

Program Approval

I. General Information

A. **Institution** - Wichita State University

B. Program Identification

Degree Level:	Associate
Program Title:	Associate of Science
Degree to be offered:	Associate of Science
Responsible Department or Unit:	Fairmount College of Liberal Arts and Sciences
CIP Code:	30.1801 Natural Sciences
Modality:	Traditional Classroom Instruction
Proposed Implementation Date:	Fall 2024

Total Number of Semester Credit Hours for the Degree: 60

II. **Clinical Sites:** Does this program require the use of Clinical Sites? No.

III. Justification

Wichita State University and the Fairmount College of Liberal Arts and Sciences request the approval to create the Associate of Science degree. If approved, the degree will promote improvements in retention at the university. WSU is unique in that we have had HLC approval to offer associate degrees for many years.

The Associate of Science (AS) degrees are two-year programs designed to provide skills beyond those typically acquired through secondary education. The AS emphasizes introductory and second-tier courses in Biology and Chemistry. The plan of study is rich in courses in English, Math, and Communication as these skills are essential for entry level work laboratory and scientific settings. Successful students will gain skills valuable in positions that require technical knowledge in the natural sciences, basic skills universally acknowledged as being desirable to employers, and the personal growth needed to be trainable and acquire new knowledge.

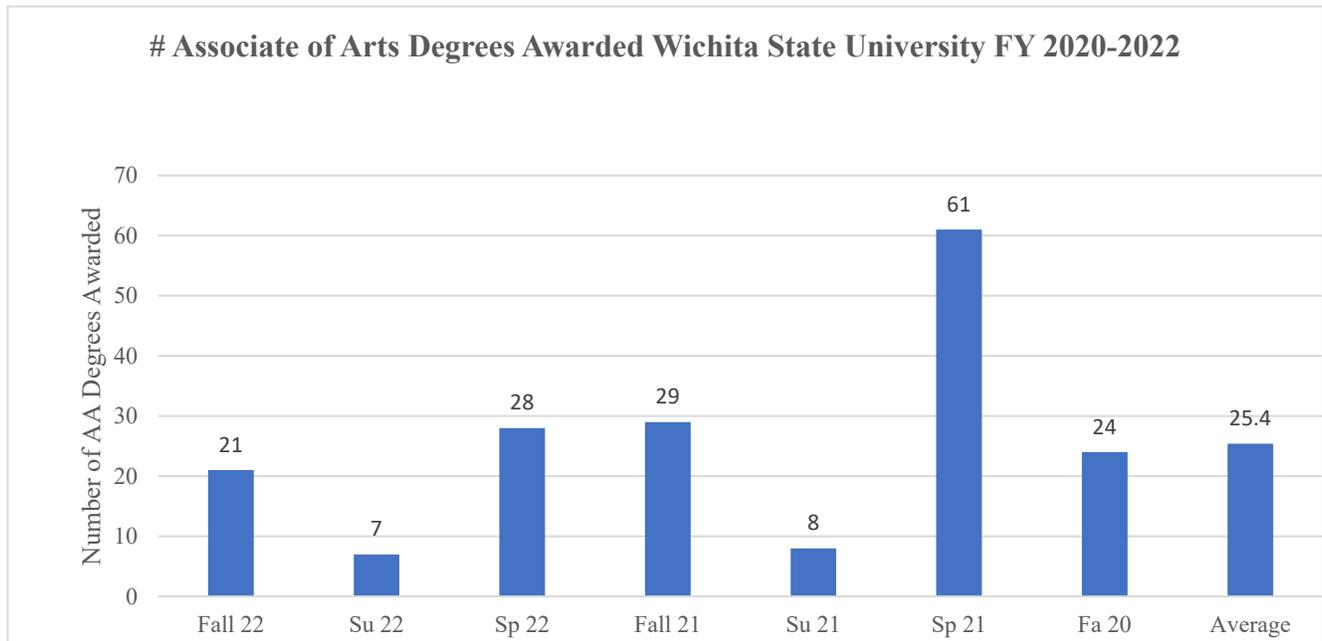
Students increasingly need ways to enhance their career prospects, but often feel unprepared for a four-year commitment to college. AS degrees at WSU are another opportunity for students to complete a degree with employment possibilities while pursuing a four-year degree. Students who earn an associate degree as part of pursuing a four-year degree will have a sense of accomplishment and this positive experience with university level course work will support retention efforts of the university. Courses taken toward an associate degree will be suitable for a wide variety of majors. The associate of sciences curriculum plan with minimal substitutions will be appropriate for several other four-year degrees including Biology, Biochemistry, Chemistry, Forensic Sciences, Pre-Med, and Physics. The proposed associate of science would allow a student to complete the first two years of their degree and have several options that work toward degrees in the Liberal Arts and Sciences and Health Professions.

