

## Institutional Program Review – WSU

1. In a diagram, graphic, or paragraph or two, please briefly describe your campus program review process. (You may also provide a link if this information is in succinct form on a website.)

### Institutional Overview of program review process

[Wichita State University academic program review](#) is organized around a year-long preparation and review of a self-study that is intended to create a thoughtful assessment of the quality and relevance of academic programs and to establish goals for improvements. The process of reviewing these programs (which includes department (faculty and chair), the college deans, dean of the Graduate School (for graduate programs), the University Program Review committee, the senior associate vice president for institutional effectiveness and strategic enrollment management, and the executive vice president and provost) is expected to strengthen the academic programs, identify program needs and campus priorities, identify areas for reorganization, and provide opportunities for both short and long-term goal setting.

On a four-year cycle each academic unit prepares a self-study using a standard reporting template. These four-year reports then feed into the required review by the Kansas Board of Regents (i.e., each program is required to be reviewed twice during an 8 year period). Programs that demonstrate the need for additional support are asked to complete interim reports. Hence, there is a continuous review process of each academic unit.

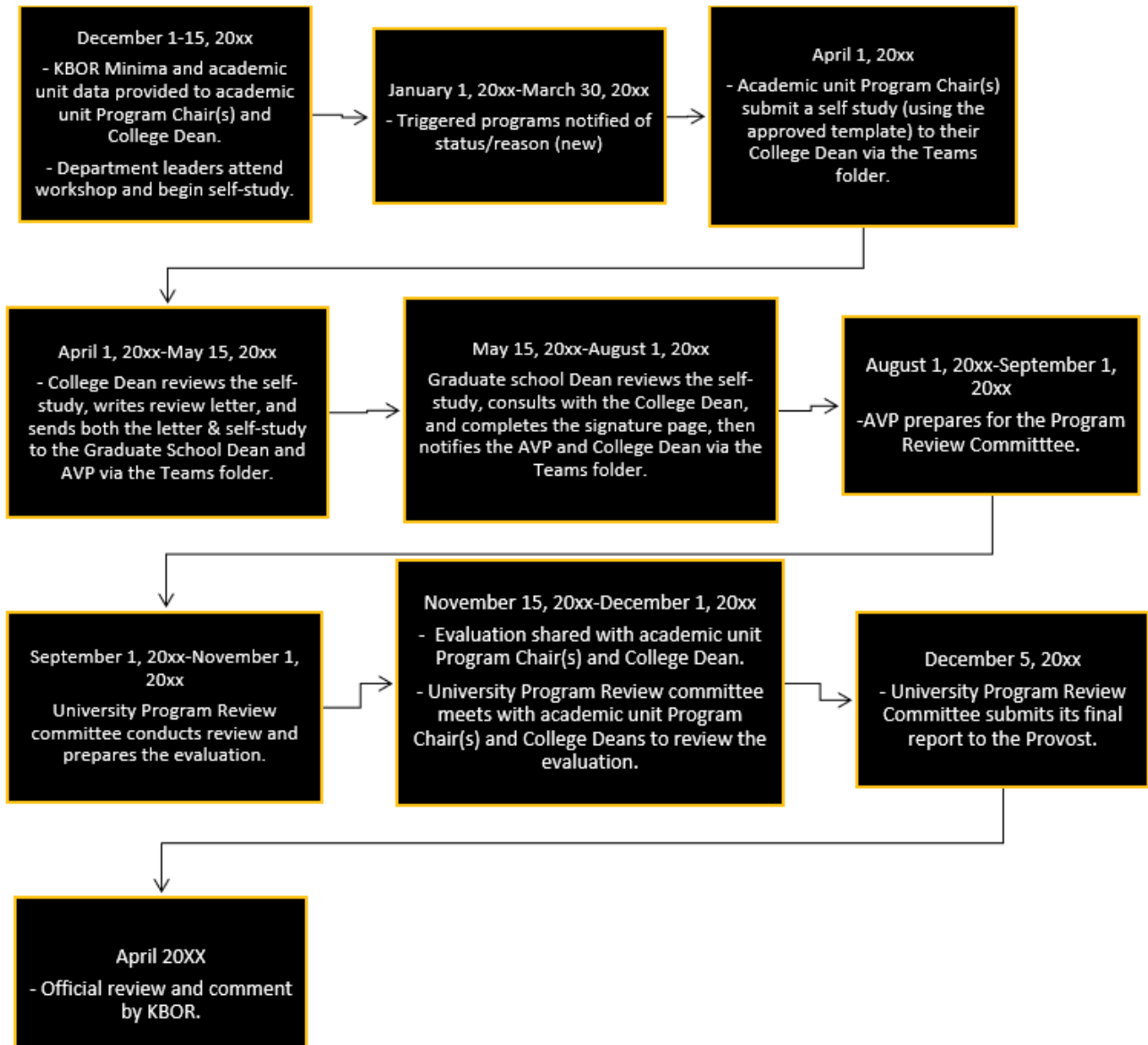
The quadrennial reporting cycle begins in December, one year in advance of the due date, (on a staggered schedule so that college programs are reviewed together). The review cycle begins with a workshop for chairs and assessment coordinators which is hosted by the Office of Accreditation and Assessment within the Division of Academic Affairs. The first submission deadline is April 1<sup>st</sup> when the program self-study and supporting documentation is submitted to the respective Dean's office for review. After which, the self-studies are reviewed by the Dean, Graduate School (as appropriate) and the University Program Review committee (consisting of the senior associate vice president for institutional effectiveness and strategic enrollment management; assistant director of the Office of Planning Analysis; the president, president-elect, and past-president of the Faculty Senate; a dean appointed by the executive vice president/provost, two department chairs, and three faculty at large representatives), where each department/unit is provided with an opportunity to discuss and clarify their reviews. The university committee then submits its final report with recommendations to the executive vice president/provost by December 5<sup>th</sup> of the next year.

All programs are reviewed including those at the bachelor, master, and doctoral level.

To assist programs in writing their self-studies, departments/programs have access to:

- Program minima data provided by the Office of Planning and Analysis.
- Past self-studies performed by past department chairs.
- Data from exit surveys and other surveys collected by the University and within departments.
- External specialty accreditation reports (as appropriate).

Annual Timeline for Program Review



2. Over the last two years, excluding those programs included in this year’s Program Review for the Board, please indicate any programs you phased out, merged, or put on an action plan, **resulting from your institution’s internal program review process, and briefly describe the rationale for the decision**. For any placed on an action plan, please briefly describe the plan and intended (or actual) outcomes.

As indicated in the table below, six programs were inactivated and two programs were merged during the 2022-2023 and 2023-2024 academic years. These actions were taken to improve efficiencies and to respond to declines in student demand and/or industry need. In the case of the Athletic Training program, the bachelor’s degree program was discontinued as a result of a change in accreditation standards. New standards went into effect in Fall, 2023 requiring all athletic training programs to be at the graduate level.

Program Title	Effective Term	Certificate	Minor	Bachelor's	Dual	Master's	Doctorate	Online	Notes
<b>AY2023-2024 Inactivated Programs</b>									
Field Major/BGS in Aging Studies	Spring 2022			x				x	inactivated the online program code only

^ Indicates data masked when representing cell size < 5

Minor in Ethnic Studies	Summer 2022		x						Minor in Ethnic Studies and Women's Studies combined into new minor (#544: Minor in WEIS)
Minor in Women's Studies	Summer 2022		x						
<b>Program Title</b>	<b>Effective Term</b>	<b>Certificate</b>	<b>Minor</b>	<b>Bachelor's</b>	<b>Dual</b>	<b>Master's</b>	<b>Doctorate</b>	<b>Online</b>	<b>Notes</b>
<b>AY2022-2023 Inactivated Programs</b>									
BA in Athletic Training	Summer 2021			x					
Certificate in Entrepreneurship and Innovation	Fall 2022	x (Graduate level)							
MBA - Entrepreneurship & Innovation Concentration	Fall 2022					x			
MACC - Master of Accountancy: Taxation Concentration	Fall 2022					x			
BAED - PreK-12 Latin (Secondary)	2017			x					
BA in Communication - Electronic Media Emphasis	Fall 2022			x					

### Wichita State University

The programs being reviewed this year in the Fairmount College of Liberal Arts and Science include:

<b>Program</b>	<b>CIP</b>
Women's Studies	05.0207
Philosophy	38.0101
Geology	40.0601
Physics	40.0801
Forensic Science & Technology	43.0106

^ Indicates data masked when representing cell size < 5

# 1. Women’s Studies (Bachelor of Arts in Women's, Ethnicity, & Intersectional Studies)

Preliminary Analysis			
Student Demand	Degree Production	Talent Pipeline	Student ROI
		✓	✓
11.25 Majors (4-Year Average)	4.25 Degrees (4-Year Average)	58.33% Employed in Region Within 1 Year After Graduation (4-Year Average)	^ Median Salary 5 Years After Graduation

Other Universities Offering Program		
Other KS Public Universities Offering Program	# of KS Private Universities Offering Program	State Market Share Completion Data
2: K-State & KU	N/A	8.59%

**Recommendation (Phase out, Merge, or Action Plan):**

Merge

(Type recommendation in box above)

**Required additional information – Please insert below this box**

- If Phase out, provide phase out plan including detail on how institution will reinvest resources from phase-out program into other academic programs/services.
- If Merge, provide merge plan including detail on immediate cost savings. Include how this plan will impact your FTE for merged program(s).
- If Action Plan, provide action plan and indicate how plan will improve metrics (Student Demand, Degree Production, Talent Pipeline, and/or Student ROI) where program did not meet minima.

**Overview of Program:**

The Department of Women’s, Ethnicity, and Intersectional Studies (WEIS) is a recently redesigned department that combines the courses from Women’s Studies and Ethnic Studies through the lens of intersectional experiences. WEIS builds on a long history of addressing the challenges that women and men face in a transforming workspace, the complexities of work/life balance, the different needs and experiences of urban and rural women and families, and the academic needs of the Wichita community and the SE Kansas region.

Currently, WEIS offers a Bachelor of Arts major and minor, a Bachelor of Science major, and an emphasis within the Bachelor of General Studies (BGS). Over 94 percent of students enrolled in WEIS courses take them to fulfill general education requirements, College of Liberal Arts and Sciences (LAS) competencies, and/or university-level diversity bucket requirements.

In 2020, prior to the KBOR Program Review, the department began addressing its low enrollment, student demand, and degree production trends by making radical changes to its department and structure, major/minor degree requirements, and course offerings. The 2020 Program Review resulted in a new structure for the major and minor and a redesigned department, changing from Women’s Studies to Women’s, Ethnicity, and Intersectional Studies (WEIS).

**Response to data and patterns indicated by the data:**

**Student Demand and Degree Production – Not Met**

In **Fall 2020**, the Dean of the Fairmount College of Liberal Arts and Sciences convened an interdisciplinary strategic planning committee to create an action plan (redesign) to change the downward direction of enrollment numbers, student demand, and degree production, for the Women’s Studies department (now WEIS).

^ Indicates data masked when representing cell size < 5

The redesign **approved in AY23** addressed the two areas the KBOR program review identified as deficient—student demand and degree production—by focusing on creating easier pathways for double majors and strategically developing curriculum that addresses the university, college, and departmental needs of students.

In addition, within this redesign, WEIS, as an interdisciplinary department, has actively worked to increase course offerings and reactivate cross-listing of courses with other LAS departments that WEIS shares a strong Interdepartmental Dependency, meaning that students from other departments and other majors frequently take WEIS courses to supplement their major or to fulfill general education requirements. Student Credit Hour production in the WEIS program during AY23 is summarized in the following table.

Department	SCH Totals in WEIS Coursework
Psychology	441
Social Work	162
Communications	138
Criminal Justice	123
Education	93
Public Health	87
English	51
Sociology	36
Political Science	33
History	24
Anthropology	18

In addition to the 11 departments listed above, more complete data indicates students in over 47 programs enroll in WEIS courses to fulfill university, college, and major requirements.

However, the 2023 redesign has not resulted in an increase of WEIS majors and in turn has not increased degree production from this program.

### **Merge Plan:**

Given the robust student demand for courses in the discipline, the program is proposing to dissolve the Women's, Ethnicity, and Intersectional Studies (WEIS) department and major. Instead, WEIS will merge with the English Department. This merger of the program within the English department will ensure students' interest in this area of study will remain a priority and students are afforded continued opportunities for in-depth study of the discipline through the field major, an emphasis within the Bachelor of General Studies degree, or as a minor. The English Department will coordinate the development and administration of these three pathways.

**A field major** will allow students to have Women's, Ethnicity, and Intersectional Studies as a primary focus within their chosen degree program (major). This approach allows a student to focus their studies in multiple areas of interest which in turn equips the student with skills and knowledge tailored to their career goals or graduate school plans. Wichita State Field Majors are housed in the Fairmount College of Liberal Arts and Sciences and this approach allows for cross-college connections to grow organically as student demand changes over time.

