

Board of Trustees of the Nebraska State Colleges

ITEMS FOR DISCUSSION AND ACTION\ACADEMIC AND PERSONNEL

ACTION: **Approve Minors in Forensic Chemistry and Ethnic and Diversity Studies for Peru State College**

Per Board Policy 4200, which requires all new academic programs to be submitted to the Board for approval, Peru State seeks approval to add the following minors, beginning Fall 2021.

- Forensic Chemistry Minor
- Ethnic and Diversity Studies Minor

The System Office and Peru State College recommend approval of the Minors in Forensic Chemistry and Ethnic and Diversity Studies for Peru State College.

ATTACHMENTS:

- PSC Forensic Chemistry Minor (PDF)
- PSC Ethnic and Diversity Studies Minor (PDF)

Peru State College Proposal to Add Forensic Chemistry Minor

1. Descriptive Information

- A. Name of Institution: Peru State College
- B. Name of Program: Forensic Chemistry Minor
- C. Degrees/credentials to be awarded graduates of the program: None
- D. Other programs offered in this field by the institution: None
- E. CIP code: 26.0202
- F. Administrative units for the program: School of Arts and Sciences
- G. Proposed delivery site(s) and type(s) of delivery, if applicable: Campus
- H. Proposed date (term/year) the program will be initiated: Fall 2021
- I. Description of Program:

This minor will allow students who are interested in forensic science the ability to understand the chemical interactions and techniques used by forensic analysts. It will expand our criminal justice majors' ability to analyze crime scenes and provide them with more opportunities for employment when they graduate. It aims to provide our students with a general background in forensic chemistry.

The Forensic Chemistry minor will equip students with the knowledge of chemical interactions, forensic techniques, and how to relate an analytical approach to criminal investigations. Courses in this minor will develop students' understanding of chemistry and its applications to criminalistics. Focus will be placed on analyzing evidence found at a crime scene as well as evidence processing in a laboratory setting.

Program Outcomes

1. Better prepare our students for analyzing crime scenes by gaining basic knowledge in laboratory skills, chemical techniques, and instrumentation utilized to determine unknown samples.
2. Allow criminal justice students a greater opportunity to advance their degree into a forensic science career.
3. Provide students with a broader understanding of the significant connection between chemistry and forensic science.

Minor: Forensic Chemistry

Forensic Chemistry Minor			
Advanced Chemistry			
CHEM	101	General Chemistry I	4
CHEM	102	General Chemistry II	4
CJUS	110	Survey of Criminal Justice	3
CHEM	220	Intro to Nanotechnology and its Applications	4
CHEM	324	Instrumental Methods in Forensic Chemistry	1
CJUS	450	Criminalistics	3
MINOR TOTAL			19

Course Descriptions

CHEM 101 (4 cr hrs) General Chemistry I

An introduction to the fundamentals of chemistry. Such topics as atomic theory, chemical bonding, stoichiometry, solutions, and pH are covered. Both lecture and laboratory are required for this course.

CHEM 102 (4 cr hrs) General Chemistry II

This course is an application of the fundamentals of chemistry, including states of matter, oxidation-reduction, thermochemistry, chemical equilibrium, kinetics, nuclear chemistry, and descriptive chemistry. Both lecture and laboratory are required for this course.

CHEM 220 (4 cr hrs) Intro to Nanotechnology and Its Applications

This course presents an analytical approach to the fundamental principles of nano-structured materials. Synthetic methods, analytical characterization techniques, and current advances in the nanotechnology field will be emphasized. The type of nano-structure materials to be studied include: nanocrystals, nano-wires, carbon-based nanostructure, porous structures, and catalysts. The synthetic methods will correspond to bottom-up approaches and will highlight solution-phase techniques such as micelle-templated, sol-gel, and non-hydrolytic molecular decomposition. Characterization methods that will be discussed include electron microscopy (transmission and scanning), UV-visible absorption and fluorescence, atomic force microscopy, X-ray diffraction (powder and single crystal), scanning tunneling microscopy, and Langmuir adsorption. Both lecture and laboratory are required for this course.