As the #1 transfer destination in Kansas, we anticipate that this option will be attractive to students who are interested in completing an associate degree after arriving at Wichita State and who can apply that toward a four-year degree.

The associate of science degree is highly compatible with the larger mission of WSU which combines a student-centered, innovation-focused, and economic driver approach to curricular offerings. We are seeking more and better opportunities to improve a student's life opportunities by providing paid applied learning experiences and opportunities to enter the job market with real-world experience and credentials that support their persistence and success. The associate of science degree offers a clear path and a market-recognized credential that can be used

to obtain meaningful employment during their academic career. Perhaps more importantly, the degree offers a half-way milestone to boost confidence and commitment to successful completion of a baccalaureate degree for the student who has an interest in a scientific career.

IV. Program Demand



There are 30 Associate of Science degrees offered through Kansas community colleges and four year institutions ([KBOR, 2023](#)). Fort Hays State University, Kansas State University, and Washburn University all offer Associate of Science degrees; however, these are focused on business, technology, or medical areas. These degrees range from 60 to 80 hours required. Wichita State University proposes a degree requiring 60 hours to support retention of students on their way to completion of a bachelor’s degree.

A. Survey of Student Interest

Though a survey was not conducted, according to the WSU Office of Planning and Analysis 2022 data, incoming undergraduates who are degree-seeking full-time first-year students with under thirty college credit hours totaled 2,198 students. This population of students are potential candidates for an AS degree.

B. Market Analysis

Career opportunities in the natural sciences continue to grow, with expansions in healthcare and associated industries. High-demand jobs in Kansas and nationally will be those supporting healthcare systems, including technical sales, laboratory technicians, and health care assistants. There are growing fields, such as laboratory technicians, environmental sciences technician, food sciences, veterinary assistants, physical therapist assistants, as well as other opportunities. Each of these potential employment options requires employees with rudimentary laboratory skills which are gained through the AS degree coursework. The following positions were taken from One Net – Data Base - O*NET (National Center for O*NET Development, 2023).

- **Laboratory Technician** - Perform routine medical laboratory tests for the diagnosis, treatment, and prevention of disease. May work under the supervision of a medical technologist. \$23.08 hourly, \$48,000 yearly up to \$27.79 hourly, \$57,800 annually 9% growth in Kansas in the next 10 years and 7% up nationally,