The Field Major is well designed for a small, interdisciplinary degree like WEIS.

- supports the degree flexibility that WEIS already has built in
- allows students to add a major or minor to their plan of study that fits their degree requirements and occupational aspirations.

- allows for cross-college connections to grow organically as student demand changes over time.
- allows students to receive a broad appreciation of the cultural and dynamic factors of human conduct

#### Field Major Requirements:

- Three areas of study (1 primary & 2 additional allied areas)
- Requires a minimum of 36 credit hours
  - 18 credit hours in a primary area
  - 9 credit hours in 2 additional allied areas
- 12 of the 36 hours must be upper division
- 1st and 2nd area must be LAS or historically LAS
- 3rd area can be cross college lines or be thematically or occupationally designed

Students can complete the Bachelor of General Studies (BGS) degree and utilize the WEIS as a field major within this existing degree.

#### The **Bachelor of General Studies (BGS)** degree:

- allows students to design a major plan of study crossing departmental or even college lines
- allows generalists, pre-professionals, or nontraditional career students greater flexibility in planning their academic major plans.

#### Requirements of the BGS Degree:

- Minimum of 33 hours divided over 3 areas of study
  - 1<sup>st</sup> and 2<sup>nd</sup> areas must be in LAS departments
  - 3<sup>rd</sup> area may cross college lines or be thematically or occupationally designed
    - Minimum of 15 credit hours in the 1st area
  - Minimum of 6 hours in each of the 2<sup>nd</sup> and 3<sup>rd</sup> areas
    - No more than 30 credit hours may be counted toward the degree in any one subject
    - No more than 60 credit hours may be counted toward the degree in one division
    - Minimum of 94 LAS credit hours must be completed

**A minor** is an additional credential that a student can pursue while completing their major. It is a secondary area of specialization a student can pursue while completing their coursework for their major. A minor in Women's, Ethnicity and Intersectional Studies will give the student a basic understanding of women's lives through internationalism, representation, and social issues, and will expose them to the diversity of experience of many racial and ethnic groups. The minor is a valuable addition to majors such as social work, education, political science, history, pre-law, psychology, criminal justice, and others.

The proposed change to move WEIS from a stand-alone degree to a field major, as an emphasis within the Bachelor of General Studies degree, or as a minor is consistent with the structural changes that WEIS has made over the last four years and aligns with the current student enrollment in WEIS coursework as demonstrated in the following data:

- Minors: 18
- Double majors: 4
- Triple majors: 4
- Quadruple majors: 1
- Bachelor of General Studies/Field Majors: 11

#### **Student-Demand Trends**

- Though WEIS has made several changes, as of AY24 it continues to see declining majors and believe the merger of this department into a field major, an emphasis within the Bachelor of General Studies degree, and a minor coordinated in the Department of English will better serve the students at Wichita State.
- WEIS double+ majors and minors and Bachelor of General Studies (BGS) WEIS field majors and minors account for 77 percent of the current WEIS department's production. With the merger plan, the

potential for an increase in the number of WEIS minors and field majors will be enhanced as it will provide an integrated option within the current English and Bachelor of General Studies degree programs.

### Outcomes of merger:

**Faculty:** Currently, WEIS consists of:

- 2 tenured faculty
- 5 adjunct faculty (per course instructors, hired as needed basis)

After the merge:

- The two current tenured faculty will be redistributed to current LAS departments.
- Adjunct faculty will be hired at the discretion of the new department and LAS.

**Current WOMS and WEIS students:** Students who are already declared WOMS or WEIS departmental majors will be allowed to complete their degrees, but no new departmental majors will be accepted beginning Fall 2024.

Goal of this transition is to increase enrollment within the WEIS courses offered within the field major, as an emphasis within the Bachelor of General Studies degree, and a minor.

### Merge next steps:

During the remainder of AY24 and AY25, WEIS will take steps to discontinue the current WEIS department and major. In addition, the program will work with the College of Liberal Arts and Sciences and the Office of the Registrar to:

- dissolve the WEIS department and relocate the 2 permanent faculty in WEIS to English and Sociology
- develop WEIS field major requirements
  - as a primary track (18 hours); and
  - as one of the allied area tracks (9-12 hours)
- move the current WEIS courses into the Department of English
- work with foundation and general counsel to revise the existing scholarship guidelines to no longer require a WEIS major
- work with the Registrar to make the necessary catalog changes for AY26
- market WEIS as a field major, as an emphasis within the Bachelor of General Studies degree, and minor
- deploy recruitment activities
- share program information with Admissions and One Stop
- promote the program at Campus and Community through events Fall events (e.g. Words By Women, and Global Village Assembly) and Spring events (e.g. International Women's Day Keynote, and Diverse Women's Summit). In addition connect with Plaza of Heroines. This group has contributed a sculpture, Sophia Vari's *Danseuse Espagnole*, to the Martin H. Bush Outdoor Sculpture Collection at Wichita State and has provided a \$10,000 student scholarship through donations and celebrates and commemorates women in the center of WSU's campus.

## 2. Philosophy (Bachelor of Arts in Philosophy)

Preliminary Analysis			
Student Demand	Degree Production	Talent Pipeline	Student ROI
		✓	✓
17 Majors (4-Year Average)	3.5 Degrees (4-Year Average)	60% Employed in Region Within 1 Year After Graduation (4-Year Average)	^ Median Salary 5 Years After Graduation

Other Universities Offering Program		
Other KS Public Universities Offering Program	# of KS Private Universities Offering Program	State Market Share Completion Data
4: FHSU, KSU, KU, & WU	3	10.19%

**Recommendation (Phase out, Merge, or Action Plan):**

Action Plan

(Type recommendation in box above)

**Required additional information – Please insert below this box**

- If Phase out, provide phase out plan including detail on how institution will reinvest resources from phase-out program into other academic programs/services.
- If Merge, provide merge plan including detail on immediate cost savings. Include how this plan will impact your FTE for merged program(s).
- If Action Plan, provide action plan and indicate how plan will improve metrics (Student Demand, Degree Production, Talent Pipeline, and/or Student ROI) where program did not meet minima.

**Overview of Program:**

The philosophy program has a rich history of service to other programs in areas such as logic and applied ethics, Engineering Ethics as well as through four concentrations in Analytic Reasoning, Ethics, Pre-Law, and World Philosophy. The program also provides a pipeline to graduate school in popular fields including Law, Philosophy and Communications. The Philosophy Major at WSU develops maximally versatile skills that are highly sought by employers in all sectors. Those skills include but are not limited to critical reasoning, ethical insight, intellectual creativity, and philosophical foundations of global diversity. Students in this program thrive in a workforce that currently faces unprecedented transformative pressures and opportunities due to AI, CRISPR, blockchain currencies, social shifts, and other 21<sup>st</sup> Century developments. Additionally, graduates of this program are prepared to responsibly invent new paths, adapt to new roles, and creatively prevent or solve the problems of the future.

**Response to data and patterns indicated by the data:**

**Student Demand: - Not Met**

- **WSU Philosophy** is currently triggered for student demand. As of February 2024 we have 13 declared majors and 12 minors. As reported in Fall 2023, our 4-year average is 17 majors, with 3.5 degrees produced.
- **The number of philosophy majors is only one aspect of student demand for philosophy.**
  - The vast majority of student credit hour production (97-98%) supports other programs (non-majors). More specifically, philosophy courses in ethics support accreditation requirements for the College of Engineering and the College of Health Professions. In AY 2022-23 alone, over 4,000 credit hours were earned by over 1000 students in over 50 programs.

^ Indicates data masked when representing cell size < 5



- Currently, this academic year (Fall 2023 and Spring 2024) the department has generated over 3200 student credit hours serving over 1000 students who are non-majors. An additional 500+ student credit hours are anticipated during the Summer 2024 term for non-majors/
- Advisors from our OneStop office have reported incoming students indicate a strong desire for philosophy courses designed to immerse them in a philosophical exploration of who they can be, their places in the world, and what futures they can build.
- **Nationally**, philosophy is in high demand. According to College Factual, “If you pursue a degree in philosophy, you won't be alone. ... In 2024, College Factual analyzed 4 [Texas] schools ... these colleges and universities awarded 463 degrees in philosophy during the 2020-2021 academic year.” Since Texas is part of the **WSU I-35 recruitment zone**, these numbers provide clear evidence that we have ample opportunity to recruit philosophy majors to **Kansas**. Moreover, because our small department offers a highly flexible and customized degree plan in which students learn directly from faculty rather than graduate student instructors, the marketing opportunity for philosophy is rich. Marketing to these prospective students is part of our Action Plan below.
- [Regional employers](#) and national employers alike indicate strong interest in a workforce with the skills in which philosophy graduates excel: critical reasoning and problem-solving, ethics, and the ability to work well with a diverse team and customer base. (See for example [Spirit Aerosystems DEI](#), [Cargill DEI](#), [Cargill ethics](#))

#### **Degree Production: - Not Met**

- Given that our 4-year average of 17 declared majors includes an average of 4 seniors per year, we are unavoidably also triggered for degree production.
- We have 1 graduate in Fall 2023 and we anticipate 1 graduate in Spring 2024.
- Please see our action plan below for actions and initiatives to support our majors through to degree completion.

#### **Talent Pipeline: - Met**

See Considerations below for more information

#### **Student ROI: - Met**

See Considerations below for more information

The following **action plan** includes components designed to

- a) **increase declared BA Philosophy majors** through a newly available marketing plan through WSU Strategic communications, 4 new concentrations and other curriculum development, and several high school outreach initiatives (**recruitment**);
- b) **support those students through their graduation** into their next career phase through emergency funding support, a new Philosophy at Work applied learning initiative, and personalized mentoring (**retention**); and
- c) **continue to operate as a high service department** throughout the university for programs that require our expertise for professional development and accreditation (**service**).

#### Summary:

- As indicated in our internal preliminary analysis for this review, the Department of Philosophy has taught an average of 5,400 credit hours over the past three years.
- The department's service teaching (97.5%) has remained fairly constant over the past three years. Recently, course offerings have grown to support the College of Engineering and Health Professions in Bioethics, Engineering Ethics, Biomedical Engineering Ethics, Ethics and Computers, and Logic as a foundational course for computer science majors. We anticipate that the [Wichita Biomedical Campus](#), in partnership with the Academic Center for Biomedical and Health Humanities ([HealthHum](#)), will increase demand for Bioethics and other health-related philosophy courses.

- The 4-year average enrollment is 17 majors. This is a drop from an average of 30-35 majors pre-pandemic from which we are still in the process of rebounding and this is representative in the 13 new Spring 2024 majors.
- There were 3 majors who graduated in AY22-23 and 2 who graduated in AY21-22. We anticipate a similar graduation rate this year.

As our Action Plan below explains, we have a variety of initiatives underway to increase majors, promote degree completion, and continue expert service to other programs.

### Action Plan:

#### Overview

Our action plan includes components designed to address three areas:

- a) Student demand/Recruitment: increase declared **BA Philosophy majors**

Philosophy is not taught in K-12 programs in our region and WSU has a very high percentage of first generation students (45.99% overall and 57.4% underserved) who are unaware of what philosophy is and the value it offers. In addition, it is common for students to choose their major on the basis of a particular course that 'hooked them'. Since our service courses to Engineering and Health Professions (65%) are upper division courses that students take in their junior or senior year, these courses are not good recruitment opportunities. These students are unlikely to change their major by the time they take their first philosophy course. The **outreach and marketing** activities below will therefore directly address this primary obstacle to recruiting philosophy majors by closing the gap through **high school outreach and early exposure**.

- b) Degree Production/Retention: support those students through their graduation into their next career phase (**degree production**)

**Due to the low number of philosophy majors, degree production is unavoidably low.** As majors increase, degree production will increase. We have identified two additional factors that have recently impacted degree completion for our students: **financial challenges** and health challenges. As explained below, we have established an **emergency fund** which, for example, helped one student remain in the program after their trailer burned down. With the university's growing emphasis on wrap around services and greater attention to meeting student health needs, the Philosophy department is committed to partnering with Student Affairs and Student Support offices (all of which will soon be housed in the Shocker Success Center) to better address student health needs.

- c) Service: continue to operate as a high service department for programs across campus that require our expertise for professional development and **accreditation**.

