Proposals for a NEW degree or center require notification in advance of this proposal. See the Office of the Provost's curriculum website for information.

I. DEPARTMENT / PROGRAM

College of Health Professions and Biomedical Sciences (CHPBS) / Skaggs School of Pharmacy (SSOP).

II. SUMMARY OF CHANGE REQUESTED

The proposed Bachelor of Science degree in Pharmaceutical Sciences (B.S. Pharmaceutical Sciences) would represent a milestone degree for students that enter the Doctor of Pharmacy (Pharm.D.) program without a prior four-year degree. Students would be required to successfully complete a minimum of two years of pre-pharmacy coursework and the first two basic science intensive years of the Pharm.D. curriculum to be eligible for this degree. Students earning the B.S. Pharmaceutical Sciences degree would be eligible to pursue graduate studies if they wish to do so. The degree would be optional. The curriculum and rationale are detailed elsewhere in this document.

III. ENDORSEMENTS AND APPROVALS

Requestor: Howard Beall, Associate Dean, SSOP
Phone/Email: x5112/howard.beall@umontana.edu

Requestor: Curtis Noonan, Dir. Grad Prog. CHPBS
Phone/Email: x4957/curtis.noonan@umontana.edu

Program Chair: Elizabeth Putnam, Chair, BMED

Program Chair: Mike Rivey, Chair, Pharm Practice

Dean: Reed Humphrey, CHPBS

Library Dean (Req. for #11 below only)

☐ Resources included in the proposal are sufficient to adequately support the new program’s library needs.

Provost:
IV. TYPE OF PROPOSAL

Any additional required forms are listed after each type of proposal and must accompany this form. Proposals for a new degree or center require notification in advance of this proposal. See the Office of the Provost’s curriculum website for information and instructions.

Level I Proposals:

- 1a. Placing a program into moratorium (Program Termination Form)
- 1b. Withdrawing a program from moratorium
- 2. Adding, retitling, terminating or revising a campus certificate of 29 credits or fewer
- 3. Adding a BAS/AA/AS Area of Study
- 4. Offering an existing program via distance or online delivery
- 5. Retitling an existing postsecondary educational program
- 6. Terminating an existing postsecondary educational program (Program Termination Form)
- 7. Consolidating existing postsecondary educational programs (BOR Curriculum Proposal Form)
- 8. Adding a new minor where there is a major or option in a major (BOR Curriculum Proposal Form)
- 9. Revising a program substantially (e.g. changing program focus) (BOR Curriculum Proposal Form)
- 10. Adding a temporary Certificate or AAS Degree Program Approval limited to 2 years

Level II Proposals:

- 11. Establishing a new postsecondary educational program (Curriculum Proposal and Reviewed Intent to Plan Form)
- 12. Exceeding the 120 credit maximum for baccalaureate degrees Exception to policy 301.11
- 13. Forming a college, division, school, department, institute, bureau, center, station, laboratory or similar unit (Curriculum Proposal or Center/Institute Proposal and Reviewed Intent to Plan Form)
- 14. Eliminating or consolidating a college, division, school, department, institute, bureau, center, station, laboratory or similar unit.
- 15. Retitling a college, division, school, department, institute, bureau, center, station, laboratory or similar unit.

V. CIP CODE (CLASSIFICATION OF INSTRUCTIONAL PROGRAMS)

The BOR requires a CIP Code (Classification of Instructional Programs) for tracking and reporting of degrees. Use the CIP Code website to identify the most applicable code: 51

VI. METHOD OF DELIVERY

Will more than 50% of the proposed program be delivered via online or distance methods?

- Yes ☒ No

VII. CATALOG LANGUAGE

See Attachments.
VIII. JUSTIFICATION

Provide enough information that someone without specialized knowledge can make an informed decision.

The pharmacy program is a six-year program for which students complete a minimum of 2 years of preprofessional curriculum that include the physical, chemical and biological sciences. After satisfying these prerequisites, students apply for entrance into the four-year professional program. Upon completion of the professional program, students are awarded a Doctor of Pharmacy (Pharm.D.) degree. Those students that do not have a degree upon entering the professional program do not receive a Bachelor’s Degree at any point in the program. The proposed B.S. in Pharmaceutical Sciences would fulfill this unmet need for the Skaggs School of Pharmacy. Students would receive the degree following completion of the second professional year (P2 Year) meaning that they would have at least 4 years of basic science and pharmaceutical science courses. The curriculum for the B.S. degree would mirror the pre-pharmacy requirements and professional pharmacy courses.