CHEM 324 (1 cr hr) Instrumental Methods in Forensic Chemistry (new course)

This course presents the fundamental and working principles of instrumentation used in forensic chemistry and will align itself with the SWGDRUG analysis categories A to C. Instrumentation used in these three categories will be discussed in this one credit hour course and will include the following: infrared spectroscopy, mass spectroscopy, nuclear magnetic resonance spectroscopy, Raman spectroscopy, X-ray diffractometry, chromatography, light and fluorescence microscopy, fluorescence spectroscopy, Ultraviolet spectroscopy, immunoassay, color tests, and melting point analysis.

CJUS 110 (3 cr hrs) Survey of Criminal Justice

This course introduces students to general criminal justice concepts and knowledge about the relationships of crime and criminal behavior. The purpose, role, and interrelationships of the police, other law enforcement officials, the courts and judiciary, corrections, and parole systems are discussed.

CJUS 450 (3 cr hrs) Criminalistics

This course introduces students to the basics of forensic science, focusing on the legal and procedural methods of evidence and evidence collection techniques to include fingerprint collection and analysis, firearms identification, gunshot residue, tool marks, footprint and tire mark impressions, forensic serology, blood spatter evidence, forensic photography, DNA theory and analysis, and electronic surveillance issues.

2. Centrality to Role and Mission

This program is central to the mission of the College by providing our students an engaging educational experience while giving them better opportunities after graduation. After completing this minor, students will be better suited for forensic analysis, which will also strengthen and enrich the communities where these students serve.

As described in the Coordinating Commission for Postsecondary Education's Comprehensive Statewide Plan approved in 2020, this program will be student-centered, create inclusive environments that foster student success, and offer lifelong learning opportunities that are responsive to students' and workforce needs as well as generate critical thinking skills with the knowledge and workplace skills needed to be successful employees. It will also serve the state by preparing individuals for productive, fulfilling lives and by developing and nurturing the citizens and future leaders of Nebraska.

On August 6, 2020 Governor Ricketts signed LB1008, which includes funding for the Career Scholarship Program as well as the Nebraska Department of Correctional Services to establish the Corrections Workforce Department Pathways program. This program will give students more opportunities to further their understanding and training in forensic science meeting the needs of the state and the core values of the State College System.

3. Evidence of Need and Demand

A. Need for the program:

One source for our evidence of need comes from the following quote found in the National Criminal Justice Reference Service's Report to Congress, "Manpower shortages are the biggest concern of the forensic community and directly impact on the ability of crime laboratories to address casework backlogs." This added minor would increase the marketability of criminal justice majors and give them added skills in crime scene investigation and forensic analysis.

The Bureau of Labor Statistics (BLS) quantifies this statement and classifies the job outlook for forensic science technicians at growth rate of 14% for the ten-year period from 2019-2029, which is "much higher than average." The BLS states, "The median annual wage for forensic science technicians was \$60,590 in May 2020" and competition for positions is likely to be

strong. Likewise, in Nebraska, the projected employment of Forensic Science Technicians is expected to increase 14.2% between 2012-2028, according to the Nebraska Department of Labor.

B. Demand for the Program:

Criminal Justice faculty expect 10%-20% of the current majors would be interested in adding this minor to their program, which would be approximately 6-12 students. This number is small, but the career advantages provided to these students would be significant as they compete for jobs.

The program relies mostly on existing courses. The one new course—which is 1 credit—could also serve Biochemistry and pre-professional students who need instruction in instrumentation. Consequently, a very small number of students would be enough to make the program viable.

4. Adequacy of Resources

A. Faculty and Staff Resources:

This minor would add one credit hour to the chemistry load with the addition of CHEM 451. All other courses are already taught on campus and would not be affected. It is not anticipated at this time that overloads will be a consequence of added students in any of the courses listed in this minor.

B. Physical Facilities:

Instrumentation used in CHEM 451 is only offered on-campus as well as the laboratories associated with CHEM 101, 102, and 220. Therefore, this minor can only be offered on Peru's campus.

The program maximizes existing College facilities and equipment and makes further use of those investments. A Criminalistics Lab in the Criminal Justice program and the mass spectrometer in Chemistry will both see usage by new student populations. As a result, there will be added use of instrumentation and facilities which will shorten their physical life span. However, it is not expected to have a measurable increase to the cost of running the laboratories in chemistry or the need for replacement of equipment for the program with the expected increases in course enrollment for the next ten years.