#### *Marketing (recruit majors and degree production)*

- To raise visibility and promote the major the department is using website development, social media, digital signage, and print media. We are taking advantage of a newly available **WSU Strategic Communications** program to maximize our marketing effectiveness for the major
- The department is accelerating our engagement with **Advising** units, with whole-department meetings to continue our program development in response to expressed student interests and ensure that our professional Advisors are well informed about the philosophy major so that they can advise the appropriate students that the philosophy major would be a good choice for them.
- High School Outreach:
  - The department has begun working directly with Admissions to send information about the Philosophy Major to prospective students and admitted students who have not yet decided their major.
  - The department has initiated an annual Philosophy Summer Camp for high school students through newly available Wichita State Connect opportunities. Our first camp is scheduled for August 2024.

- Department faculty will promote our departmental strength in philosophy of science at the Science Olympiad on April 6, 2024.
- Department faculty will begin regularly visiting local high schools to host Lunch and Learn events at area high schools to promote the philosophy program at WSU, careers in philosophy, and courses that may be of special interest to students.
- On-Campus Recruitment:
  - Department faculty will participate in the newly restructured **WSU Orientation** program beginning in Summer 2024.
  - The department will **continue** to participate in WSU and LAS **recruitment** opportunities such as Black and Yellow Days, Shocker Honors Scholar Reception, and Academic Open House.

### ***Curriculum Development for Recruitment and Career Development (recruit majors and degree production)***

Again, since the primary obstacle to recruiting philosophy majors is that our incoming students and their families don't know what philosophy is, our curriculum and career development plan is focused on closing that gap as described below.

- To make the **content and value** of the philosophy major more **concrete and recognizable** to students, parents, and employers, the department has recently introduced **concentrations** in:
  - Analytical Reasoning,
  - Ethics,
  - Pre-law, and
  - World Philosophy

These credentials are only available as part of a major in philosophy.

- The philosophy major is part of the **Legal Education Accelerated Degree (LEAD)** program, a 3+3 program with KU Law which is positioned for growth in the near future. Students who do not wish to pursue the accelerated degree will still be made aware of the philosophy department's new Pre-Law Concentration through LEAD.
- The department is teaching **First Year Seminars** to maximize our outreach to incoming students while they still have some flexibility in choosing their major.
- The philosophy department is participating in the Shocker Academy, a **dual enrollment program for high school students** to introduce students to philosophy before they declare a major during the Admissions process.
- The **Applied Learning** course *Philosophy at Work* was approved Spring 2024. This course is designed to simplify our applied learning program requirement, promote opportunities like paid internships and study abroad, and better integrate philosophical knowledge and skills into career development for students who choose not to pursue graduate school. This is expected to make the major more attractive to students who want to major in philosophy but who have reservations about their plans after graduation.
- In partnership with HealthHum, Philosophy is participating in the development of a **Health Humanities Certificate**, which we expect to include Bioethics, Biomedical Engineering Ethics, and Philosophy of Medicine courses. The Certificate and these courses themselves support several programs and career paths:
  - pre-Med students who may go on to KansasCOM or KUMC,
  - public health, nursing, and students in other WSU College of Health Professionals programs
  - Psychology students on the Counseling track
  - Students pursuing health-related careers like social work, public administration, kinesiology, or biotech development.

Students who pursue this Certificate will have **increased potential exposure** to a philosophy class, which will in turn increase our opportunity to recruit majors who may have been unaware of **health-related career opportunities in philosophy**, or philosophy minors. As many students change their major between their freshman year and graduation, this is an opportunity to recruit philosophy majors from the pool of students who want to pursue a health-related career, but perhaps not as a healthcare provider.

- To demonstrate the continued **critical relevance and practical application** of philosophy, ethics courses have been developed for legal professionals, data ethics, biomedical engineering ethics, and ethics of AI. Again, exposure to philosophy courses is an opportunity for students to identify our major as a good fit.

As AI developments are already radically re-visioning professional work in ways that require a sharper focus on intelligent implementation of ethical principles and CRISPR is empowering us to radically reconceptualize humanity itself, **the need for philosophical education and research has never been higher**. The philosophy department is **adaptively responding** to the needs of our students, industry, and our community. Our marketing and outreach plan and curriculum development plan are designed to **advertise this**.

**Retention Through Graduation (degree production)**

- The department has recently added an **Undergraduate Coordinator** position to more effectively recruit and retain majors, and to support their career development.
- The department has recently established an **emergency fund** to support Pell-eligible students who, for example, cannot afford books or who cannot quite cover their medication costs. As mentioned above, financial challenge is a crucial factor for retention in our department.)
- The department is using available **analytics** to monitor DF rates, potential bottleneck courses, and other student success parameters **to promote persistence and retention** through graduation for philosophy majors as well as other majors we serve. We have replaced, restructured, and redeveloped the few courses that have had high DF rates, with only one remaining course to be addressed.
- As indicated in the curriculum development section, the **Applied Learning** course *Philosophy at Work* was approved Spring 2024. This course is designed to simplify our applied learning program requirement, promote opportunities like paid internships and study abroad, and better integrate philosophical knowledge and skills into career development for students who choose not to pursue graduate school. We expect this to improve retention, particularly for juniors and seniors.
- We are engaging as a department and with available support opportunities for instructional development to promote **excellence in the student experience** and adapt to AI developments.
- Faculty will continue to teach Directed Readings seminars **tailored to our majors’ particular philosophical interests and career goals**.

**Additional Considerations**

**T1: Student Credit Hours, Students Enrolled, Percent non-Majors by Academic Year**

Department Courses:	Academic Year (fall-spring-summer sequence) at Census					
	2019	2020	2021	2022	2023	2024
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Student Credit Hours (SCH)</b>						
610401 Philosophy	7,641	7,125	6,885	5,168	4,576	tbd
<b>Students Enrolled in Courses</b>						
610401 Philosophy	2,576	2,375	2,295	1,836	1,732	tbd
<b>% non-Majors in Course</b>						
610401 Philosophy	98.1%	98.7%	98.9%	98.6%	99.0%	tbd

**Student Credit Hours (SCH)**

Consistently 97-98% of our SCH is service to students who are not philosophy majors. In AY 2022-23 we taught 4,151 SCH to well over 1000 students in over 50 programs at WSU, including philosophy:

- 1,798 SCH Engineering and Computer (43.3%)
- 894 SCH Biology and Health Professions (21.5%)
- 478 SCH Business (11.5%)
- 100 SCH Law and Criminal Justice (2.4%)
- 881 SCH for Honors, Arts, Sciences, Humanities, Education and other (21%)
- Accreditation Support for Engineering:** The philosophy department teaches ethics courses for the entire College of Engineering required for their majors and their accreditation (Engineering Ethics,

^ Indicates data masked when representing cell size < 5

Ethics and Computers, Biomedical Engineering Ethics). Engineering is a central driver for the WSU mission, with expected growth in several areas.

- **Growth in Bioethics and Health Humanities:** We teach Bioethics for the College of Health Professions, which is required for Public Health and recommended for many other programs. We expect demand to increase significantly in this area as the **Wichita Biomedical Campus** and The Academic Center for Biomedical and Health Humanities ([HealthHum](#)) accelerates over the next 2-3 years. See the article in WSU News “[WSU’s HealthHum intertwines health care and humanities](#)” for more context.
- **Growth in Business Ethics:** We teach Business Ethics as a General Education course for which demand is now growing.
- **Core courses for higher education:** We teach other essential Humanities courses for General Education such as Philosophy of Science, Ancient Greek Philosophy, Contemporary Chinese Philosophy, Philosophy of Religion, and Critical Reasoning.

**Faculty expertise.** Every member of the department holds a PhD in philosophy, and all of the applied ethics faculty have a research or professional background in the areas they teach.

- The engineering ethics faculty all have a background in engineering, e.g. one of our faculty worked in nuclear engineering and one regularly works with NASA engineers.
- The faculty member who teaches biomedical engineering ethics worked on the Human Genome Project and has publications in biomarker research.
- One of our faculty was elected a Fellow of the American Association for the Advancement of Science (AAAS) for her work on philosophy of AI and philosophy of scientific models.
- Two of our faculty are members of Sigma Xi, the scientific research honor society.

**Without the Bachelor of Arts (BA) in Philosophy and a philosophy department in which research faculty can flourish, WSU will be unable to hire or retain genuine experts in crucial STEM support areas.** Three philosophy department faculty have written or are currently *writing the book* for their applied ethics courses to improve the quality of available materials and offer these to our students at no cost.

### *Talent Pipeline Considerations*

- The BA in Philosophy major at WSU meets the talent pipeline criterion with a 4-year average 60% employment in the region after graduation. It should be noted that our program is a pipeline to **top-tier graduate programs** outside Kansas, after which some students return to the region. Consequently the 60% employment indicated in the KBOR analysis may be a low estimate.
- As mentioned in our program description, philosophy is a **maximally versatile degree that provides core competencies in the highly sought skillsets of the 21st Century.**
- As the American Philosophical Association highlights, philosophy majors in the US pursue careers in a wide variety of fields “from academia to business to entertainment to politics”. For a list of prominent philosophy majors and testimonials, please see the APA webpage [Who Studies Philosophy?](#)
- **Our own graduates** with a BA Philosophy from WSU tend to pursue law degrees, STEM careers, and leadership roles in a variety of fields. Our alumni have gone on to practice law, work for the Kansas Leadership Foundation, start up a local brewpub, found a local startup incubator, specialize in computer architecture, serve on a local hospital Ethics Board, and succeed in a variety of other endeavors.

**Testimonials** from our alumni can be found on our website. Two are provided below:

- “I entered Wichita State University as an art history major; the second degree in philosophy arose out of the pleasures and rewards of each additional philosophy class. The drive for additional courses was fueled in part by the way the Wichita State philosophy professors sharpened their students' thinking--it was as if the mental mud was slowly washed away. The second major reward was the way the historical courses brought together, or seemed to give a larger meaning to, courses in the same period from other disciplines. That attempt to identify

and examine the most salient or telling issues relating to a particular subject still drives my work as a cultural historian.” - Stephen Gleissner, former Chief Curator, Wichita Art Museum

- “In the world of business, there are too many misconceptions regarding the relevance and value of studying philosophy. Majoring in philosophy taught me how to think, not what to think. It taught me several valuable lessons that continually apply to my business and my life. Here are a few of them: It is more important to ask the right questions than it is to have the right answers. Critical thinking trumps functional knowledge. It is more important to understand the "why" rather than the "what" or "how." The world of business is full of clutter and it is very easy to get lost in it. Studying philosophy gave me the tools to better discern what is strategically relevant and disregard that which is not. If you are able to understand complex problems, subjects, and issues, and articulate them into relevant and straightforward terms, people will pay you a lot of money for it. No one has all the answers and be wary of those who claim they do. As our world becomes increasingly smaller, having the ability to step outside of your own frame of reference and understand and assimilate different perspectives is a huge advantage.” - Troy L. Carlson, Founding President and CEO, Initiatives, Inc.

**Student ROI Considerations**

- The BA in Philosophy at WSU meets the Student ROI criterion.
- As the American Philosophical Association [documents](#):
  - “Data gathered by [PayScale](#) from the 2020–2021 academic year shows that people with bachelor’s degrees in philosophy tend to earn more over their lifetime than people with degrees in any other humanities field. Philosophy students have both the **highest starting salary of any humanities major** (\$52,600) and the highest percent increase between starting and mid-career salary (\$94,300).
  - Additionally, the [National Association of Colleges and Employers](#) found for the graduating class of 2021 that, within six months, **more than 77 percent of graduates with bachelor’s degrees in philosophy had either found employment or were continuing their education.**”

Service Program provides to:	Metric
Non-majors	<ul style="list-style-type: none"> <li>○ Consistently 97-98% of our SCH is service to students who are not philosophy majors. In AY 2022-23 we taught 4,010 SCH for over 50 programs at WSU <b>excluding</b> philosophy:                             <ul style="list-style-type: none"> <li>• 1,798 SCH Engineering and Computer (44.8%)</li> <li>• 894 SCH Biology and Health Professions (22.3%)</li> <li>• 478 SCH Business (12%)</li> <li>• 100 SCH Law and Criminal Justice (2.5%)</li> <li>• 740 SCH for Honors, Arts, Sciences, Humanities, Education and other, excluding philosophy (18.4%)</li> </ul> </li> </ul> <p>Through our service to other programs, we teach:</p> <ul style="list-style-type: none"> <li>• Engineering Ethics (Engineering and computer science program accreditation)</li> <li>• Four concentrations in Ethics; Analytic Reasoning, Ethics, Pre-Law, and World Philosophy.</li> <li>• Provide coursework for General Education Framework,</li> <li>• Professional ethics coursework for business, health professions</li> </ul>
SCH workload of service to Interdisciplinary opportunities (cross list, team teach, etc.)	<ul style="list-style-type: none"> <li>• The department regularly offers cross listed courses for the Cohen Honors College.</li> <li>• Philosophy faculty teach courses in other departments, e.g. Space Politics for Political Science, and courses that are cross listed with WEIS, Japan Studies, and other programs.</li> <li>• Philosophy faculty are often invited guest lecturers in other courses,</li> </ul>

^ Indicates data masked when representing cell size < 5

	<p>e.g. in the Engineering Sustainability course and the Cybercrime course in the School of Criminal Justice, which are not reflected in SCH.</p>
<p><b>SCH workload of the service the Program (e.g. minors, double majors, certificates, badges, microcredentials, industry credentials) provides to the institution and beyond.</b></p>	<ul style="list-style-type: none"> <li>• We are now offering four new Concentrations (Analytic Reasoning, Ethics, Pre-Law, and World Philosophy) within the major.</li> <li>• We are currently developing or preparing to develop additional credentials to meet demand.</li> <li>• As described above, we are participating in the development of a Health Humanities Certificate.</li> <li>• Collaboration with industry partners such as Cargill through the Fairmount College of Liberal Arts and Sciences industry outreach efforts, is poised to yield new initiatives and credentials.</li> </ul>

The department’s administrative support has been reduced from 1.0 FTE pre-pandemic to .5 FTE.