In addition to rewarding students with a degree for work accomplished, there are other more practical reasons for awarding a B.S. degree to students at the mid-point of the pharmacy program. Students with a B.S. degree would be eligible to apply for graduate school admission and to receive graduate credit for graduate-level courses. Currently, only pharmacy students with prior degrees or those that enroll in established dual degree programs can apply to graduate school or take graduate courses for credit. The new B.S. degree would give all pharmacy students that option, which would allow them to add to their skill set and improve their prospects for employment in leadership and academic pharmacy positions. For those students who decide at some point that they no longer wish to pursue a career as a pharmacist, the B.S. degree would give them employment options that they would not have without a college degree, despite the fact that they had completed four years of challenging, science-based curriculum. They could also opt for graduate school as an alternative to professional pharmacy practice.

IX. SUBMISSION

Submit a hard copy of this form with all required signatures to the Office of the Provost. Please also submit an electronic copy of this Word document, along with all other required BOR forms (in Word) to jasminezink.laine@mso.umt.edu

- After approval by the Provost, the proposal will be submitted to the Faculty Senate Office.
- After approval by the appropriate Curriculum Committee (ASCRC or Graduate Council), the full Faculty Senate must approve the proposal.
- Upon Faculty Senate approval, the Office of the Provost will submit the proposal to OCHE for the next possible OCHE/BOR meeting.
  - Note that BOR and internal UM deadlines require submission quite in advance of the BOR meeting.
- The Office of the Provost will notify the proposer once the change has been approved by OCHE/BOR.
1. Overview

A. Provide a one paragraph description of the proposed program. Be specific about what degree, major, minor or option is sought.

A Bachelor of Science (B.S.) degree in Pharmaceutical Sciences is proposed. At the present time, the Skaggs School of Pharmacy (SSOP) offers the entry level Doctor of Pharmacy degree but not an undergraduate Bachelor's degree. Students who are accepted into the pharmacy program may have a Bachelor's degree, but most Doctor of Pharmacy students enter the program without an undergraduate degree. The new B.S. degree would be granted following a minimum of two years of pre-pharmacy courses and the first two basic science intensive years of the four-year professional curriculum.

2. Institutional and System Fit

A. What is the connection between the proposed program and existing programs at the institution?

The proposed B.S. degree will fill an unmet need for a Bachelor's level degree for the Skaggs School of Pharmacy. Most importantly, it will allow professional pharmacy students to enroll in graduate studies and receive graduate credit for graduate level courses.

B. Will approval of the proposed program require changes to any existing programs at the institution? If so, please describe.

The proposal will not require any changes.

C. Describe what differentiates this program from other, closely related programs at the institution (if appropriate).

There are no closely related programs at the University of Montana.

D. How does the proposed program serve to advance the strategic goals of the institution?

The new B.S. degree fits within the mission of the new University of Montana Health and Medicine (UMHM) initiative that serves as the virtual home for all health-related courses, programs, clinics and laboratories across campus. The new degree will prepare professional pharmacy students to apply for admission to UM graduate programs and to receive graduate credit for graduate level courses broadening the options for UM students. It will also provide an alternative track to a degree for students who decide that professional pharmacy practice does not fit with their ultimate career goals.

E. Describe the relationship between the proposed program and any similar programs within the Montana University System. In cases of substantial duplication, explain the need for the
proposed program at an additional institution. Describe any efforts that were made to collaborate with these similar programs; and if no efforts were made, explain why. If articulation or transfer agreements have been developed for the substantially duplicated programs, please include the agreement(s) as part of the documentation.

There are no similar programs within the Montana University System.

3. Program Details

A. Provide a detailed description of the proposed curriculum. Where possible, present the information in the form intended to appear in the catalog or other publications. NOTE: In the case of two-year degree programs and certificates of applied science, the curriculum should include enough detail to determine if the characteristics set out in Regents’ Policy 301.12 have been met.

