

UNIVERSITY OF ARKANSAS AT PINE BLUFF

REQUEST FOR PROPOSAL REVIEW

(Please use a separate form for each proposal/course. Submit the original form to the chair of the Academic Affairs and Educational Policies Committee. Submit one copy of the request to EACH member of the Academic Affairs and Educational Policies Committee).

1. School: ARTS AND SCIENCES Department: CHEMISTRY AND PHYSICS

2. Code: 40.0501 Title: Minor in Biochemistry

3. Abstract of proposal: (LIMIT DISCUSSION TO 100 WORDS OR LESS).

We are proposing a minor in Biochemistry. This option would especially benefit Biology majors who wish to attend professional schools or graduate programs in the Biological or Biomedical Sciences. Since both medical training and biological research depends very heavily on biochemistry, the increased exposure to biochemistry would be of great benefit to students who wish to pursue careers in these areas. The minor may also be of benefit to students who wish to pursue graduate degrees in the Agricultural Sciences, including Aquaculture/ Fisheries as research in this area is often also biochemistry-based.

4. Objectives:

- a) Provide better preparation for courses in professional schools.
- b) Provide better preparation for professional school entrance examinations.
- c) Provide better preparation for graduate studies in the biological or biomedical sciences.
- d) Provide better preparation for graduate studies in the agricultural sciences or in aquaculture/fisheries.

Found in course syllabi

5. Prerequisites (if any): N/A

6. Content Duplication: Is this content similar to present offerings in other departments of the University? If yes, explain.

Currently, a minor in Chemistry requires General Chemistry I and II, Organic Chemistry I and II, Biochemistry I and Quantitative Analysis. A minor in Biochemistry would require General Chemistry I and II, Organic Chemistry I and II, and Biochemistry I and II. Biology majors already take Biochemistry I as part of their Biology curriculum, they would only have to take Biochemistry II to receive a minor in Biochemistry.

7. Justification: Make the justification specific in terms of the need, clientele to be served, the contribution the proposed action makes to a specific degree program, how those needs have been met in the past, and courses to be added, dropped or replaced.
(LIMIT JUSTIFICATION TO 250 WORDS OR LESS).

This minor has been requested by Biology majors who have had difficulty passing Quantitative Analysis course that requires a lot of mathematics.

8. Justification for course numbering, if any (freshman, sophomore, junior, senior):

N/A

10. Prospective director, coordinator, or instructor: Dr. Grant Wangila

11. When will the proposed action become effective? Fall, 2017

12. Submitted by: Dr. Grant Wangila 03/21/17
Date

13. Approved by:  Wangila 03/27/17
Department Curriculum Committee (Chair) Date

14. Approved by:  Wangila 03/27/17
Department Chair Date

15. Approved by: _____
Dean of School Date

16. Approved by: _____
Teacher Education Committee (Chair) Date

17. Approved by: _____
Academic Affairs and Educational Policies Committee (Chair) Date

18. Approved by: _____
Vice Chancellor for Academic Affairs Date

19. Approved by: _____
Faculty/Staff Senate President Date

20. Approved by: _____
Chancellor Date

LETTER OF NOTIFICATION

NEW MINOR

(Maximum 30 credit hours)

1. Institution submitting request: University of Arkansas at Pine Bluff
2. Contact person/title: Grant Wangila
3. Phone number/e-mail address: 870-575-8382
4. Proposed effective date: 08/2017
5. CIP Code: 40.0501
6. Proposed minor: Biochemistry
7. Reason for proposed action: Preparation of students for biomedical graduate programs and jobs; was due to significant student demand.
8. New minor objective: Give students a thorough knowledge of the molecular basis of living systems
9. Provide the following:
 - a) Curriculum outline - List of required courses in the minor– Indicate total semester credit hours required for the minor:
See attached degree plan
 - b) Identify new courses and provide new course descriptions:
Only new course Biochemistry II (CHEM 3324). This course is the second part of a two course series in Biochemistry. It is required for students majoring in Biochemistry. It may also prove useful to students majoring in biology, chemistry, nutrition or agricultural sciences who wish to attend graduate schools in biochemistry-related areas. It also may be useful to students desiring to enter medical, dental or pharmacy schools, as well as teacher education candidates desiring to teach high school chemistry or biology.

This course focuses on two main areas. These are metabolism and molecular biology. Metabolic pathways of carbohydrates, amino acids, nucleotides and lipids are covered, as is oxidative phosphorylation. The molecular mechanisms of DNA replication, transcription and translation are covered in detail, as are recombinant DNA techniques
 - c) State goals and objectives of the minor:
 1. To provide students a foundational understanding of the molecular basis of life
 2. To prepare students for graduate study in the biomedical sciences
 3. To prepare students for health science professional entrance exams
 4. To prepare students for courses taught in professional schools in the health sciences
 5. To prepare students for employment in laboratories which use biochemical methods
 - d) Describe expected student learning outcomes:
Students will understand how chemistry relates to living systems. They will understand the chemical composition of living cells as well as the biochemical processes which occur within these cells.

Provide documentation that program option meets employer needs
<http://www.academicinvest.com/science-careers/biochemistry-careers>

e) List institutions offering similar minor

University of Arkansas at Fayetteville, Arkansas State University, University of Arizona

10. Institutional curriculum committee review/approval date:

11. Will the new minor be offered via distance delivery? Indicate mode of distance delivery. No

12. Is the degree approved for distance delivery? No

13. Specify the amount of the additional costs required, the source of funds, and how funds will be used.
None

14. Provide additional program information requested by ADHE staff.

President/Chancellor Approval Date:

Board of Trustees Notification Date:

Chief Academic Officer

Date:



School of Arts and Sciences

Department of Chemistry and Physics

Minor in Bachelor of Science Degree in Biochemistry

DATE OF ENTRY: _____ I.D. NUMBER _____ Email: _____

NAME: _____ ADDRESS: _____

HOME TELEPHONE: _____ WORK: _____ CELL: _____

COURSE	HRS
<u>BIOCHEMISTRY (24-HOURS)</u>	
___ CHEM 1330 General Chemistry I	3
___ CHEM 1130 General Chemistry I Lab	1
___ CHEM 1340 General Chemistry II	3
___ CHEM 1140 General Chemistry II Lab	1
___ CHEM 3311 Organic Chemistry I	3
___ CHEM 3111 Organic Chemistry I Lab	1
___ CHEM 3321 Organic Chemistry II	3
___ CHEM 3121 Organic Chemistry II Lab	1
___ CHEM 3312 Biochemistry I	3
___ CHEM 3112 Biochemistry I Lab	1
___ CHEM 4110 Chemistry Seminar	1
___ CHEM 4322 Biochemistry II	3

Student: _____ Date: _____

Advisor: _____ Date: _____

Chair Major: _____ Date: _____

Chair Minor: _____ Date: _____

Dean: _____ Date: _____