Strategic planning for efficiency:

- As described above in the Action Plan above, the philosophy department has recently developed our curriculum in several ways to maximize the credentials we offer and attract new students.
- Every semester the chair ensures that any low enrollment courses for the majors are effectively balanced by high enrollment courses for our regular faculty. The department teaching expectation for high-research faculty (e.g. tenure-track) is 3/3, which is higher than comparable departments.
- The department utilizes high quality adjunct teaching to adapt to enrollment fluctuations.
- The department regularly “deepens our bench” by developing faculty expertise to meet unexpected increases in demand in specialties like Philosophy of Law or Cyberethics.

The WSU department of philosophy actively works to achieve a right-sized department to ensure our faculty maintain standard teaching loads.

### 3. Geology (Bachelor of Arts/Science in Geology)

Preliminary Analysis			
Student Demand	Degree Production	Talent Pipeline	Student ROI
		✓	✓
23 Majors (4-Year Average)	7.75 Degrees (4-Year Average)	67.86% Employed in Region Within 1 Year After Graduation (4-Year Average)	\$64,856 Median Salary 5 Years After Graduation

Other Universities Offering Program		
Other KS Public Universities Offering Program	# of KS Private Universities Offering Program	State Market Share Completion Data
4: ESU, FHSU, K-State. & KU	N/A	14.78%

**Recommendation (Phase out, Merge, or Action Plan):**

Action Plan

(Type recommendation in box above)

**Required additional information – Please insert below this box**

- If Phase out, provide phase out plan including detail on how institution will reinvest resources from phase-out program into other academic programs/services.
- If Merge, provide merge plan including detail on immediate cost savings. Include how this plan will impact your FTE for merged program(s).
- If Action Plan, provide action plan and indicate how plan will improve metrics (Student Demand, Degree Production, Talent Pipeline, and/or Student ROI) where program did not meet minima.

**Overview of Program**

Geology is fundamentally an applied and practical discipline that supports industry and societal interests. Since 1926, the Department of Geology program has operated as an educational, cultural, and economic driver for the State of Kansas and the Wichita area. Its purpose is to prepare students with the scientific knowledge to proceed to geologic careers in industry and government or to be admitted to a geology graduate program. Our curriculum prepares students for ASBOG (Association of State Boards of Geology) licensing, which is required of geologists in Kansas and most other states. Students are prepared with the background and skills to enable them to continue to learn, develop, and adapt their geoscience career goals as demand for different natural resources fluctuates.

The program goals include:

- Prepare individuals for current and future geologic careers in industry, government, or academia.
- Foster professional growth and commitment to lifelong learning for students and faculty.
- Emphasize applied learning with multiple field experiences, internship programs, and business partnerships.
- Support and encourage scholarly research in the geological sciences.
- Ensure efficient and effective program operations are consistent with the college, university, and profession.

Since its founding, the Department of Geology has traditionally supported Kansas's local oil and gas industry. With changing economic and political winds and a decline in employment opportunities in this area, the department is adapting by also emphasizing other employment areas in geology. These include groundwater resources, civil engineering applications, water and soil remediation, and critical and strategic minerals exploration. These efforts include hiring new faculty (2024) in strategic and critical minerals to expand its curriculum and training for students in this potential employment growth area for geologists. This should help

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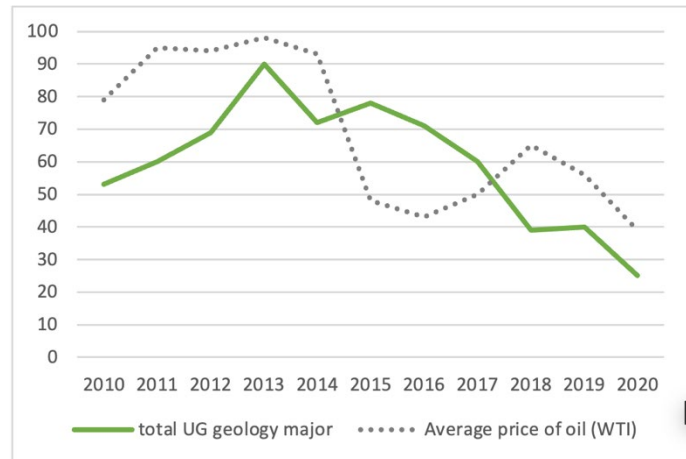


translate our degree offerings to students and lead to increased student demand and degree production.

### Response to data and patterns indicated by the data:

#### Student Demand – Not Met

*Number of Geology UG majors vs Yearly Average Price of Oil (WTI)*



#### Student Demand Overview:

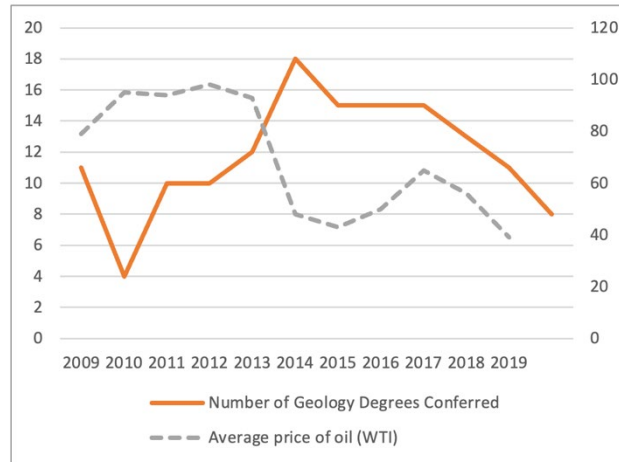
- 23 majors, 4-year average
- As an applied discipline linked to the exploration of new or sustaining existing **commodities** (oil, minerals, water, etc.), student interest (demand) and, therefore, enrollment (majors and degree production) are directly tied to the cyclical nature of employment in the discipline's largest employers.
- The largest of these employers historically has been the **oil/gas industry**. Within these energy companies, our graduates are employed as petroleum geologists, geophysicists, petroleum engineers, and environmental geologists.
- Other **employers** of geologists include mining companies (e.g., exploration geologists of critical and strategic minerals), civil engineering (no degree in civil engineering at WSU) and groundwater remediation companies (as geotechnicians, hydrogeologists, and geochemists), state and national geological surveys, and educational institutions.
- International and national political and economic influences on energy, mineral, and water commodity prices ultimately impact societal concerns and, therefore, **student demand** and **degree production**. The department is navigating these shifting economic and academic sands by diversifying faculty expertise and modifying the curriculum within the constraints of ASBOG licensing course requirements. These will, in turn, lead to robust training in other employment areas in strategic and critical minerals, civil engineering, GIS mapping, and groundwater remediation, thus positively impacting **student demand** and **degree production**.

#### TRENDS:

- In the 2000s, increasing oil prices resulted in increased geoscientist employment opportunities in Kansas. In turn, the department saw **increasing student enrollment** (reaching over 90 undergraduate majors in 2013).
- In 2014, the price of oil dropped dramatically (see above graph), and **employment opportunities began to shrink**. As a result, student interest and enrollment began to wane. Initially, the enrollment decline against the price of oil was tempered by a gradual (rather than immediate) decline in employment opportunities and by those students still in the program working towards graduation.
- While 2020 was a low for oil industry growth, that trend appears to be turning around. The Energy Workforce and Technology Council's monthly jobs report now shows an increase of 0.2% over last year. In addition, US News and World Report estimates a **5% job growth potential** specifically for petroleum geoscientists this year and **7% for all geoscientists**.

**Degree Production – Not Met**

*Number of Geology Degrees Conferred vs Yearly Average Price of Oil (WTI)*



DEGREE Production Overview and Trends:

- 7.75 degrees, 4 year average
- The Geology program saw an **increase in degree production leading up to 2014** when the employment in the oil/gas sector was increasing.
- With the **fall in oil prices in 2014**, the degree production began to decline. Initially, the enrollment decline against the price of oil was tempered by a gradual (rather than immediate) decline in employment opportunities and by those students still in the program working towards graduation.
- **Poor discipline visibility** and **student perception** of employment opportunities has hindered department ability to attract new majors.
- Since 2014, the department has intentionally highlighted employment opportunities in the **environmental and water resources** sector.
- This year, the department is seeking to improve its expertise and ability to train students in **critical minerals for the "new energy transition"** by searching for a new faculty member in this area (2024).

**Talent Pipeline - Met; not under review**

- Since 1926, the Department of Geology program has operated as an educational, **cultural, and economic driver for the state of Kansas and the Wichita area**. Its purpose is to prepare students with the scientific knowledge to proceed to geologic careers in industry and government or to be admitted to a geology graduate program.
- 80% of our graduates remain in the geoscience field and 72% of our domestic students remain in-state.
- Our **international students** are trained for jobs in the oil/gas and groundwater sectors. They are employed both within the State of Kansas and their home countries, primarily in the Middle East and the Indian subcontinent.
- Bureau of Labor and Statistics **projected growth** for all geology jobs is +7%.

Employment of Majors 2020-2021						
Program Name	Employment In state (%)	Employment in the field (%)	Employment related to the field (%)	Employment outside the field (%)	Pursuing graduate or professional education (N)	Projected growth from Bureau of Labor and Statistics
Geology	72%	80%	80%	20%	69%	+7%

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**Student ROI** – Met; not under review

Program Name	Avg. Salary	Projected growth from Bureau of Labor and Statistics
Geology	\$93,580	+7%

- **Average salaries** of degreed undergraduate majors is \$93,580. This relatively high starting salary as compared to other undergraduate fields relates to the practical and in-demand training by our discipline.
  - In the petroleum industry, our graduates are employed as petroleum geologists, geophysicists, petroleum engineers, and environmental geologists. These come with **substantial starting salaries** (often over \$100K).
  - Other employers of our graduates include mining companies (e.g., exploration geologists of critical and strategic minerals), civil engineering and groundwater remediation companies (as geotechnicians, hydrogeologists, and geochemists), state and national geological surveys, and educational institutions. Salaries for these jobs are strong and **commensurate with societal perception of need and importance**.

**Action Plan:****Overall Patterns and Concerns to be Addressed in Action plan:**

1. The low number of majors and degree production are linked and stem from (1) **fluctuating employment opportunities** driven by volatile commodity prices of oil, gas, minerals, and water resources (outside the control of department), and (2) **lack of visibility** of the geology discipline and profession across the state and nation.
  - a. Geology is not a discipline that students are traditionally exposed to in K-12 education.
  - b. The department's current means of generating interest in the geology degree has been through recruitment within lower-level General Education courses and campus activities exposing employment opportunities in the region.
2. Therefore, the department action plan addresses those factors that we can control; namely, curriculum and promotional activities to attract majors and increase degree production. See "Actions" below.

The low number of **majors and degree production** stem in part from the visibility of the discipline and program at WSU. Therefore, the department **action plan** involves curriculum and promotional activities to attract majors and increase degree production.

**1) Implement new lower-level courses and high school outreach programs** to address low number of majors and degree production

- The department will implement new entry-level **Gen-Ed and First Year Seminar courses** on attractive topics to help increase enrollment, visibility of discipline, and number of majors and degree production.
- The department will implement a new **multi-disciplinary advocacy program** supported by Kansas NSF EPSCoR to provide students with an immersive high school experience in research and advocacy in the geosciences. The program fosters multidisciplinary learning, professional development, GIS, machine learning, and data analytics skills, preparing students for future studies and careers in the Geosciences.
- The department will seek **dual-enrollment opportunities** provided by the university's Shocker Academy, wherein faculty will directly instruct and, therefore, expose, local high school students to topics and opportunities in the geology and geoscience disciplines.
- Changes are being made to existing geology courses without a specified lab to ensure that these continue to meet the definition of a "science" under the new KBOR General Education criteria (bucket #4). Courses that are being changed from 3 to 4-credit include: GEOL 200 (Intro to Env. and Sustainability), 235 (Meteorology), 300 (Energy, Resources and Env.), 301 (Dinosaurs), 302 (Earth and Space Sciences), 310 (Oceanography), and 430C (Geology of National Parks).