- **Environmental Science and Protection Technicians** check the environment and investigate sources of pollution and contamination.
- **Food Science Technician** - Work with food scientists or technologists to perform standardized qualitative and quantitative tests to decide physical or chemical properties of food or beverage products. Includes technicians who assist in research and development of production technology, quality control, packaging, processing, and use of foods. \$23.43 hourly, \$48,740 annual \$22.40 hourly, \$46,590 annual 9% Kansas growth next 10 years and 8% nationally.
- **Chemical Technicians** - Conduct chemical and physical laboratory tests to assist scientists in making qualitative and quantitative analyses of solids, liquids, and gaseous materials for research and development of new products or processes, quality control, maintenance of environmental standards, and other work involving experimental, theoretical, or practical application of chemistry and related sciences. \$22.55 hourly, \$46,910 annual to \$23.56 hourly, \$48,990 annual, 4% growth in Kansas next 10 years and 5% nationally.
- **Medical Secretaries and Administrative Assistants** - Perform secretarial duties using specific knowledge of medical terminology and hospital, clinic, or laboratory procedures. Duties may include scheduling appointments, billing patients, and compiling and recording medical charts, reports, and correspondence. \$17.59 hourly, \$36,590 annual to \$18.01 hourly, \$37,450 annual, 8% projected growth in Kansas and nationally in the next 10 years.
- **Cardiovascular Technologists and Technicians** - Conduct tests on pulmonary or cardiovascular systems of patients for diagnostic, therapeutic, or research purposes. May conduct or assist in electrocardiograms, cardiac catheterizations, pulmonary functions, lung ability, and similar tests. \$28.61 hourly, \$59,500 annual to \$29.12 hourly, \$60,570 annual, expected growth between 5 and 6% in Kansas and nationally in the next 10 years.
- **Medical and Clinical Lab Technologist** - Perform complex medical laboratory tests for diagnosis, treatment, and prevention of disease. May train or supervise staff. \$23.08 hourly, \$48,000 annual to \$27.79 hourly, \$57,800 annual, growth 9% Kansas and 7% nationally.
- **Nuclear Medicine Technologists** - Prepare, administer, and measure radioactive isotopes in therapeutic, diagnostic, and tracer studies using a variety of radioisotope equipment. Prepare stock solutions of radioactive materials and calculate doses to be administered by radiologists. Subject patients to radiation. Execute blood volume, red cell survival, and fat absorption studies following standard laboratory techniques. \$29.71 hourly, \$61,790 annual to \$37.86 hourly, \$78,760 annual, projected growth 5% Kansas 2% nationally in the next 10 years.
- **Forensic Lab Technician** - Collect, identify, classify, and analyze physical evidence related to criminal investigations. Perform tests on weapons or substances, such as fiber, hair, and tissue to decide the importance to an investigation. May testify as expert witnesses on evidence or crime laboratory techniques. May serve as specialists in area of expertise, such as ballistics, fingerprinting, handwriting, or biochemistry. No Data Available for Kansas however with the ATF coming to campus this may be a good starter degree for students in the Forensic Science program who need a job for income and experience. Up to \$29.78 hourly, \$61,930 annual and with 11% national growth in 10 years.
- **Physical Therapist Assistants** - Assist physical therapists in providing physical therapy treatments and procedures. May, in accordance with state laws, assist in the development of treatment plans, conduct routine functions, document the progress of treatment, and change specific treatments in accordance with patient status and within the scope of treatment plans established by a physical therapist. Generally, requires formal training. \$28.76 hourly, \$59,820 annual to \$29.42 hourly, \$61,180 annual, 27% Kansas growth expected and 24% growth nationally in next 10 years.

Some agencies looking to fill vacant positions that prefer a BS degree may consider strong AS degree recipients as well. AS degrees can be designed to lead to BS degrees and the current proposal includes 2+2 options suitable for biology or chemistry. The proposed AS is also a clear pathway to college for high school students through dual and concurrent credit courses.

V. Projected Enrollment

The Initial Three Years of the Program of Wichita State University Students

Year	Headcount Per Year		Sem Credit Hours Per Year	
	Full- Time	Part- Time	Full- Time	Part- Time
Implementation	15	0	450	0
Year 2	30	0	900	0
Year 3	30	0	900	0

Note: The Associate of Science degree will only be offered to Bachelor's degree seeking students.

Following recent approval to automatically award the AA degree, all students pursuing a Bachelor's degree will be eligible for the AA (has been approved and offered by WSU for many years) or Associate of Science degree, if approved. We also plan to automatically award the AS degree to students who complete these requirements and are admitted to a four-year degree seeking program of study at Wichita State University.