The curriculum for the B.S. Pharmaceutical Sciences will mirror the Pharm.D. curriculum for the First (P1) and Second (P2) Professional Years and will also include the pre-pharmacy course requirements. The pre-pharmacy course requirements and the professional curriculum for the P1 and P2 years follow:

### Pre-Pharmacy First Year

<table>
<thead>
<tr>
<th>Subject &amp; Course #</th>
<th>Course Title</th>
<th>Autumn</th>
<th>Spring</th>
<th>Total Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOH 112 &amp; 113</td>
<td>Human Form &amp; Function I &amp; II</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>CHMY 141 &amp; 143</td>
<td>College Chemistry I &amp; II</td>
<td>5</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>M 162</td>
<td>Applied Calculus</td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>WRIT 101</td>
<td>College Writing I</td>
<td></td>
<td>Either semester, depending on last name</td>
<td>3</td>
</tr>
</tbody>
</table>

### Pre-Pharmacy Second Year

<table>
<thead>
<tr>
<th>Subject &amp; Course #</th>
<th>Course Title</th>
<th>Autumn</th>
<th>Spring</th>
<th>Total Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOB 260</td>
<td>Cell/Molecular Bio</td>
<td>4</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>CHMY 221, 222, &amp; 223</td>
<td>Organic Chemistry I, lab, &amp; II</td>
<td>3, 2</td>
<td>3</td>
<td>8</td>
</tr>
</tbody>
</table>
### Curriculum Proposal Form

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECNS 201S</td>
<td>Principles of Microeconomics</td>
<td>Either</td>
<td>3</td>
</tr>
<tr>
<td>PHSX 205N &amp; 206N</td>
<td>College Physics I &amp; lab</td>
<td>-</td>
<td>4, 1</td>
</tr>
<tr>
<td>STAT 216</td>
<td>Introduction to Statistics</td>
<td>Either</td>
<td>4</td>
</tr>
</tbody>
</table>

**Pre-Pharmacy, either year, any semester — Required**

<table>
<thead>
<tr>
<th>Subject &amp; Course #</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYX 100S or SOCI 101S</td>
<td>Intro to Psychology or Sociology</td>
<td>4 or 3</td>
</tr>
<tr>
<td>THTR 120A or COMX 111A</td>
<td>Intro to Acting I or Public Speaking</td>
<td>3</td>
</tr>
</tbody>
</table>

**Pre-Pharmacy, either Year, any semester — Recommended courses to fulfill UM General Education requirements**

<table>
<thead>
<tr>
<th>Subject &amp; Course #</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>²ANTY 101H or NASX 105H</td>
<td>Anthropology &amp; the Human Experience or Intro to Native American Studies</td>
<td>3</td>
</tr>
<tr>
<td>³LIT 110L or 120L</td>
<td>Intro to Literature or Poetry</td>
<td>3</td>
</tr>
<tr>
<td>⁴ANTY 122S, HSTR 101H, or HSTA 101H</td>
<td>Race &amp; Minorities, Western Civilization, or American History I</td>
<td>3 or 4</td>
</tr>
</tbody>
</table>

 注1: Other acceptable courses for the Statistics requirement include PSYX 222 or SOCI 202.

 注2: ANTY 101H & NASX 105H are double-dipper General Education courses (Group VI & X).

 注3: LIT 110L & LIT 120L are double-dipper General Education courses (writing course and Group V).

 注4: Select one course to meet the Democracy and Citizenship (Group IX) for General Education.
PHARMACY FIRST PROFESSIONAL YEAR

<table>
<thead>
<tr>
<th>Autumn Semester</th>
<th>Cr.</th>
<th>Spring Semester</th>
<th>Cr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOM 400 Medical Microbiology</td>
<td>3</td>
<td>PHAR 310 Pharmacy Practice II</td>
<td>2</td>
</tr>
<tr>
<td>PHAR 300 Pharmacy Practice I</td>
<td>3</td>
<td>PHAR 328 Antimicrobial Agents</td>
<td>3</td>
</tr>
<tr>
<td>PHAR 341 Physiological Systems I</td>
<td>4</td>
<td>PHAR 331 Pharmaceutics</td>
<td>4</td>
</tr>
<tr>
<td>PHAR 361 Pharm Sci Lab I</td>
<td>1</td>
<td>PHAR 342 Physiological Systems II</td>
<td>4</td>
</tr>
<tr>
<td>PHAR 371 Integrated Studies I</td>
<td>1</td>
<td>PHAR 362 Pharm Sci Lab II</td>
<td>1</td>
</tr>
<tr>
<td>PHAR 381 Pharmaceutical Biochemistry</td>
<td>4</td>
<td>PHAR 363 Pharm Care Lab I</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PHAR 372 Integrated Studies II</td>
<td>1</td>
</tr>
</tbody>
</table>