## 2) Promotional Activities to attract majors and increase degree production

- The department will develop and implement **marketing and promotional materials** to increase participation in our degree and certificate programs. The department is working with the university Office of Strategic Communication and the Fairmount College Arts and Sciences staff to develop and implement promotional ideas.
- Promotions will include information from the Bureau of Labor Statistics, which shows that employment of all geoscientists is **projected to grow 7% from 2022-2032, faster than the average of all occupations**.
- The department will actively promote the program in admissions, 1st-year orientations, and advising activities to increase visibility and participation in geology degree and certificate programs. This will be done in **collaboration with existing and developing support infrastructure** in Wichita State University and Fairmount College.
- The department will participate in **1st Year orientations** to demonstrate and inform incoming students of the opportunities in the Geology Department
- **The Geology Field School** (see below) will expand its marketing campaign for its in-person and virtual applied learning programs to a local, national, and international audience to build enrollment and grow national reputation. The Field School currently emphasizes opportunities for declared geology majors. The School will **create lower-level applied learning field activities** for non-major students to generate interest from segments of the student body. These will include off-campus field trip opportunities and promotion of virtual field trips and game simulations. Again, it is projected that increasing exposure of the discipline to the wider student body will lead to increased majors.
- The department will develop and promote Economic Geology activities in the department research lab **Earth Energy and Resources Lab**. This lab will integrate undergraduate and graduate students in active energy and critical minerals research with the goal to train them in an integrated approach to exploration of minerals, energy, and groundwater.
- The department will promote Environmental and Sustainability activities through the **Environmental Mineralogy Research Lab**. This lab integrates undergraduate and graduate students in water/soil remediation and civil engineering-related research, with the goal of training them in an integrated approach to geological approaches to environment and sustainability.
- The department will promote GIS activities in the department **Geospatial Analysis Research Lab**. This lab integrates undergraduate and graduate students mapping, hazards, and remote sensing research with the goal to train them in an integrated approach to GIS, database management, geological concepts, and working with satellite geospatial data.

### Additional Considerations to represent the importance of this program outside of these 4 metrics:

#### 1) Geology Field School

- The department's Geology Field School is a nationally recognized field program located in Wyoming and Montana. Since 2014, students from over 30 colleges and universities have participated in the WSU Field School program. Underwritten by the Woolsey Family Endowment Fund, the camp brings positive national exposure to the department, WSU, and the Kansas Regents schools. The Field School builds student competence and self-confidence in the profession by completing projects independently and in groups, drawing inferences and conclusions from evidence, and trusting one's own judgment and reasoning.
- Nationwide, a Geology Field School is a required capstone course for majors. However, the number of universities offering the course have dwindled over the past 20 years. As a result of the strength of our program and decreasing options nationwide, we are seeing an increase of students from across the country. Currently, the Field School draws students from Kansas (WSU, KU, KSU, FHSU) and across the country to test geologic concepts in an outdoor laboratory, interpret the rock and fossil record, visualize three-dimensional geologic relationships, construct and interpret geologic maps, and evaluate data used to make maps.

- Since 2020, the Geology Field School has also offered the **only fully online 6-credit hour Virtual Field School course in the nation**. This innovative approach utilizes interactive 3D games and simulations to train students in field skills. It serves those students who cannot participate in traditional in-person camp due to accessibility, health, finances, and other issues. It provides a nationally recognized service to the geoscience discipline. It draws students from major geoscience programs, including the University of Kansas, Kansas State University, University of Arizona, University of Kentucky, Colorado School of Mines, and University of Michigan.
- For more information, visit website: [www.wichita.edu/fieldcamp](http://www.wichita.edu/fieldcamp)

**2) Hydrogeologic Research and Teaching Field Site**

- In support of environment and sustainability research and certificate program, the Geology Department runs outdoor laboratories at WSU Youngmeyer Ranch and the WSU Ninnescah Biological Field Station. A generous donation from GSI Engineering in 2019 established the Hydrogeologic Research and Teaching Field Site at the Ninnescah Field Station. The integrated hydrogeology training and research at these sites is unique to area universities (including KU, KSU, OU, and OSU), yet crucial for students pursuing careers in hydrogeology, environmental consulting, engineering consulting, and government regulation (KDHE, KCC, etc.).

**3) Environment and Sustainability Undergraduate Certificate program**

- The Geology Department hosts the Environment and Sustainability Certificate program, which examines the impact from all aspects of human society, from science and engineering to communication and politics. The certificate program is available to any undergraduate, regardless of their major, and has tracks in the areas of Environmental Policy and Communication, Human Society and the Environment, Resource and Remediation Science and Technology, and Environmental and Green Sciences. There are currently 15 students in the program from a wide assortment of majors, including Biology, Geology, Physics, Mathematics, and Performing Arts.

**4) GIS Undergraduate Certificate program and Department of Anthropology collaborations**

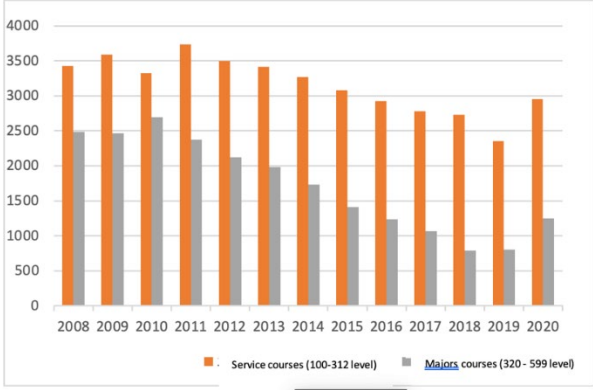
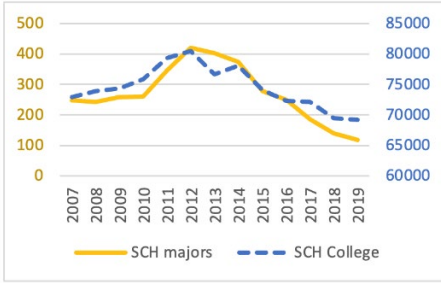
- The departments of Geology and Anthropology co-host the GIS Undergraduate Certificate program, which trains students in using geospatial technologies to map social, scientific, and civil data. Currently, nine students from a wide assortment of majors, including Biology, Anthropology, Geology, and Industrial Engineering, participate in the program.
- Over the past five years, the departments of Anthropology and Geology have increasingly collaborated on related interests and applications, several related to GIS. Both disciplines study the interface between human societies and the environment at various spatial and temporal scales. Recent areas of collaboration include archeology and geoarchaeology, geomorphology, remote sensing, GIS, geospatial analysis, forensic science, environment, hazards, museum studies, and mitigating energy and mineral resource exploration/extraction.

**Additional Considerations**

**T1: Student Credit Hours, Students Enrolled, Percent non-Majors by Academic Year**

Department Courses:	Academic Year (fall-spring-summer sequence) at Census					
	2019 2018-19	2020 2019-20	2021 2020-21	2022 2021-22	2023 2022-23	2024 2023-24
<b>Student Credit Hours (SCH)</b>						
620301 Geology	3,699	3,346	3,098	3,041	3,586	tbd
<b>Students Enrolled in Courses</b>						
620301 Geology	1,385	1,387	1,513	1,329	1,556	tbd
<b>% non-Majors in Course</b>						
620301 Geology	80.9%	86.0%	87.7%	87.4%	88.4%	tbd

^ Indicates data masked when representing cell size < 5

Service Program provides to:	Metric
<p><b>Non-majors</b></p>	<ul style="list-style-type: none"> <li>The department SCH production is strongly correlated to higher enrollment in our lower-level non-major service courses (GEOL 102, 111, 235, 300, 302, 310). The majority of our credit hour production effort encompasses service and General Education courses for the university. Changes are being made to existing geology courses without a specified lab to ensure that these continue to meet the definition of a "science" under the new KBOR General Education criteria (bucket #4). Courses that are being changed from 3 to 4-credit include: GEOL 200 (Intro to Env. and Sustainability), 235 (Meteorology), 300 (Energy, Resources and Env.), 301 (Dinosaurs), 302 (Earth and Space Sciences), 310 (Oceanography), and 430C (Geology of National Parks).</li> </ul> <p style="text-align: center;"><i>Department SCH production (total and 100-500 level courses)</i></p>  <ul style="list-style-type: none"> <li>A sustained enrollment decline in lower-level non-major classes began in 2013, reflecting a trend found across the College of Liberal Arts and Sciences (LAS).</li> </ul> <p style="text-align: center;"><i>Total SCH production by Geology and LAS</i></p>  <ul style="list-style-type: none"> <li>The <b>SCH per tenure-eligible faculty members has increased</b> over the past decade as the number of department faculty members have decreased. The typical faculty load is 3/3, but is often higher depending on program needs to provide necessary courses for the degree programs. 60% to 70% of SCH produced by department are by tenure eligible faculty. Two thirds of this SCH production is service/GenEd courses,</li> </ul> <p style="text-align: center;"><i>%SCH taught by department faculty vs lecturers</i></p>

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	<table border="1"> <caption>Faculty Tenure Status Distribution (2008-2019)</caption> <thead> <tr> <th>Year</th> <th>Tenure Eligible Faculty SCH (%)</th> <th>Non-tenure Eligible Faculty SCH (%)</th> <th>Lecturers SCH (%)</th> </tr> </thead> <tbody> <tr><td>2008</td><td>45</td><td>35</td><td>20</td></tr> <tr><td>2009</td><td>40</td><td>35</td><td>25</td></tr> <tr><td>2010</td><td>50</td><td>30</td><td>20</td></tr> <tr><td>2011</td><td>55</td><td>25</td><td>20</td></tr> <tr><td>2012</td><td>65</td><td>20</td><td>15</td></tr> <tr><td>2013</td><td>65</td><td>20</td><td>15</td></tr> <tr><td>2014</td><td>65</td><td>20</td><td>15</td></tr> <tr><td>2015</td><td>60</td><td>25</td><td>15</td></tr> <tr><td>2016</td><td>70</td><td>20</td><td>10</td></tr> <tr><td>2017</td><td>70</td><td>20</td><td>10</td></tr> <tr><td>2018</td><td>60</td><td>25</td><td>15</td></tr> <tr><td>2019</td><td>75</td><td>20</td><td>5</td></tr> </tbody> </table>	Year	Tenure Eligible Faculty SCH (%)	Non-tenure Eligible Faculty SCH (%)	Lecturers SCH (%)	2008	45	35	20	2009	40	35	25	2010	50	30	20	2011	55	25	20	2012	65	20	15	2013	65	20	15	2014	65	20	15	2015	60	25	15	2016	70	20	10	2017	70	20	10	2018	60	25	15	2019	75	20	5
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2019	75	20	5																																																		
<p><b>Institution and beyond</b></p>	<p>As stated above, the department serves the university through service courses and by offering a scientific discipline that many incoming students have not been exposed to in their secondary education. Most of our credit hour production effort is expended on <b>service and General Education courses</b> for the university.</p> <p>As described above, the department recently implemented a new <b>Certificate in Environment and Sustainability</b>, emphasizing the geoscience contributions to these issues to the university and broader society. There are currently 15 students in the program from various majors, including Biology, Geology, Physics, Mathematics, and Performing Arts.</p> <p>We are heavily involved in supporting the new <b>GIS (Geographic Information System) Certificate</b> with the Department of Anthropology. Geology teaches many of the core and elective courses associated with the GIS certificate, and many of the students in that program originate from Geology. There are currently 9 students in the program from a wide assortment of majors, including Biology, Anthropology, Geology, and Industrial Engineering.</p>																																																				
<p><b>SCH workload of service to Interdisciplinary opportunities (cross list, team teach, etc.)</b></p>	<p>Faculty in the Geology program teach interdisciplinary courses in Meteorology, GIS, and Remote Sensing.</p> <ul style="list-style-type: none"> <li>• Meteorology is cross-listed with the <b>Department of History's</b> Geography (GEOG) courses</li> <li>• Our GIS and Remote Sensing courses provide support for the <b>GIS Certificate Program</b>, co-hosted with the <b>Department of Anthropology</b>.</li> <li>• Our Geomorphology and Land Use and Field Geology courses provide support for the graduate-level <b>Great Plains Certificate</b>.</li> </ul> <p>Approximately <b>a third of our faculty's teaching load supports these interdisciplinary and certificate programs</b> each semester.</p>																																																				
<p><b>SCH workload of the service the Program (e.g. minors, double majors, certificates, badges, microcredentials, industry credentials) provides to the institution and beyond.</b></p>	<p>Faculty in the Geology program teach <b>interdisciplinary courses</b> in Meteorology, GIS, and Remote Sensing. (see above)</p> <p>The department also offers multiple <b>Continuing Education courses</b> (0.5 credit hours with an average enrollment of 150+ students each semester). These courses include:</p> <ul style="list-style-type: none"> <li>o GEOL 150B. Introduction to Meteorology</li> <li>o GEOL 150C. Introduction to Geology: Understanding Earth</li> <li>o GEOL 150D. Oceanography: Journey into the Abyss</li> <li>o GEOL 150E. Geology of Natural Disasters</li> <li>o GEOL 150F. From Geysers to Glaciers: The Geology of Our National Parks</li> <li>o GEOL 150G. The Geology of Kansas State Parks</li> <li>o GEOL 150J. Mass Extinctions: Are We in the Sixth?</li> <li>o GEOL 150M. When the Earth Shakes: Geology of Earthquakes</li> <li>o GEOL 150P. Geology of Volcanoes</li> </ul> <p>The Bachelor of Science in Geology program is based on a traditional applied geoscience education format. For geology graduates to work in the State of Kansas as geologists, their undergraduate training must meet the State of <b>Kansas' licensing board criteria</b> (in alignment with the Association of State Boards of Geology or ASBOG) and our students must take specific courses (table below) that indicate preparation in core areas of the geosciences. In effect, these requirements frame and</p>																																																				

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standardize our undergraduate curriculum. Our geology program has consistently **aligned closely with the licensing board’s criteria** for geology undergraduate programs. Our students are consistently successful at being licensed in the State of Kansas and surrounding states.

