cornerstones				5th Semester			
Teachings and Doctrine of The Book of Mormon	1	2.0	REL A 275	First Year Writing	3.0	CHEM 223 (FSp)	4.0
Jesus Christ and the Everlasting Gospel	1	2.0	REL A 250	Quantitative Reasoning	3.0	CHEM 201 (FSp)	0.5
Foundations of the Restoration	1	2.0	REL C 225	PHSCS 105	3.0	GEOL 210 (F)	3.0
The Eternal Family	1	2.0	REL C 200	PHSCS 107	1.0	CPSE 402	2.0
The Individual and Society				Religion Cornerstone course	2.0	PHSCS 137	3.0
American Heritage	1-2	3-6.0	from approved list	Social Science	3.0	Religion Cornerstone course	2.0
Global and Cultural Awareness	1	3.0	SC ED 353*	Total Hours	15.0	SC ED 353	3.0
Skills				2nd Semester		Total Hours	17.5
First Year Writing	1	3.0	from approved list	American Heritage	3.0	Geol 210 Begins meeting before the start of fall semester	
Advanced Written and Oral Communications	1	3.0	from approved list	Biological Science	3.0		
Quantitative Reasoning	0-1	0-3.0	from approved list	PHSCS 106 (FWSu)	3.0	6th Semester	
Languages of Learning (Math or Language)	1-4	3-20.0	from approved list	PHSCS 108 (FWSu)	1.0	PHSCS 310	3.0
Arts, Letters, and Sciences				Religion Cornerstone course	2.0	CHEM 331	3.0
Civilization 1	1	3.0	from approved list	Languages of Learning	3-4.0	PHSCS 167	3.0
Civilization 2	1	3.0	from approved list	Total Hours	15-16.0	Adv. Written & Oral Communication	3.0
Arts	1	3.0	from approved list	SOPHOMORE YEAR		Religion elective (FWSpSu)	2.0
Letters	1	3.0	PHIL 423*	3rd Semester		IP & T 371	1.0
Biological Science	1	3-4.0	from approved list	CHEM 105 (FWSpSu)	4.0	IP & T 372	1.0
Physical Science	2	7.0	CHEM 105* & PHSCS 105*	GEOL 111 (FW)	4.0	IP & T 373	1.0
Social Science	1	3.0	from approved list	PHSCS 127 (FWSpSu)	3.0	Total Hours	17.0
Core Enrichment: Electives				Civilization 1	3.0	SENIOR YEAR	
Religion Electives	3-4	6.0	from approved list	Religion Cornerstone course	2.0	7th Semester	
Open Electives	Variable	Variable	personal choice	Total Hours	16.0	Letters	3.0
Graduation Requirements:				4th Semester		PHY S 377 (FW)	3.0
Minimum residence hours required		30.0		CHEM 106 (FWSpSu)	3.0	PHY S 378	1.0
Minimum hours needed to graduate		120.0		CHEM 107 (FWSpSu)	1.0	SC ED 375	3.0
				GEOL 112 (W)	4.0	Requirement 2 elective	3-4.0
				Civilization 2 & Arts	3.0	Religion elective (FWSpSu)	2.0
				PHY S 276	4.0	Total Hours	15-16.0
				Religion elective (FWSpSu)	2.0	8th Semester	
				Total Hours	17.0	PHY S 476 or 496 (FW)	12.0
						Total Hours	12.0
				<p>Note: The sequence of courses suggested may not fit the circumstances of every student. Students should contact their college advisement center for help in outlining an efficient schedule.</p> <p>Note: Students are encouraged to complete an average of 15 credit hours each semester or 30 credit hours each year, which could include spring and/or summer terms. Taking fewer credits substantially increases the cost and the number of semesters to graduate.</p>			

Program Requirements

Licensure: This program meets the educational requirements designed to lead to an occupationally required professional license or certificate in the state of Utah. Students pursuing occupations requiring a license or certificate in a state other than Utah should contact the appropriate BYU academic advisement center as well as the licensing agency in the state where they intend to work to seek information and guidance regarding licensure and certification requirements.

This major is designed to prepare students to teach in public schools. In order to graduate with this major, students are required to complete Utah State Office of Education licensing requirements. To view these requirements go to <https://www.schools.utah.gov/curr/licensing> or contact the Education Advisement Center, 350 MCKB, 801-422-3426.