Total: 16

PHARMACY SECOND PROFESSIONAL YEAR

<table>
<thead>
<tr>
<th>Autumn Semester</th>
<th>Cr.</th>
<th>Spring Semester</th>
<th>Cr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHAR 421 Med Chem I</td>
<td>3</td>
<td>PHAR 412 Pharmacy Practice III</td>
<td>2</td>
</tr>
<tr>
<td>PHAR 432 Clinical Pharmacokinetics</td>
<td>3</td>
<td>PHAR 422 Med Chem II</td>
<td>3</td>
</tr>
<tr>
<td>PHAR 443 Pharmacol/Tox I</td>
<td>4</td>
<td>PHAR 444 Pharmacol/Tox II</td>
<td>4</td>
</tr>
<tr>
<td>PHAR 451 Therapeutics I</td>
<td>3</td>
<td>PHAR 452 Therapeutics II</td>
<td>3</td>
</tr>
<tr>
<td>PHAR 460 Pharm Care Lab II</td>
<td>1</td>
<td>PHAR 463 Pharm Care Lab III</td>
<td>1</td>
</tr>
<tr>
<td>PHAR 471 Integrated Studies III</td>
<td>1</td>
<td>PHAR 472 Integrated Studies IV</td>
<td>1</td>
</tr>
<tr>
<td>Electives</td>
<td>1</td>
<td>Electives</td>
<td>2</td>
</tr>
</tbody>
</table>

Total: 16

Students must complete all General Education requirements and pass 120 credits. They can apply for graduation with a B.S. Pharmaceutical Sciences during Spring Semester of their P2 year.
B. Describe the planned implementation of the proposed program, including estimates of numbers of students at each stage.

Approximately 30-40 students in each class enter the Pharm.D. program without a Bachelor’s degree. We expect that at least half of those will choose to receive the new B.S. degree. Implementation will require no additional time or resources on the part of the SSOP faculty and staff since students will not be required to deviate from the requirements for the Pharm.D. degree.

4. Need

A. To what specific need is the institution responding in developing the proposed program?

The new B.S. degree will meet several needs. In addition to rewarding students with a degree for work accomplished, there are other more practical reasons for awarding a B.S. degree to students at the mid-point of the pharmacy program. Students with a B.S. degree would be eligible to apply for graduate school admission and to receive graduate credit for graduate-level courses. Currently, only pharmacy students with prior degrees or those that enroll in established dual degree programs can apply to graduate school or take graduate courses for credit. The new B.S. degree would give all pharmacy students that option, which would allow them to add to their skill set and improve their prospects for employment in leadership and academic pharmacy positions. For those students who decide at some point that they no longer wish to pursue a career as a pharmacist, the B.S. degree would give them employment options that they would not have without a college degree, despite the fact that they had completed four years of challenging, science-based curriculum. They could also opt for graduate school as an alternative to professional pharmacy practice.

B. How will students and any other affected constituencies be served by the proposed program?

Students who choose not to pursue professional pharmacy practice after the P2 year will leave UM with a Bachelor’s degree, which will be invaluable as they search for employment. Students who want to pursue graduate studies will be able to seamlessly enter into graduate programs assuming other criteria for admission are met.

C. What is the anticipated demand for the program? How was this determined?

Approximately 5-10 students in each class have expressed interest in entering graduate programs in conjunction with their clinical training or at a minimum, taking graduate courses for graduate credit. It is unknown how many other students will opt for the B.S. degree at the midpoint of the professional program.

5. Process Leading to Submission

A. Describe the process of developing and approving the proposed program. Indicate, where appropriate, involvement by faculty, students, community members, potential employers, accrediting agencies, etc.
This proposal was initiated by Professors Beall and Noonan and vetted by the SSOP faculty at several of their monthly meetings.

6. Resources

A. Will additional faculty resources be required to implement this program? If yes, please describe the need and indicate the plan for meeting this need.

No additional resources will be required for implementation of the B.S. Pharmaceutical Sciences degree.

B. Are other, additional resources required to ensure the success of the proposed program? If yes, please describe the need and indicate the plan for meeting this need.

No additional resources will be required for success.

7. Assessment

A. How will the success of the program be measured?

The program will be evaluated at the end of each academic year by collecting the following data:

- How many students opted for receiving the B.S. degree following completion of the P2 year
- How many students chose to go to UM because of the existence of the B.S. degree
- How many students enrolled in graduate programs or took graduate courses for credit after receiving the B.S. degree
- How many students who voluntarily left the program would have previously left with no degree
Skaggs School of Pharmacy

Pharmacy is the study of the biological, chemical, and physical characteristics of medicinal substances and the utilization of these substances in the prevention, treatment, and control of illness and disease. It also encompasses a study of the systems of delivering health care and the function of the professional pharmacist within these systems.