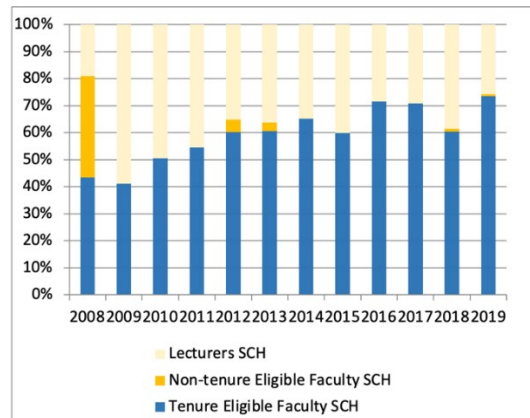
***Kansas State Board of Technical Professions - Geology Curriculum vs WSU Courses***

*WSU BS Geology required courses marked with an \**

ASBOG CORE COURSES	WSU COURSES	ASBOG ELECTIVE OPTIONS	WSU COURSES
General Geology	GEOL 111/102*	Hydrogeology	GEOL 650
Structural Geology	GEOL 544*	Economic Geology	GEOL 300
Stratigraphy or Sedimentary Geology	GEOL 522*	Geophysics	GEOL 760
Mineralogy	GEOL 320*	Historical	GEOL 312*
Petrology	GEOL 324*	Geomorphology	GEOL 560
Field Geology	GEOL 640*	Engineering Geology	GEOL 690AP
		Geochemistry	GEOL 720
		Paleontology	GEOL 570*

- The Department of Geology has a **small number of faculty** (currently three in 2023-24 and actively searching for an additional two) who **provide significant SCH** for the university (see above). We teach large lower-level survey courses and generate millions of dollars from research activity (over \$1mil each year).
- The Geology Department's ROI is strong. The department is cost-effective in terms of faculty FTE and student credit hour production. For example, in the Fall of 2023, we had a total of 3.5 FTE who taught 1,346 SCH.

*%SCH taught by department faculty vs lecturers*



- Our discipline has costs related to fieldwork and transportation, but we have successfully secured outside funding to support these fundamental learning approaches. The **Field School is underwritten and is self-sufficient**; the students and the university bear no travel and housing costs. Private donations for faculty development cover all the costs for travel for research-related field expenses.
- We provide broad service to the university, including courses supporting multiple certificate programs (GIS, Env and Sustainability, and Great Plains Certificate).

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### 4. Physics (Bachelor of Arts/Science in Physics)

Preliminary Analysis			
Student Demand	Degree Production	Talent Pipeline	Student ROI
✓			✓
29.25 Majors (4-Year Average)	6.25 Degrees (4-Year Average)	50% Employed in Region Within 1 Year After Graduation (4-Year Average)	\$89,774 Median Salary 5 Years After Graduation

Other Universities Offering Program		
Other KS Public Universities Offering Program	# of KS Private Universities Offering Program	State Market Share Completion Data
6: ESU (Phasing Out), FHSU, K-State, KU PSU & WU	3	8.86%

**Recommendation (Phase out, Merge, or Action Plan):**

Action Plan

(Type recommendation in box above)

**Required additional information – Please insert below this box**

- If Phase out, provide phase out plan including detail on how institution will reinvest resources from phase-out program into other academic programs/services.
- If Merge, provide merge plan including detail on immediate cost savings. Include how this plan will impact your FTE for merged program(s).
- If Action Plan, provide action plan and indicate how plan will improve metrics (Student Demand, Degree Production, Talent Pipeline, and/or Student ROI) where program did not meet minima.

### Overview of the Program

Physics is the root of all sciences and engineering. Without a broad educational base in physics programs in other sciences and in engineering would not have the solid foundation they need, nor would local industry be provided with the leadership necessary in diverse groups of scientists and engineers. A strong knowledge of physics is also helpful for pre-med students since the topic is required by medical schools and the MCAT exam.

The purpose of the undergraduate BS program in Physics is to provide a broadly based, flexible program in undergraduate level physics which will prepare students for graduate study in physics or a related discipline or for physics-related employment in academic, industrial, or government positions. Of the 66 graduates from the last 10 years, 41 reported their after-school plans. 61% went on to graduate school, 22% are in industry, 9% entered teaching, and 7% are in the military. Industries that our students work at include Spirit Aerosystems, Smith & Loveless Inc., and the Cosmosphere in Hutchinson. 76% of our students entering the workforce (based on our internal records of student success) were employed in Kansas. This number is reduced because of the large number of students that attend graduate school. Graduate schools include WSU, the University of Kentucky, K-State, and Heidelberg University in Germany.

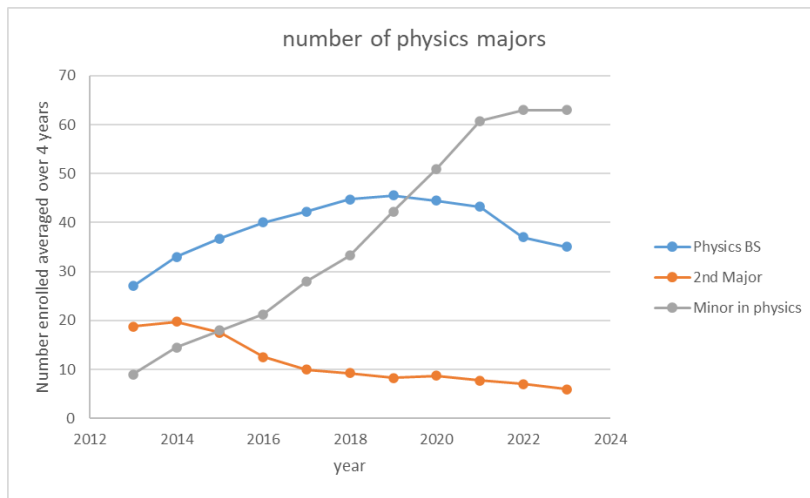
The undergraduate physics program is also committed to providing physics instruction needed by programs in other sciences, engineering, education, and health professions, and in the liberal arts. The physics division of the Mathematics, Statistics, and Physics department supports the university's educational commitment to the state and community by providing instruction in physics at all levels for beginning pre-med students and engineering students through doctoral study via the physics track of the PhD program in the MSP department. As discussed in detail below, nearly 93% of credit hours produced by physics faculty and instructors are for students in engineering and health sciences.

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**Response to data and patterns indicated by the data:**

**Student Demand - Met**

35 majors enrolled averaged over 4 years from 2019 to 2022.

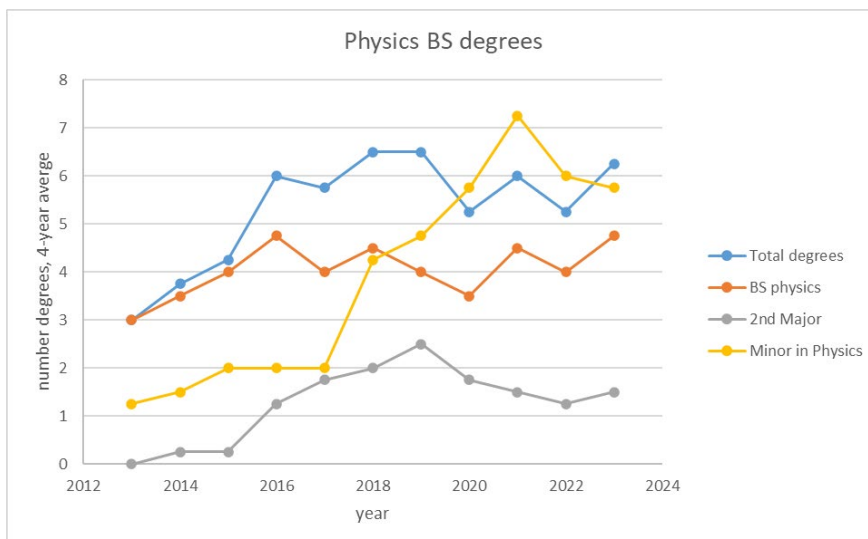


Shown are the number of students enrolled as declared physics BS students (averaged over 4 years) for the last decade and declaring a 2<sup>nd</sup> major as well. The number of students declaring a physics minor is also shown. See discussion in the “patterns” section for more details.

The current 4-year average of 35 students enrolled is down slightly from 5 years ago as shown in the plot above. This data does not include double majors with six graduates. Note that more students as a percentage are graduating compared with a few years ago. Reasons for the slight decline recently are not entirely clear. Part of the flattening may be due to Covid in 2020-2021, which affected many programs. However, the data shows that the decline started before that time around 2018 or so. Physics students are recruited from essentially three places: high schools, the WSU College of Engineering, or they transfer from other universities. An issue, see the action plan below, is that our course offerings are too in-frequent, and this may play a significant part in recent declining enrollments by affecting student retention in that they cannot get the courses they need to graduate “on-time”.

**Degree Production – Not Met**

6.25 degrees averaged over 4 years from 2018 to 2021.



Shown is the number of BS physics degrees awarded (averaged over 4 years) over the last 10 years with those students receiving a physics BS as a 2<sup>nd</sup> degree. Minors in physics are also included. It is apparent that over the last 10 years the number of degrees awarded has increased, nearly doubling.

The current 4-year average of 6.25 BS physics degrees awarded has been flat for the past few years, following the enrollment data as shown above. In the last 10 years, degree production has nearly doubled, going from 3 per year to 6. See chart and discussion in the “Production” section above. Assuming a student takes 4 years to go through our program (or 5 for a double major), the most recent number of 35 students enrolled would lead to 7-8 graduates per year. By increasing enrollment, we can therefore increase the number of graduates by recruiting and retaining students

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better.

### **Talent Pipeline – Not Met**

50% of students employed in the region within 1 year after Graduation.

Note: the minimum criterium is 51%

Data about employment is available for about 60% of our graduates over the last 10 years. Of those students reporting post-graduate plans, over 60% of our BS students go on to graduate school. Of the remaining students they are either in industry, teaching, or the military.

Historically, the **Talent Pipeline** for physics majors is to move on to graduate school, generally in physics or astronomy. Of the recent 10 years of BS students over 60% go on to graduate school at a variety of locations throughout the world.

### **Student ROI – Met**

\$89,774 salary 5 years after graduation

Data from [Physicists \(bls.gov\)](https://www.bls.gov)

Similarly, **Student ROI** has historically and will continue to be high. See [Physicists \(bls.gov\)](https://www.bls.gov) for more information.

### **Action Plan:**

Our comprehensive action plan addresses multiple facets of the physics BS program at WSU, from course offerings to resource management and program promotion. Simply put, **degree production** is heavily influenced by enrolling more students in the program and by better retaining those students.

**Recruiting:** Physics students come to WSU from 3 places, local high schools, students from the College of Engineering, and transfers from other universities. Physics will use marketing programs at WSU to help optimize growth by better recruiting local students. We put our best teachers in the freshmen physics classes to attract double majors from engineering, and we plan to adjust our course offerings to better retain students. Recruiting more students will lead to more degrees produced.

In Fall of 2023 we started participating in the BAASE program to recruit local high school STEM majors and plan to continue this outreach. We also applied for and received an American Institute of Physics TEAM-up grant to help recruit minority high school STEM students.