For students accepted into the major after December 16, 2019, grades below C in any required coursework in a teaching major or teaching minor will not be accepted. Teacher candidates must maintain a cumulative GPA of 2.7 or higher once admitted into the program and to qualify for student teaching. For additional details on admission and retention requirements for teaching majors and teaching minors, see Educator Preparation Program Requirements in the Undergraduate Catalog.

Requirement 1 —Complete 17 Courses

Note for Geol 210: Contact Geological Sciences Department (S-389 ESC) before April 15th for dates of upcoming August field trip.

CHEM 105 - Gen College Chem 1+Lab Integr 4.0

CHEM 106 - General College Chemistry 2 3.0

CHEM 107 - Gen Coll Chem Lab 1.0

CHEM 201 - Chem Handling & Safe Lab Prac 0.5

CHEM 223 - Quant & Qual Analy 4.0

CHEM 331 - Guided Learn Chem Instruction 3.0

GEOL 111 - Physical Geology 4.0

GEOL 112 - Historical Geology 4.0

GEOL 210 - Field Studies 3.0

PHSCS 105 - General Physics 1 3.0

PHSCS 106 - General Physics 2 3.0

PHSCS 107 - General Physics Lab 1 1.0

PHSCS 108 - General Physics Lab 2 1.0

PHSCS 127 - Descriptive Astronomy 3.0

PHSCS 137 - Energy, Climate, Environment 3.0

PHSCS 167 - Desc Acoustics of Music & Spch 3.0

PHSCS 310 - Physics By Inquiry: Mechanics 3.0

Requirement 2 —Complete 1 of 5 Courses

GEOL 100 - Dinosaurs 3.0

GEOL 351 - Mineralogy 4.0

GEOL 370 - Sedimentology & Stratigraphy 3.0

GEOL 480 - Paleontology 3.0

PHIL 423R - History&Philosophy of Science - *You may take once 3.0*

Requirement 3 —Complete 2 Requirements

Professional Education Component:

Licensure requirements: Contact the Education Advisement Center, 350 MCKB, 801-422-3426, to schedule the exit interview to clear your application for the secondary teaching license. You should be registered for your last semester at BYU prior to the scheduled appointment.

Requirement 3.1 —Complete 9 Courses

CPSE 402 - Educ Stdnts w/Disablt in ScEd 2.0

IP&T 371 - Integrating K-12 Ed Tec 1 1.0

IP&T 372 - Integrating K-12 Ed Tec 2 1.0

IP&T 373 - Tching K-12 Online/Blended Lrn 1.0

PHY S 276 - Exploration of Teaching 4.0

PHY S 377 - Teaching Methods & Instruction 3.0

PHY S 378 - Practicum in Secondary Educ 1.0

SC ED 353 - Multi Cult Ed for Sc Ed 3.0

SC ED 375 - Ad Dev & Class Mgmt 3.0

Note: FBI fingerprint and background clearance must be completed prior to enrollment in Phy S 276.

Requirement 3.2 —Complete 12 hours

Apply for student teaching/internship one semester in advance by September 30 or January 31st. Applications are online at www.byu.edu/fieldservices.html.

PHY S 476 - Secondary Student Teaching 0.0v

PHY S 496 - Acad Intern: Secondary Ed 0.0v

Student teachers/interns must complete all required EPP assessments and paperwork in the Educator system.

THE DISCIPLINE:

The Department of Teacher Education provides a program that licenses secondary teachers for public schools. In addition to content courses in the field(s) in which they plan to teach, students complete professional education courses and practicum experiences that prepare them to teach in a secondary school setting.

CAREER OPPORTUNITIES:

Secondary education teacher.

MAP DISCLAIMER

While every reasonable effort is made to ensure accuracy, there are some student populations that could have exceptions to listed requirements. Please refer to the university catalog and your college advisement center/department for complete guidelines.