C. Instructional Equipment and Informational Resources:

No additional instructional and information resources will be needed for addition of this minor. Existing program equipment is sufficient for the addition of this minor. As mentioned previously, this program will help to maximize the investment in existing technology.

D. Budget Projections for the first five years of program:

Potentially, this program could help recruit new students in Criminal Justice as well as support retention efforts of existing students. If the program were popular, the College may need to offer an additional section of some of the core courses from time to time, using adjuncts or adjusting faculty teaching loads.

5. Avoidance of Unnecessary Duplication

Nebraska has forensic science majors (UNL, UNO) but no forensic chemistry minor. We were unable to find a similar program within the state or region.

6. Consistency with the Comprehensive Statewide Plan for Postsecondary Education

Values, needs and goals addressed from the Statewide Plan for Postsecondary Education

- This program is an incentive for recruiting and educating students in targeted workforce shortage area.
- The state benefits when a program like forensic chemistry can bring major benefits to the state and to its students.
- The program is responsive to the workforce development and ongoing training needs of employers and industries to build and sustain a knowledgeable, trained, and skilled workforce in both rural and urban areas of the state.
- The addition of the Forensic Chemistry minor is reacting to evolving needs and priorities of the students and people of Nebraska by adopting new methods and technologies to address their needs.

As described in the Coordinating Commission for Postsecondary Education's Comprehensive Statewide Plan, this program will be student-centered, create inclusive environments that foster student success, and offer lifelong learning opportunities that are responsive to students' and workforce needs as well as generate critical thinking skills with the knowledge and workplace skills needed to be successful employees. This program supplements the PSC Criminal Justice program by attracting and educating students with forensic interests.

Sources

Bureau of Labor Statistics. 2021. Occupational Outlook Handbook: Forensic Technicians.

<https://www.bls.gov/ooh/life-physical-and-social-science/forensic-science-technicians.htm>

National Institute of Justice. 2014. Status and Needs of Forensic Science Service Providers: A Report to Congress. <https://www.ojp.gov/pdffiles1/nij/213420.pdf>

Nebraska Department of Labor. 2021. STEM Occupations Dashboard.

<https://networks.nebraska.gov/gsipub/index.asp?docid=621>

Peru State College Proposal to Add Ethnic and Diversity Studies Minor

1. Descriptive Information

- A. Name of Institution: Peru State College
- B. Name of Program: Ethnic and Diversity Studies Minor
- C. Degrees/credentials to be awarded graduates of the program: None
- D. Other programs offered in this field by the institution: None
- E. CIP code: 45.0101
- F. Administrative units for the program: School of Arts and Sciences
- G. Proposed delivery site(s) and type(s) of delivery, if applicable: Campus and Online
- H. Proposed date (term/year) the program will be initiated: Fall 2021
- I. Description of Program:

The interdisciplinary minor in Ethnic & Diversity Studies will equip students with knowledge of how race, gender, class, ethnicity, culture, and indigeneity have shaped people's experiences in the United States and throughout the world. Courses in this minor will develop students' understanding of how intersectional forces and social difference have shaped identities, power structures, institutional inequities, and fostered movements for social justice in both the past and contemporary society. No new courses have been created for this program.

Program outcomes include:

1. Better prepare our students to live and work in an increasingly diverse society
2. Students will gain basic knowledge of the concepts, theories, and debates central to race and diversity studies and their social and historical contexts.
3. Students will gain a clearer understanding of the endemic and structural nature of racism and white supremacy in U.S. society at its founding and into the present.
4. Students will understand that definitions of race are fluid and socially constructed and, therefore, have changed over time.
5. Students will recognize that racism is a form of oppression that intersects with other forms of oppression and power relations.
6. Students will examine and analyze how individual and collective action can drive social change, racial justice, and racial reconciliation.