**Retention:** One issue that often hinders a student's graduation or degree production, is the frequency of course offerings. Exit surveys of students show that 33% of graduating physics majors are satisfied with the timeliness of course offerings. Recognizing one bottleneck course (PHYS 551, a sophomore physics course following the freshmen physics sequence), we made the strategic decision in the fall of 2023 to offer this course every semester rather than just every spring semester. This change resulted in a remarkable 50% increase in PHYS 551 enrollment within the first calendar year. This change will impact our ability to retain and increase degree production since the course is utilized by BS physics majors, double majors, and minors.

Building on the PHYS 551 success, our next focus will be on the physics core courses, vital for all physics majors. Traditionally core courses (PHYS 621, 631, 641, 651) are offered every 4 semesters or 2 years. This infrequency creates bottlenecks for transfer students hindering their ability to graduate in a timely manner. Our plan is to transition to a more frequent offering, ideally every academic year (AY). The feasibility of this shift is currently under study by our undergraduate physics committee. This change will affect not only BS physics majors but allow for more students to receive double degrees and minors in physics as well.

In addition, we will examine the physics core course prerequisites. A physics degree requires Calculus I, II, III, differential equations and a higher-level math course such as linear algebra. We need to ensure that students possess the necessary mathematical skills, aligning with the observation that strong math proficiency correlates with better performance in advanced courses like PHYS 621 and 651. Our undergraduate program committee is currently studying possible changes to this aspect of the program.

The Physics Help Room offers tutoring services to all students enrolled in introductory physics (primarily majors in both the College of Engineering and College of health Professions.) Funded by student lab fees, the Physics Help Room employs undergraduate physics majors with volunteers including physics graduate students and some faculty. Continued support of the Physics Help room talent pipeline depends strongly on the continued support of BS program in physics. Without physics undergraduates, the Physics Help lab would be unable to support student assistants, as physics tutoring is a specialized subject.

**Talent Pipeline:** We plan on identifying a Kansas company that hires BS physics majors and collaborating with them to find applied learning and/or internship possibilities. We recently started informal relations with NIAR, associated with WSU, to judge their needs for students with knowledge of physics. In addition, and regarding the biomedical research facility planned for WSU, we are looking at the potential for collaborations with our physics faculty research interests and crossover interests in the biomedical field.

**Additional Considerations:**

**T1: Student Credit Hours, Students Enrolled, Percent non-Majors by Academic Year**

Department Courses:	Academic Year (fall-spring-summer sequence) at Census					
	2019 2018-19	2020 2019-20	2021 2020-21	2022 2021-22	2023 2022-23	2024 2023-24
<b>Student Credit Hours (SCH)</b>						
620501 Physics	6,917	7,075	6,094	6,181	5,786	tbd
<b>Students Enrolled in Courses</b>						
620501 Physics	2,474	2,515	2,168	2,226	2,070	tbd
<b>% non-Majors in Course</b>						
620501 Physics	93.9%	94.8%	94.0%	95.3%	93.2%	tbd

As part of WSU’s goal to be an R1 institution, Physics plays a major role as it contributes a major part of external research funding in faculty-led research. The BS program is essential to attracting and retaining the caliber of physicists who can perform at this level. Physics faculty submitted 14 grants to federal agencies and had 6 active grants during 2022 totaling more than \$1,000,000. In the same year physics faculty published 16 refereed publications and presented at 6 conferences or seminars. Many faculty include support for undergraduate students in their proposals leading to applied learning opportunities.

Physics courses are required for Engineering as part of their ABET accreditation and as part of the Communications and Science Disorder program to be certified as a speech pathologist.

<b>Service Program provides to:</b>	<b>Metric</b>
<b>Non-majors</b>	In courses taught by physics, those at levels under 500 are taken mainly by non-majors, typically PHYS 213/214 by health sciences majors and PHYS 313/314 by engineering majors. According to APS, these students account for about 93% of the division’s credit hours. Students in the BS degree accounted for 5% of division’s credit hours, and MS students approximately 1.5% based on the latest rolling 5 fiscal year average.
<b>Institution and beyond</b>	One measure of service to the University and beyond is measured by the number and types of collaborations between faculty in our program with faculty across campus. We have faculty that regularly collaborate with colleagues in other departments. Some examples include Quantum Information (Behrman) with faculty in electrical engineering; space science (Solomey and Meyer) with faculty in aerospace engineering; high performance computing (Figy) with faculty in many departments; solid state physics (Ambal) with faculty in two departments in engineering and chemistry. We point out this observation to stress how the BS program and graduate programs are intertwined. Undergraduate students working with faculty on grants are experiencing applied learning and are better prepared for advanced studies in physics.
<b>SCH workload of service to Interdisciplinary opportunities</b>	All engineering majors at WSU must take freshmen physics I and II. Physics I (PHYS 313) is a required course for students to then take both

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<p><b>(cross list, team teach, etc.)</b></p>	<p>thermodynamics and statics courses in the engineering curriculum. Physics II (PHYS 314) is required by ABET for all engineering majors to complete. Each of these physics courses has a laboratory component as well that is required for most engineering majors. Most pre-med and other related medical field courses of study are required to take general physics (PHYS 213/214) which has a required laboratory section.</p> <p>As engineering and health professions grow, so does the demand for freshmen physics classes. From 2013 to 2019 the number of student credit hours went from 2,564 to 3,061 hours, an increase of nearly 20%. At the same time, we restarted and fully staffed the MS program in physics with a growth in student credit hours from 0 in 2015 to 59 in 2019. This was accomplished in part by utilizing two to three non-tenure track faculty that teach a large portion of the credit hours of freshmen physics.</p>
<p><b>SCH workload of the service the Program (e.g. minors, double majors, certificates, badges, microcredentials, industry credentials) provides to the institution and beyond.</b></p>	<p>Approximately 10 years ago, physics started participating in double majors across colleges. Typically engineering students add a physics major to their engineering BS degree. The number of these double major degrees is anywhere from 1.5 to 2 students, averaged over 4 years. Additional 2nd BS degrees in physics are earned by Math majors.</p> <p>The number of students graduating with a minor in physics is 5.75, averaged over 4 years and stable.</p>

During AY2022 physics taught 5,628 credit hours; 4,805 credit hours taught by 11 faculty and 2,612 credit hours taught by 8 research faculty. In addition, there were 13 individual (undergrad and grad) students and 9 graduate research courses.

Physics faculty participate in a variety of service opportunities on campus, including 4 serving on the faculty senate, service on LAS college committees, and community service such as Science Olympiad among many others.

### 5. Forensic Science & Technology (Bachelor of Science in Forensic Sciences)

Preliminary Analysis			
Student Demand	Degree Production	Talent Pipeline	Student ROI
✓		✓	
41.75 Majors (4-Year Average)	5 Degrees (4-Year Average)	87.5% Employed in Region Within 1 Year After Graduation (4-Year Average)	^ Median Salary 5 Years After Graduation

Other Universities Offering Program		
Other KS Public Universities Offering Program	# of KS Private Universities Offering Program	State Market Share Completion Data
1: WU	1	41.02%

**Recommendation (Phase out, Merge, or Action Plan):**

Action Plan

(Type recommendation in box above)

**Required additional information – Please insert below this box**

- If Phase out, provide phase out plan including detail on how institution will reinvest resources from phase-out program into other academic programs/services.
- If Merge, provide merge plan including detail on immediate cost savings. Include how this plan will impact your FTE for merged program(s).
- If Action Plan, provide action plan and indicate how plan will improve metrics (Student Demand, Degree Production, Talent Pipeline, and/or Student ROI) where program did not meet minima.

**Overview of Program:**

The Bachelor of Science in Forensic Science program is a collaborative program with the departments of Anthropology, Biology, Chemistry, and Criminal Justice. The program is housed within the School of Criminal Justice. The School of Criminal Justice was established in 1934 at Wichita State—then called the Municipal University of Wichita—and is the nation’s second oldest criminal justice program. The department was started at the urging and with the support of a young Wichita Chief of Police, O.W. Wilson. Wilson instituted reforms to reduce corruption, requiring new officers to have college education, and inducted the use of a mobile crime laboratory. Wilson went on to serve as the Superintendent of Chicago Police Department and is often referred to as the Father of Police Ethics in the United States.

The School of Criminal Justice includes undergraduate degrees of criminal justice, homeland security, and forensic science, along with a graduate level criminal justice master’s degree. The department is housed along with the training sections of the Wichita Police Department and the Sedgwick County Sheriff Office in the Law Enforcement Training Center on the WSU Innovation Campus.

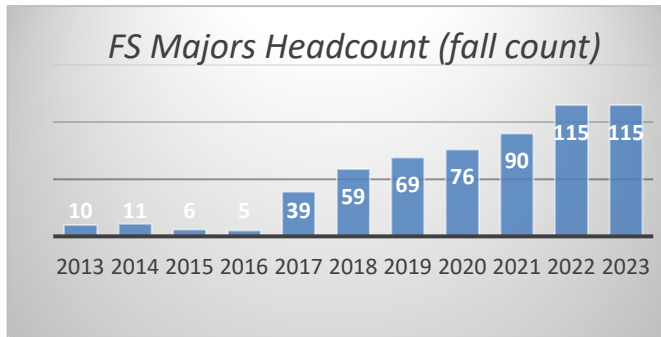
Continuing in the framework outlined by Wilson, the goal of the Forensic Science Program is to develop professional and ethical graduates with a competence in the use of the scientific method of investigation, problem-solving, quantitative reasoning, and sound scientific laboratory procedures which can be applied to direct employment or advanced graduate-level study to provide unbiased, accurate collection and examination of items of physical evidence for the criminal justice system.

**Response to data and patterns indicated by the data:**

**Student Demand – Met**

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The program boasts a healthy student demand with a four-year average of 41.75 majors but falls short in degree production with an average of 5 graduates per year. Despite a notable discrepancy in these metrics, the program's action plan aims to enhance both student enrollment and graduation rates (degree production) through curriculum adjustments and promotional efforts.

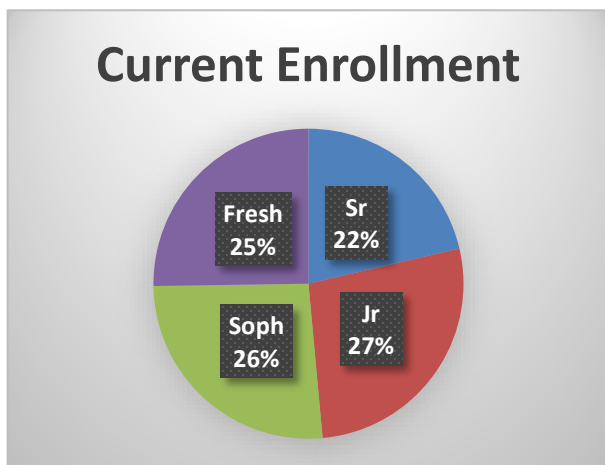


The program has recently taken steps to increase student enrollment and demand which are detailed below.

Student credit hours have grown from 87 hours in 2018-2019, to 196 hours in 2022-2023 (excluding credit hours generated to the collaborating departments).

**Degree Production – Not Met**

Bachelor’s degree production has shown steady growth except for academic year 2022-23 in which there was only one graduate. This decrease is in part an apparent statistical anomaly of a small program, but antidotally several students, during COVID and the resulting remote instruction, delayed enrollment in laboratory required courses which delayed their graduation.



The overall three-year graduation trend through May 2023, indicated a 19.5 percent increase. Tentatively there will be ten or eleven students graduating from the program in May 2024. Projections for the next several years, based upon current program enrollment, would indicate continued steady annual graduation rate of a minimum of ten to twelve per academic year.

Interest in the program amongst high school seniors is strong. March 2024, recruitment statistics indicated 155 individuals applying to WSU with an interested in forensic science. Of those individuals, 115 have been accepted to attend WSU in the Fall of 2024.

Interested students, who enroll and become successful in the Forensic Science program, generally have a strong attraction to the natural sciences and a passion for social justice. The goal of these exceptional students is to find employment working most often in a forensic laboratory or to conduct crime scene investigations.

^ Indicates data masked when representing cell size < 5

The Forensic Science major at WSU currently enrolls into a 91-credit hour core program in which they receive 31 hours of Chemistry, 26 hours of Biology, 10 hours of Anthropology, along with Criminal Justice, Forensic Science, and statistics courses. This ambitious course of study includes often difficult and advanced subjects such as genetics, organic chemistry, and biochemistry.

The forensic science degree at WSU was designed in the mid-2000’s which, at the time, was a relatively new concept within the criminal justice community. Previously, students simply majored in criminal justice or a natural science. At that time, advanced degrees in forensic science were not common, and the WSU program was designed to be an extensive and comprehensive program for the natural science student desiring to work within the criminal justice field. In the nearly 20 years since its conception, WSU students who are now entering the forensic laboratory market are more and more likely to compete with others who hold master’s level degrees.