The Skaggs School of Pharmacy was established in 1907 at Montana State College and was transferred to the University in 1913. The pharmacy program consists of two departments, Pharmacy Practice and Biomedical and Pharmaceutical Sciences.

The Skaggs School of Pharmacy is a member of the American Association of Colleges of Pharmacy. The entry-level doctor of pharmacy program is fully accredited by the Accreditation Council for Pharmacy Education, 135 S. LaSalle Street, Suite 4100, Chicago IL 60603-4810, telephone (312) 664-3575, (800) 533-3606; FAX (312) 664-4652; http://www.acpe-accredit.org/

The Doctor of Pharmacy (Pharm.D.). The curriculum offered by the Skaggs School of Pharmacy consists of a six-year program leading to the entry-level Pharm.D. degree. The first two years, or pre-professional portion of the curriculum, are spent in studies of the basic biological and physical sciences, and in course work necessary to satisfy the University general education requirements. During the first three years of the professional program, students devote their time to the study of the biomedical and pharmaceutical sciences and pharmacy practice. Areas of study include biochemistry, microbiology, medicinal chemistry, pharmaceutics, pharmacology, social and administrative pharmacy, and therapeutics. The final professional year is entirely experiential.

A program of selected electives allows the student to obtain further educational experience in specialized areas of pharmaceutical knowledge. Students in the professional program may choose elective courses in specific areas of interest which include community pharmacy practice, management, research and teaching, hospital and institutional pharmacy practice, and a variety of therapeutic-based topics. All students must confer with assigned advisors prior to each registration period and receive approval of proposed courses.
In addition to their formal educational program, to become registered pharmacists, students must complete practical experience under the direction of a registered pharmacist and pass the NAPLEX and MPJE exams administered by the National Association of Boards of Pharmacy.

Career opportunities exist in the fields of community pharmacy, institutional pharmacy, federal or state government service, public health agencies, and with the pharmaceutical industry in sales positions or in manufacturing. Those with advanced degrees or residencies are in demand for research positions and in pharmaceutical education.

The Bachelor of Science in Pharmaceutical Sciences (B.S. Pharmaceutical Sciences) may be earned after successful completion of a minimum of two years of required pre-pharmacy coursework and the first two basic science intensive years of the Pharm.D. curriculum. The B.S. Pharmaceutical Sciences degree is intended for students that enter the professional pharmacy program without a prior four-year degree and/or who intend to pursue graduate studies. The curriculum requirements are detailed elsewhere in the catalog.

High School Preparation: In addition to the general University admission requirements, algebra, trigonometry, biology, chemistry, physics and a course in computers are recommended.
VII. CATALOG LANGUAGE

Attach the current or proposed catalog language with any changes clearly identified.

Below: Changes to the current catalog copy are highlighted in yellow.


COLLEGE OF HEALTH PROFESSIONS AND BIOMEDICAL SCIENCES

Reed Humphrey, Dean

Howard D. Beall, Associate Dean for Pharmacy

The College of Health Professions and Biomedical Sciences offers the Bachelor of Arts in Social Work, the Doctor of Pharmacy (Pharm.D.) degree; Bachelor of Science in Pharmaceutical Sciences; Master of Science degrees in Neuroscience, Pharmaceutical Sciences, Toxicology, and Medicinal Chemistry; the Master of Public Health degree; the Master of Social Work degree; the Doctor of Physical Therapy degree; and the Doctor of Philosophy (Ph.D.) degrees in Biomedical Sciences, Neuroscience, Toxicology, and Medicinal Chemistry.

The focus of these programs is to provide a composite of educational experiences that will produce a well-educated person and a highly trained, professional social worker, health care practitioner or scientist.

<table>
<thead>
<tr>
<th>Name</th>
<th>Minor</th>
<th>Certificate</th>
<th>Associate</th>
<th>Bachelor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gerontology</td>
<td>Requirements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Work</td>
<td></td>
<td></td>
<td></td>
<td>Requirements</td>
</tr>
<tr>
<td>Pharmaceutical Sciences</td>
<td></td>
<td></td>
<td></td>
<td>Requirements</td>
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</tbody>
</table>