ADVISEMENT CENTER INFORMATION

Physical and Mathematical Sciences College Advisement Center

Brigham Young University

N-181 ESC

Provo, UT 84602

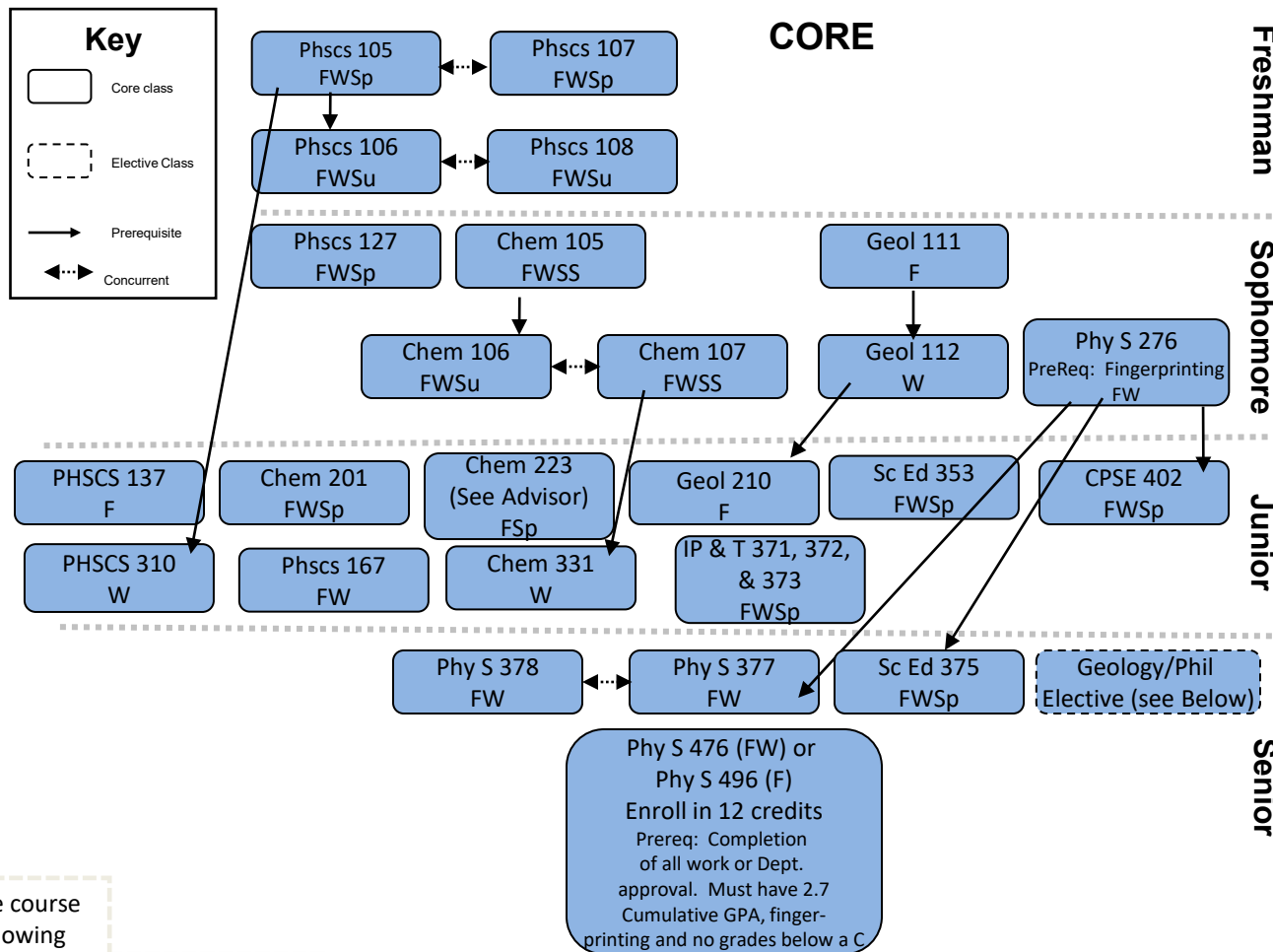
Telephone: (801) 422-2674

BYU Physical Science Education BS

Requirements / Prerequisites 2023-2024 Academic Year

Major (80.5-81.5 Hours)