Ethnic and Diversity Studies Minor Requirements

Course	No.	Title	Hours
Required Courses			
SOC	255	Diversity Issues in the United States	3
SOC	300	Contemporary Social Problems	3
HIST	304	African American History	3
ANTH/HIST	308	Native American History and Culture	3
ELECTIVES			9
Pick 1 course from each category below			
Culture			
ANTH	225	Introduction to Cultural Anthropology	3
ENG	335	Non-Western Literature	3
SOC	322	The World's Religions	3
American & Global History			
HIST/PSCI	307	Women in American History and Politics	3
HIST	411	U.S. West and Borderlands	3
HIST/PSCI	351	Modern Africa	3
HIST/PSCI	367	Modern East Asia	3
HIST/PSCI	371	Modern Middle East	3
HP	333	Genocides in History	3
The Arts			
MUSC	216	Evolution of Hip Hop	3
MUSC	213	Introduction to Jazz History	3
MUSC	310	World Musics	3
Total Credits			21

Course Descriptions

ANTH 225 (3 cr hrs) Introduction to Cultural Anthropology

A comparative and historical approach to the religion, social organization, subsistence patterns, and the other aspects of the great variety of cultures around the world.

ANTH 308 (3 cr hrs) Native American History and Culture

This course is a broad introductory survey of the cultures and historical experiences of North American peoples from pre-contact to the present in ethno-historical perspective. Course content reflects the diverse nature of indigenous experience across a spectrum of culture groups that comprise the Native peoples of North America. Instruction focuses on how the indigenous peoples of North America responded to the ever-shifting societal stresses that accompanied rapid and often violent social, cultural, and environmental transformations of the last four centuries and how they adapted and changed to meet the challenges they confronted as they persisted in their efforts to preserve their homelands, their cultures, their sovereignty, and their right to self-determination. Cross-listed as HIST 308.

ENG 335 (3 cr hrs) Non-Western Literature

The course introduces readers to what will be for many a rather new world of literature, to material you might not otherwise have either occasion to encounter or the inclination to read. The course requires that students analyze, from a socio-cultural perspective, issues of global significance on which the literature concentrates. The examinations, class discussion, and essays likewise invite students to evaluate and synthesize relevant interdisciplinary research to develop supported conclusions and describe their implications with respect to the issues raised in the readings from Libya to New Zealand, from the conflict between tradition and modernity as it relates to cultural values, to the political turmoil of post-colonial society.

HIST 304 (3 cr hrs) African American History

This course provides a survey of African American life and culture in America from 1619 to the present.

HIST 307 (3 cr hrs) Women in American History and Politics

This course is an introductory survey of American women's history from pre-contact to the present with an emphasis on women's roles in the nation's political and civic life.

HIST 308 (3 cr hrs) Native American History and Culture

This course is a broad introductory survey of the cultures and historical experiences of North American peoples from pre-contact to the present in ethno-historical perspective. Course content reflects the diverse nature of indigenous experience across a spectrum of culture groups that comprise the Native peoples of North America. Instruction focuses on how the indigenous peoples of North America responded to the ever-shifting societal stresses that accompanied rapid and often violent social, cultural, and environmental transformations of the last four centuries and how they adapted and changed to meet the challenges they confronted as they persisted in their efforts to preserve their homelands, their cultures, their sovereignty, and their right to self-determination. Cross listed as ANTH 308.

HIST 351 (3 cr hrs) Modern Africa

Modern Africa presents the history of sub-Saharan Africa, concentrating on the events of the last three centuries and providing comparisons with European and American history. Cross listed as PSCI 351.

HIST 367 (3 cr hrs) Modern East Asia

Course examines modern East Asian history from 1800 to the present. The major emphasis is on the histories of China and Japan. The history of these countries is deeply intertwined politically and culturally, but each country's fate in the 19th and 20th century was unique to its internal and external circumstances. This course traces the political histories of each country, the issues of their social structures, their intellectual and philosophical thoughts and beliefs, and their internal efforts to modernize themselves. The road to modernity for each state was paved with different goals and challenges, and yet the region continues to have a major impact on the world today.

HIST 371 (3 cr hrs) Modern Middle East

This course examines the recent history of the Middle East region, focusing on the Arab-Israeli conflict, the growth of fundamentalism and terrorism, and the international conflicts in Afghanistan and Iraq.

HIST 411 (3 cr hrs) U.S. West and Borderlands

This course is a thematic survey of the history and major debates that have framed Americans changing conceptions of the American West and its borderlands from the colonial period to the present.