VI. Employment

Employment opportunities for graduates of the AS degree are detailed in section IV. (B). The AS provides students with the possibility of obtaining a degree in a STEM field (Science Technology Engineering or Math). This will allow students who earn the AS to enter several areas of health care. This market is growing rapidly with needs for entry-level health care assistants and orderlies, technical and medical salespersons, and laboratory technicians. In addition, graduates can use their technical knowledge for writing careers as technical writers, copyeditors, freelance authors, or science journalists.

VII. Admission and Curriculum

WSU follows Qualified Admissions criteria set by the Kanas Board of Regents. WSU's admissions requirements can be found [here](#).

Curriculum

The Associate of Science degree requires completion of a minimum of 60 credit hours including 15 credit hours in residency at Wichita State University and 48 of the 60 credit hours from liberal arts and sciences departments. This degree must include the 34 credit hours required in the university's general education program and students must be enrolled in a four-year program in one of the university's degree-granting colleges. An overall grade point average of 2.000 is required for both the degree and for WSU academic work.

See attachment Associate of Sciences Proposed Curriculum.

Year 1: Fall

ENGL 101	College English 1	3
FYS	First-Year Seminar (if required or other general ed elective)	3
MATH 111 or MATH 242	College Algebra Calculus I	3-5
CHEM 211 or CHEM 103	General Chemistry I Introductory General, Organic and Biochemistry	5

Year 1: Spring

ENGL 102	College English 2	3
MATH 123 or STAT 370 or	Trigonometry Elementary Statistics	3 - 5

MATH 243	Calculus II	
BIOL 210 or BIOL 220	General Biology I Introduction to Microbiology	4
COMM 111	Public Speaking	3
GEN ED	Fine Arts/Humanities first subject	3

Year 2: Fall

PHYS 213 or PHYS 313	General College Physics Physics for Scientist I	5
BIOL 211 or BIOL 223 or HS 290 CHEM 212 or PHYS 214	General Biology II Human Anatomy and Physiology Foundational Human Anatomy and Physiology General Chemistry II College Physics	4-5
GEN ED	Fine Arts/Humanities second subject	3
GEN ED	Social and Behavioral Science first subject	3

Year 2: Spring

GEN ED	Social and Behavioral Science second subject	3
GEN ED	Diversity Course	3
ELECTIVES	To reach 60 hours	7-11

Total hours

60

A. VIII. Core Faculty

The proposed AS will use existing faculty to teach the required courses. These instructors are associated with bachelor's degrees currently being offered at Wichita State University. No new faculty or additional courses are being proposed. The degree requirements exist within other degrees and curricular offerings.

IX. Expenditure and Funding Sources

A. Expenditures	First FY	Second FY	Third FY
Personnel – Reassigned or Existing Positions			
Existing Faculty Instruction (regular course load)	\$0	\$0	\$0
Fringe Benefits (total for existing faculty)	\$0	\$0	\$0
Fringe Benefits (total for adjuncts)	\$0	\$0	\$0
Total Existing Personnel Costs	\$0	\$0	\$0
Personnel – New Positions			
Administrators Advising Dual Advisor	\$42,000	\$42,000	\$42,000
Fringe Benefits	\$11,000	\$11,000	\$11,000
Other Personnel Costs	\$0	\$0	\$0
Total Existing Personnel Costs–New Positions	\$53,000	\$53,000	\$53,000
Start-Up Costs – One-Time Expenses			
Physical Facilities: Construction or Renovation	\$0	\$0	\$0
Total Start-Up Costs	\$0	\$0	\$0
			\$0
Operating Costs – Recurring Expenses			\$0
Supplies/Expense (Cards Letter Head Advertisement)	\$2,500	\$2,500	\$2,500
Equipment/Technology	\$0	\$0	\$0