- Admission into the Physical Science Education major or minor requires the following: **1)** 2.7 minimum high school/college GPA (be in the average of 3.0 for cohort), **2)** fingerprint background check, **3)** a cohort average ACT score of 21.25 (17 minimum) in English, average cohort score of 21.25 (17 minimum) in math, and an average cohort writing score of 6.60 (5 minimum) **or** a SAT average cohort verbal score of 543.33, average cohort math score of 532.5, and an average cohort essay score of 5.30. Anyone who has not taken the writing portion will need to take the Praxis Core Writing test and receive a 165.
- Grades below C in professional education courses or content courses will not be accepted in the teaching major or teaching minor. Maintain minimum 2.7 (3.0 for cohort) GPA to qualify for student teaching.
- Take the following courses Chem 105, Chem 106, Chem 107, Chem 201, Chem 223 (see advisor), Chem 331, Geol 111, Geol 112, Geol 210, Phscs 105, Phscs 106, Phscs 107, Phscs 108, Phscs 127, Phscs 137, Phscs 167, Phscs 310.
- Take one of the following: Geol 100, Geol 351, Geol 370, Geol 480, Phil 423R.
- Complete Teacher Licensure requirements (Contact Education Advisement Center)
- Complete Professional Education Component: CPSE 402, IP&T 371 IP&T 372, IP&T 373, Phy S 276, PhyS 377, PhyS 378, Sc Ed 353, Sc Ed 375.
- Complete 12 credits of either Phy S 476 or Phy S 496.



Please Note: When Taught is subject to change.

Guide only—please consult MyMAP for full requirements.

Updated 02/09/2024

handshake

BYU's own job board. Employers who want to hire BYU graduates or offer internships to current students post job openings to this website and students apply. Just like LinkedIn, employers can view student profiles and students can network as they apply for jobs and internships

Login to handshake.byu.edu >>> BYU Net ID

**you do not need to create an account, just sign in with you BYU information*



HOW TO MAKE THE MOST OUT OF HANDSHAKE:

1. COMPLETE YOUR PROFILE

- Upload your resume and it will auto-fill in your profile
- Completed profiles tailor your Handshake experience
- Information from your transcript is already uploaded
- Fill in the Summary/Bio section
- Fill in your past jobs and experiences, including all the bullet points you use on your resume
- Add a professional headshot and background photo

Remember: every word in your profile will be searchable by students and employers

4. EXPLORE FELLOW STUDENTS

- “Students” tab
- Search for fellow BYU students to view their profiles and job positions (Facebook stalking... “networking”)

5. ATTEND EVENTS

- The “Events” tab will be your key to attending info sessions, interviews, and Career Fairs
- The “Calendar” tab under “Events” will show you what events are coming soon
- Make sure to save events you are interested in or RSVP so you do not forget to attend
- Spread the word to your friends on social media

6. DOWNLOAD HANDSHAKE APP

- Search: “Handshake” not “Handshake Career Services”
- Input your BYU e-mail address: netID@byu.edu (it will forward emails to the e-mail you have on file with BYU)
- Handshake will send you a link via e-mail to enable your account in the app
- Navigate the app to perform all the functions of the website that have been previously mentioned

7. VISIT THE CAREER STUDIO

- Freshen up your resume, cover letter, or LinkedIn
- Receive networking help
- Practice interviewing with a mock interview
- Meet with a full-time Career Counselor in your field

8. GET A JOB, RING THE BELL

- Once you're hired, stop by the Career Studio to ring our Victory Bell and get a picture for the Victory Board



employers are
5X MORE LIKELY
to view a profile that has
at least one job/skill/organization

2. APPLY FOR JOBS

- Search for job titles, employers, or skills
- Apply for interesting jobs that meet your skill set

3. RESEARCH COMPANIES

- Under the “Jobs” Tab there is an “Employers” Tab
- Search for keywords or locations to find companies that are the right fit for you
- Plan to attend their info sessions on BYU Campus, connect with them at Career Fairs, or set up informational interviews to learn more

Remember: when looking at companies or jobs, Handshake will tell you what other BYU students have worked there. Use this resource to network and discover more information!

Research Groups

Group	Day	Time	Location
Acoustics	Thursday	4:00PM	ESC C261
Astronomy	Every other Thursday	10:00AM	ESC N485
Atomic, Molecular, Optical	Contact individual professors		
Computational X-ray Imaging	Wednesday	3:00PM	ESC N288
Condensed Matter	Thursday	4:00PM	ESC N288
Materials for Space	Monday	2:00PM	ESC N265
Observatories	Thursday	2:00PM	ESC N309
Quantum	Thursday	10:00AM	ESC N209
Science Education	Thursday	10:00AM	ESC N209
Theoretical and Mathematical	Tuesday	3:00PM	ESC N209

*For most updated information on times and locations of research groups, please visit: <https://www.physics.byu.edu/undergraduate/research> Be sure to scroll down to the professors for additional information.