HP 333 (3 cr hrs) Genocides in History

This course examines the phenomenon of genocide in world history in comparative and historical perspective, with a principal focus on the 19th, 20th, and 21st centuries. Potential topics to be discussed may include ancient, medieval, and early modern cases, the extermination of the indigenous peoples of the Americas and Australia, the Herero-Nama Genocide, the Armenian Genocide, the Holodomor, the Holocaust, Cambodia, Rwanda, Yugoslavia, and Darfur.

MUSC 213 (3 cr hrs) Introduction to Jazz History

Introduction to Jazz History is a general education survey course that will examine the three artistic activities of music, viz., creating, performing, and listening; the course will examine the unique place jazz has in American cultural history and how its creators have been influenced by social and historical forces peculiar to America; and although concerned primarily with the music of jazz, the course will examine the lives of some of the most prominent performers from each jazz period.

MUSC 216 (3 cr hrs) The Evolution of Hip-Hop

The Evolution of Hip-Hop traces the development of hip-hop and rap music from its inception in the Bronx in the 1970s through today. As active listeners and participants, students will have the opportunity to discuss, debate and criticize elements of not only the musical stylings, but the socio-political and historically relevant topics of each year.

MUSC 310 (3 cr hrs) World Musics

World Musics is an introduction to ethnomusicology, integrating the disciplines of anthropology and musicology. Students will learn to experience and understand music in the context of cultural beliefs and societal institutions. Students will gain exposure to, and analyze the musics of Africa, Native America, Asia, the Near East, the Pacific, and Eastern Europe. This course will also provide the student the tools with which to discover the meanings of music in the life of any society.

SOC 255 (3 cr hrs) Diversity Issues in the United States

This course provides a comprehensive review of majority-minority relations in the United States and begins with an introduction of the sociological framework of the study of minorities, culture, prejudice, discrimination and intergroup relations. Subsequent weeks will be spent learning specifically about the experiences of a wide variety of minority groups, each starting with a socio- historical perspective and ending with a sociological analysis of their contemporary situation.

SOC 300 (3 cr hrs) Contemporary Social Problems

This course is an introduction to the causes, treatment, and prevention of selected social problems with particular emphasis on the problems of conflict and inequality.

SOC 322 (3 cr hrs) The World's Religions

This course provides an introduction to the world's major religions: Hinduism, Buddhism, Confucianism, Taoism, Islam, Judaism, and Christianity. Central to the understanding of each will be knowledge of: location and history of the origins of the faith, especially in relation to world history; the difference between philosophy and religion, and where each fits; basic theological concepts; and social teachings. Dual listed as PHIL 322.

2. Centrality to Role and Mission

The proposed minor supports the Coordinating Commission on Postsecondary Education strategic plan as well as that of the Nebraska State College System and Peru State College. By learning about people from diverse cultures and their histories, our students will develop cultural competency for their careers and personal lives while fostering an inclusive environment on campus.

From the CCPE plan, this program supports the following initiative: "Nebraska's postsecondary institutions will be student-centered, create inclusive environments that foster student success, and offer lifelong learning opportunities that are responsive to students' and workforce needs." This proposal also addresses the following System Core Values: "Provide a safe, stimulating, caring, and enriching learning experience" and "Meet the changing needs of our students and the state."

This program supports PSC's goal of "fostering an inclusive environment on campus and preparing our students for an increasingly diverse world" by providing students the opportunity to engage the ideas of critical race studies and encourage constructive dialogue through a variety of disciplinary perspectives and methods. In particular, this program advanced the core value of Unity: "We embrace unity as a diverse and inclusive community. We believe in creating a culture of respect, mutual support, and understanding. We lead and model this culture on campus, in the region and around the world." Students in this program will gain first-hand experience with developing an understanding of other cultures and will gain the ability to communicate with respect and understanding with those who are different than them.

Finally, the program contributes directly to the following Peru State Institutional Learning Outcomes related to Cultural Competency. Peru State graduates will be able to:

Discover their own identity, beliefs, behaviors, values, and biases to better understand diversity.