Total Operating Costs	\$2,500	\$2,500	\$2,500
Grand Total Costs	\$55,500	\$55,500	\$55,500
FUNDING SOURCES – Through those in WSU Classes and not the SLASA program through USD 266.			
B. Tuition/State Funds (\$228)	\$102,600	\$205,200	\$205,200
\$667.41 per student per semester (\$1,334.82 annual)	\$20,022	\$40,044	\$40,044
Mandatory Student Fees \$20.75 per credit hour	\$9,338	\$18,676	\$18,676
LAS Student Fee \$7.75 per credit hour	\$3,487	\$6,975	\$6,975
Grand Total Funding	\$135,447	\$270,894	\$270,894
Projected Surplus/Deficit (+/-)	+\$79,947	+\$215,394	+\$215,394

X. Expenditures and Funding Sources Explanations

A. Expenditures

Personnel – Reassigned, Existing, & New Positions

The program will be administered in the same manner as the current associate in arts (AA). The AA is currently administered and advised in the Fairmount College of Liberal Arts and Sciences advising center. No new expenditures are expected.

B. Revenue: Funding Sources

Tuition and fees will be the primary source of funding for the program. WSU anticipates 15 new students in the program for each of the first three years. A tuition rate of \$228 per credit hour is used in the table above. Student fees are calculated as follows:

- \$667.41 per student per semester
- \$20.75 per credit hour per semester (mandatory student fee)
- \$7.75 per credit hour per semester (LAS student fee)

No new funding sources are expected or needed.

C. Projected Surplus/Deficit

The proposed new AS degree program is not projected to have a budget deficit.

XI. References

Kansas Board of Regents. (2023). Kansas Public Higher Education & Training [Program Search](https://www.kansasregents.org/academic_affairs/program_search).
(https://www.kansasregents.org/academic_affairs/program_search)

National Center for O*NET Development. (2023). One Net – Data Base - O*NET -
<https://www.onetonline.org/link/summary/31-2021.00>

U.S. Bureau of Labor Statistics. (2022, May); Occupational Outlook Handbook. Retrieved from
<https://www.bls.gov/ooh/media-and-communication/interpreters-and-translators.htm>

Wichita State University Web Page Transfer Student Information Page,
<https://www.wichita.edu/admissions/undergraduate/transfertowsu/>

Attachment A - Associate of Science Proposed Curriculum

Courses	Title	Hours
ENGL 101	College English I	3
ENGL 102	College English II	3
COMM 111	Public Speaking	3
MATH 111 or Math 242	College Algebra Calculus I	3 - 5
MATH 123 or STAT 370	College Trigonometry or Elementary Statistics	3
Select three of the following		
BIOL 210 or BIOL 220	General Biology I Introduction to Microbiology	4
CHEM 211 or CHEM 103	General Chemistry I Introductory General, Organic and Biochemistry	5
Math 243	Calculus II	5
PHYS 213 or PHYS 313	General College Physics I (or PHYS 313 and 315) Physics for Scientists I	5
HS 400	Introduction to Pathophysiology	4
Choose one:		
BIOL 211 or BIOL 223 or HS 290	General Biology II Human Anatomy and Physiology Foundational Human Anatomy and Physiology	4 -5
CHEM 212	General Chemistry II	5
PHYS 214 or PHYS 314 and PHYS 316	General College Physics II Physics for Scientist II University Physics Lab II	5
Other required courses:		
FYS if required or other General Education Course		3

Fine Arts or Humanities General Education Course first subject	3
Fine Arts or Humanities General Education Course second subject	3
Social and Behavioral Science General Education Course first subject	3
Social and Behavioral Science General Education Course second subject	3
General Education Diversity Course	3
Elective Courses Hours after consultation with an academic advisor Note: Engineering take higher level MATH (3) or College of Health Professions take HS 301 (3)	8-12
Total	60