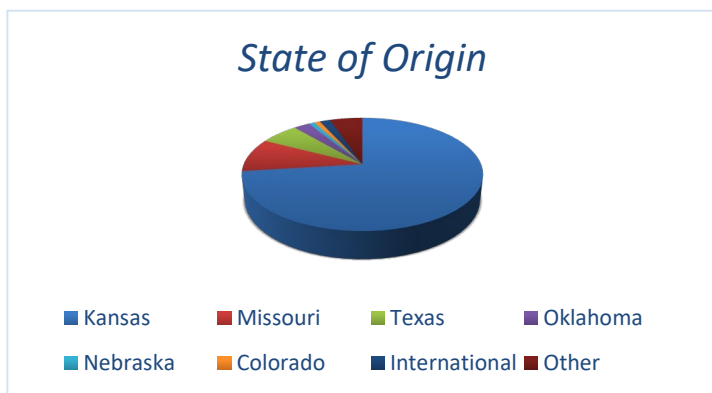
Our graduates who choose to obtain an advanced degree do well, but few are making this choice. A review of the program from recent graduates, current majors, and some who left the program to pursue other courses of study at WSU have suggested this is occurring because of the 91-core credit program hours students most generally reported feeling totally “burnt out.” Additional comments concerning the 91 hours included:

- Difficulty in scheduling classes and labs around the advance science courses,
- The lack of opportunity to take further elective classes without enrolling for additional semesters,
- Unable to explore possible internships without extending or enrolling for additional semesters,
- Simply “wishing to be done” and having no desire to investigate other options (internships, master’s degrees, etc.) due to “burn out,”
- The lack of belongingness to the forensic science program because of the large amount of time spent in other departments.

Most upper-class forensic science students develop a passion for, or an ability, in either Biology or Chemistry and do tend to struggle with the advanced courses in the opposite science. This often results in a “change of major” decision that affects the program’s graduation rate.

While continuing to look for program improvements (discussed below), the past three-year average retention rate of students remaining and completing a course of study at WSU was 94.7 percent.

Forensic Science students at WSU are predominantly female—83.5 percent (a trend seen nationwide) that have completed their high school science curriculums. Race and ethnicity found 60 percent of students are White Non-Hispanic, 22.6 percent are Hispanic, and 10.4 percent are Asian and multiple races. Over 44 percent report being first generation college students.



The majority of forensic science students are from Kansas—73.1 percent. Most all are generally from the Midwest area that are recruited by WSU.

A review of Forensic Science graduates from the last five years found only a small number elected to continue post graduate education. The vast majority applied for entry level forensic science or criminal justice positions.

In the spring of 2023, the Bureau of Alcohol, Tobacco and Firearms (ATF) opened their

Crime Gun Intelligence Center of Excellence on the WSU Innovation campus and is currently in the process of training and staffing the center. As of late 2023, the center had employment of 54 people, of which 32 individuals were recent forensic science or criminal justice graduates from WSU.

**Talent Pipeline -Met**

The program provides a strong talent pipeline, 87.5% of graduates find employment in the region within one year of graduation, indicating a significant contribution to the local workforce and a clear alignment with

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regional needs.

### **Student ROI – Not Met**

According to the data table provided by KBOR, the number of students graduating were too few to accurately report salaries. In addition, the program faces challenges in meeting the KBOR's ROI criteria due to traditionally lower salaries in civil-service positions related to forensic science. However, recent developments, including the establishment of the Bureau of Alcohol, Tobacco and Firearms' (ATF) Crime Gun Intelligence Center on campus, indicate promising avenues for elevating graduate employment outcomes and salaries.

The Bureau of Labor Statistics list the annual median 2022 income at \$63,740 (<https://www.bls.gov/ooh/life-physical-and-social-science/forensic-science-technicians.htm>). There are currently three forensic laboratories in Kansas: the Kansas Bureau of Investigation, the Johnson County Criminalist Laboratory, and the Sedgwick County Regional Forensic Science Center. The median annual starting salaries were reported at (2022 data):

- KBI \$56,682
- JOCL \$59,000
- SCRFS \$57,818

Wage increases for forensic scientists generally follow similar percent increases which communities provided to their local law enforcement. In December 2023, the Wichita City Commission provided a 13.27 percent increase to its officers (starting at \$61,880). In January 2024, the Sedgwick County Commission raised deputy salaries 8.7 percent (starting at \$57,592).

### ***Expanding Employment***

As noted above, 32 recent graduates are currently in entry level positions with the ATF's Crime Gun Center of Excellence. These individuals are employed by a civilian contractor for ATF and are undergoing training to become NIBIN (National Integrated Ballistic Information Network) Correlation Technicians. An ATF NIBIN Correlator examines detailed 3D digital images of collected fired bullet cartridge casings collected from crime scenes by local law enforcement agencies throughout the nation. From detailed microscopic and computer-aided comparison of firing pin impressions, ejector and extractor markings, breach face impressions, etc. found upon the fired cartridge casing the NIBIN Correlator can provide a highly probable match—referred to as a Lead—of a gun or guns used at multiple crime scenes. These newly hired correlators receive \$19.00 per hour (\$39,520) and upon completing training and with experience can receive a salary ranging up to \$60,320.

The ATF senior NIBIN analyst at the Center—a WSU graduate and experienced NIBIN technician and correlator—is currently at a federal pay scale GS12 (\$86,962) and is in a tracked position to become a GS14 (\$126,272) within two years.

In the spring of 2023, the ATF announced plans for further expansion at WSU and to construct a \$74 million Forensic Crime Gun Intelligence Laboratory on the WSU campus. This forensic laboratory will be one of three national labs operated by the ATF. Currently announced forensic disciplines to be included within the WSU laboratory will be Biology, Firearm and Tool Marks, and Latent Fingerprint examiners along with support staff and technicians. Starting salaries for these federal forensic scientist's positions is a GS13 (\$103,409).

### **Action Plan:**

In response to the challenges identified, the program has enacted an ambitious action plan focusing on curriculum revision to reduce core credit hours, thereby addressing issues of student burnout, retention, and facilitating timely graduation. The introduction of concentrations in biology or chemistry aims to streamline the academic pathway, enhance student satisfaction, and potentially increase graduate numbers. Furthermore, the program's collaboration with the ATF and the upcoming Forensic Crime Gun Intelligence Laboratory underscore significant opportunities for applied learning, research, and employment for graduates.

Additionally, the program personnel will work with students and criminal justice partners to enhance graduate ROI through enhanced academic and research applied learning opportunities:

- Encourage students to consider and pursue possible master's level study within their disciplines of interest.

- The ATF, in meetings with the University, have repeatedly expressed their desire to partner in applied teaching opportunities through pathways, student internships, and partnered research.
- For the students who wish to pursue both advanced chemistry and biology courses the concentration approach will allow them to obtain a minor more easily in the non-concentration discipline.

To address students' desire for a better sense of inclusion into the Forensic Science program a Forensic Science Society was formed in the spring of 2023. This student lead group is an officially recognized university student organization. The society meets throughout the semester, has social get togethers, study days and groups, and social media support for its members.

To assist in recruitment and ultimately lead to higher graduation rates the program needs to investigate becoming accredited by the Forensic Science Education Programs Accreditation Commission (FEPAC). Program accreditation would ensure students understood the quality, diversity, and inclusion of courses within the WSU forensic science program that have undergone a thorough and formal evaluation process. In order to obtain FEPAC accreditation, additional instructor resources would need to be acquired and present courses further reviewed to ensure national program compliance.

Given the program's strategic approach to addressing its challenges, coupled with the unique interdisciplinary framework and emerging opportunities for collaboration and applied learning, the Forensic Science Program is well-positioned for growth and continued contribution to the field. It is recommended that these initiatives continue, with particular attention to curriculum optimization, partnership development, and accreditation efforts to enhance program visibility and student outcomes.

### **Additional Considerations**

The National Crime Gun Intelligence Center and the announced Forensic Crime Gun Intelligence Laboratory has developed a close working relationship between the ATF and WSU Administration, academic departments, and individual programs of study to include Forensic Science. The ATF has indicated (as noted above) applied learning opportunities via undergraduate pathways and internships which will be available as a part of the new laboratory. The ATF has further expressed a strong desire to work with WSU to develop master level science programs in which those students could work with and assist in ATF Scientist led research. The groundbreaking for this facility is slated for the spring of 2024, with a possible start-up in late 2025 or early 2026.

The ATF has expressed an interest and desire to work with WSU in multiple academic areas and to explore multiple areas of research possibilities. Preliminary discussions have included expansion in the criminal justice and forensic science areas of:

#### ***Undergraduate Collaborations:***

- A Crime Gun Intelligence track/certificate,
- An Intelligence analytic track/certificate,
- An extended track/certificate in laboratory processes,
- An extended track/certificate in Touch DNA collection,

#### ***Graduate Collaborations:***

- Master of Forensic Science in Biology,
- Master of Forensic Science in Firearms and Tool Marks,
- Master of Forensic Accounting.

Anticipation of possible new programs and ATF collaborations are already evident with current students. One student who will be graduated in May 2024, has altered her plans of graduate study elsewhere and instead enrolled in a WSU Master's Biology program with goals of working or conducting research with the ATF. Other pending graduates are seeking to join recent graduates (as noted above) with employment at the Crime Gun Intelligence Center as a way of "getting their foot in the door" for possible transfers and employment when the forensic lab is completed.

Numerous undergraduates are continually expressing interest and asking questions of possible options and

applied opportunities within the ATF collaborations.

**T1: Student Credit Hours, Students Enrolled, Percent non-Majors by Academic Year**

Department Courses:	Academic Year (fall-spring-summer sequence) at Census					
	2019 2018-19	2020 2019-20	2021 2020-21	2022 2021-22	2023 2022-23	2024 2023-24
<b>Student Credit Hours (SCH)</b>						
630302 Forensic Science	89	109	102	124	196	tbd
<b>Students Enrolled in Courses</b>						
630302 Forensic Science	67	55	70	96	124	tbd
<b>% non-Majors in Course</b>						
630302 Forensic Science	1.5%	0.0%	8.6%	2.1%	3.2%	tbd

Service Program provides to:	Metric
<b>Non-majors</b>	Due to the nature of the program, the Forensic Science program receives little SCH from non-majors. For the year 2022-2023 SCH by non-majors was 5.6 percent. However, students within the Forensic Science program provide numerous Student Credit Hours to partnered departments—Anthropology, Biology, Chemistry, Criminal Justice, and Math.
<b>Institution and beyond</b>	In addition to providing graduates to the regional law enforcement and forensic workforces, the Forensic Science program does assist local and regional law enforcement as requested. Such assistance has generally been to review crime scene investigation and to assist in collaborate with other facets of the WSU community in specialized technical areas such as displays of terrestrial 3-D scanning of scenes.
<b>SCH workload of service to Interdisciplinary opportunities (cross list, team teach, etc.)</b>	<p>Forensic Science has one three-quarter time instructor and adjunct instructors as needed. Instruction, in addition to the forensic science curriculum, is provided in related or cross listed course with Criminal Justice. Such courses include criminal justice courses in crime scene investigation, forensic photography, crime gun (NIBIN related) investigations (pending cross over listing with Sociology and Psychology), blood stain pattern analysis, and 3d terrestrial scanning (pending cross over listing with Anthropology).</p> <p>As part of the School of Criminal Justice, the Forensic Science program is housed in the WSU/Wichita Police Department/Sedgwick County Sheriff Law Enforcement Training Center. This proximity has allowed for the co-teaching of several subjects with students, cadets and officers. Subjects covered have included toxicology/blood alcohol-impaired driver awareness, forensic photography, terrestrial crime scene scanning/mapping, etc.</p> <p>Crime scene investigation and analysis training is provided upon request to local law enforcement agencies by Forensic Science faculty. Students and faculty present talks and presentations to local high schools, along with boy's and girl's clubs, scout troops, etc.</p> <p>Currently the Forensic Science program does not offer a minor degree, certificates, or badges. As outlined above, the Forensic Science program plans to develop the following undergraduate studies (in addition to the graduate level programs noted above):</p> <ul style="list-style-type: none"> <li>• A Crime Gun Intelligence track/certificate,</li> <li>• An Intelligence analytic track/certificate,</li> <li>• An extended track/certificate in laboratory processes,</li> <li>• An extended track/certificate in Touch DNA collection,</li> <li>• A Crime Scene Investigation track/certificate.</li> </ul>

The instructor for Forensic Science, as well as one to two adjunct instructors (semester dependent) teaching related subjects within the Criminal Justice department (as noted above).

^ Indicates data masked when representing cell size < 5