- Develop a mindset for inclusive environments that embraces differences in others.
- Model respect by engaging in dignified and thoughtful conversations with diverse others.
- Articulate the benefits and impacts of interactions with diverse populations and cultural experiences.

3. Evidence of Need and Demand

A. Need for the program:

Data from the National Survey of Student Engagement suggests Peru State students score slightly lower than our peers on questions related to including diverse perspectives (political, religious, racial/ethnic, gender, etc.) in course discussions or assignments and having discussions with people of a race or ethnicity other than their own. These courses and program will equip students to have these discussions and will foster their ability to articulate diverse perspectives in their coursework.

According to the American Council on Education (2012), diversity is important in higher education for the following reasons:

- *Diversity enriches the educational experience.* We learn from those whose experiences, beliefs, and perspectives are different from our own, and these lessons can be taught best in a richly diverse intellectual and social environment.
- *It promotes personal growth and a healthy society.* Diversity challenges stereotyped preconceptions; it encourages critical thinking; and it helps students learn to communicate effectively with people of varied backgrounds.
- *It strengthens communities and the workplace.* Education within a diverse setting prepares students to become good citizens in an increasingly complex, pluralistic society; it fosters mutual respect and teamwork; and it helps build communities whose members are judged by the quality of their character and their contributions.
- *It enhances America's economic competitiveness.* Sustaining the nation's prosperity in the 21st century requires us to make effective use of the talents and abilities of all our citizens, in work settings that bring together individuals from diverse backgrounds and cultures.

B. Demand for the Program:

Anecdotally, there has been interest in this type of program for many years from our students. While there is no minimum number of students needed to make the program viable—since the classes are already being offered—it is expected that there will be 20-30 students who enroll in this minor each year. Many of the classes can also be used to fulfill general education requirements, so it will likely be popular with students for that reason as well. Student climate survey questions from recent years indicate a desire from students to have more programming about diversity so students can “learn about these different cultures,” in the words of one student who responded to the 2019 survey.

4. Adequacy of Resources

A. Faculty and Staff Resources:

No additional staffing is needed since these courses are offered on a regular basis currently.

B. Physical Facilities:

No additional facilities are needed.

C. Instructional Equipment and Informational Resources:

No additional instructional equipment and informational resources are needed since the courses are currently being offered.

D. Budget Projections for the first five years of program:

Potentially, this program could help recruit new students as well as support retention efforts of existing students. If the program were popular, the College may need to offer an additional section of some of the core courses from time to time, using adjuncts or adjusting faculty teaching loads.

5. Avoidance of Unnecessary Duplication

There are no similar majors or minors in the State College System at this time. In the University system there are minors in Ethnic studies which is likely a reflection that higher education institutions across the country are recognizing the need to include programs of study that take a stronger look at diversity across a variety of courses.

6. Consistency with the Comprehensive Statewide Plan for Postsecondary Education

The Vision for Nebraska Postsecondary Education states,

“Nebraskans will reap many benefits from affordable, accessible, and high-quality postsecondary education. Nebraska’s people will value and support postsecondary institutions that are vital, vigorous, and visionary. Each postsecondary institution will fulfill its role and mission with distinction by being responsive to changing academic, workforce, societal, economic, cultural, and community development needs. Together, Nebraska’s postsecondary institutions will provide access to educational opportunities that meet the diverse needs of students and citizens; create environments that foster student success; position Nebraska to excel in the global economy; and exercise careful, creative, and cooperative stewardship of available resources.”

This program helps the state achieve this vision in multiple ways:

- The Ethnic and Diversity Studies minor from Peru State College is another way that the College provides an accessible and affordable education to students. Since this type of program is very common at large institutions, it is vital that the College provides this educational option to students who choose Peru State.
- Additionally, the program helps the College address the changing cultural, societal and workforce trends in the state. With increasing diversity in the state, it is critical that college graduates are culturally competent so they can be effective leaders in their professions and communities.
- Finally, this program helps the College meet the diverse needs of its students and will be part of our effort to further develop a culture at the college that is inclusive and welcoming of all students.

Sources

American Council on Education. (2012). **On the Importance of Diversity in Higher Education.**
<https://www.acenet.edu/Documents/BoardDiversityStatement-June2012.pdf>