

## New Minor, Track or Certificate Template

Steps to the approval process:

1. Complete the applicable template(s) and email them to the departmental or program curriculum committee chair.
2. The curriculum chair emails the proposal to the curriculum committee, then to the department/program faculty for a vote and finally to the department/program chair.
3. The department/program chair emails the proposal to [curriculum-approval@iup.edu](mailto:curriculum-approval@iup.edu); this email will also serve as an electronic signature.
4. Curriculum committee staff will log the proposal, forward it to the appropriate dean's office(s) for review within 14 days and post it on the X Drive for review by all IUP faculty and administrators. Following the dean's review the proposal goes to the UWUCC/UWGC and the Senate.
5. Questions? Email [curriculum-approval@iup.edu](mailto:curriculum-approval@iup.edu).

Contact Person:	Lawrence Kupchella	Email Address:	lkup@iup.edu
Proposing Depart/Unit:	Natural Science Program	Phone:	724-357-2363

Minor or Track Title	Natural Science/Pre-Physician Assistant Track																		
Narrative Catalog Description:	The program leading to the BS degree in Natural Science is designed to prepare students for admission to professional schools – chiropractic, dentistry, optometry, physical therapy, pharmacy, podiatry, physician assistant, and audiology. If they qualify, the BS degree in natural science can be earned by students who are accepted for early admission to professional schools that have an articulation agreement with IUP. In some cases, students interested in obtaining a four-year degree before entering a medical or professional school should enroll in a program leading to a BA or BS degree in the departments of Biology or Chemistry. Students considering a professional career in a high-technology business or health-oriented businesses or industries may wish to obtain a foundation in the natural sciences while using their free electives to pursue additional work in areas such as molecular biology, biochemistry, psychology, economics, pre-law, or athletic training. The BS program in natural science may not be used for a second major or a second degree by majors in the College of Natural Sciences and Mathematics. For further information, contact the Natural Science program coordinator.																		
List of Program Requirements in catalog layout – including course numbers, titles, credits and any footnotes. (Note that PASSHE requires a minimum of 6 credits in a minor be advanced standing (300 and above).	<p><b>Bachelor of Science – Natural Science/Pre-Physician Assistant Track (*)</b></p> <p><b>Liberal Studies:</b> As outlined in the Liberal Studies section with the following specifications: 45</p> <p><b>Mathematics:</b> MATH 121</p> <p><b>Natural Science:</b> CHEM 111-112</p> <p><b>Social Science:</b> PSYC 101</p> <p><b>Writing Intensive:</b> a second writing-intensive course is not required for three-year students who transfer to a professional school with an articulation agreement.</p> <p><b>Liberal Studies Electives:</b> 3cr, COSC 101, no courses with SCI prefix.</p> <p><b>Major:</b> 49</p> <p><b>Required Courses:</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td>BIOL 200</td> <td>Medical Terminology</td> <td style="text-align: right;">2cr</td> </tr> <tr> <td>BIOL 201</td> <td>Principles of Ecology and Evolution</td> <td style="text-align: right;">4cr</td> </tr> <tr> <td>BIOL 202</td> <td>Principles of Cell and Molecular Biology</td> <td style="text-align: right;">4cr</td> </tr> <tr> <td>BIOL 203</td> <td>Principles of Genetics and Development</td> <td style="text-align: right;">4cr</td> </tr> <tr> <td>BIOL 240</td> <td>Human Physiology</td> <td style="text-align: right;">4cr</td> </tr> <tr> <td>BIOL 241</td> <td>General Microbiology</td> <td style="text-align: right;">4cr</td> </tr> </table>	BIOL 200	Medical Terminology	2cr	BIOL 201	Principles of Ecology and Evolution	4cr	BIOL 202	Principles of Cell and Molecular Biology	4cr	BIOL 203	Principles of Genetics and Development	4cr	BIOL 240	Human Physiology	4cr	BIOL 241	General Microbiology	4cr
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	<p>BIOL 402 Advanced Human Anatomy 4cr          CHEM 231 Organic Chemistry I 4cr          CHEM 232 Organic Chemistry II 4cr          CHEM 351 Biochemistry 4cr          PHYS 111 Physics I Lecture 3cr          PHYS 121 Physics I Lab 1cr          PHYS 112 Physics II Lecture 3cr          PHYS 122 Physics II Lab 1cr          MATH 216 Probability and Statistics for Natural Sciences 3cr  <i>or</i> 217 or Probability and Statistics</p> <p><b>Other Requirements:</b> 0-4          Foreign Language through Intermediate Level</p> <p><b>Free Electives: (1)</b> 22-26</p> <p><b>Total Degree Requirements:</b> 120</p> <p>(* ) Students accepted for early admission to an accredited post-graduate Physician Assistant (PA) program within the United States must complete at minimum 90 credits, including all of the program requirements listed above. After completing their first year of professional school studies, the student can transfer back to IUP up to 30 cr of their PA program coursework. To then graduate from IUP, the student must send an official copy of their transcripts (and a cover letter) to the IUP office of Transfer Services. They must also contact the Dean’s Office of the College of Natural Sciences and Mathematics for instructions on applying for graduation.</p> <p>(1) The student, under consultation with her/his advisor, should select as their free electives courses that are appropriate for their targeted post-graduate PA programs.</p>
<p>Student Learning Outcomes for Minor or Track</p>	<p>Learning Goal:          (1). By graduation, students will meet the course requirements of their targeted post graduate Physician Assistant program(s).          (1.a). This learning goal will be accomplished by the student’s successful completion of both the Natural Science/Pre-Physician Track program requirements and their judiciously selected free electives.          (1.b.). The direct measures that will be used to assess this learning outcome will be (i) through monitoring the acceptance rates of our graduates into physician assistant programs, (ii) through our student’s success in the physician assistant programs, (iii) through feedback from alums, and (iv) through input from post-graduate physician assistant programs.          (1.c.). The means and frequency of administering these assessments will be (i) to each year survey (or interview) the students in the track just prior to their graduation in order to gauge the effectiveness of the Natural Science/Pre-Physician Assistant track curriculum in meeting the course requirements for their particular targeted schools, (ii) to, also during the administration of the surveys (or interviews), request that the track graduates maintain contact after graduation with the program coordinator so that they could provide future feedback as they progress through their professional school program and then beyond as a practicing Physician Assistant, and (iii) to establish articulation agreements with selected post-graduate Physician Assistant programs.</p>
<p><b>Rationale for Proposal</b></p>	
<p>Why is this track/minor being proposed?</p>	<p>This proposal is being submitted at this time for several reasons:          1. IUP students have in fact, over the years, already used the Natural Science BS degree (no declared track) as a springboard to gain admission to post-graduate Physician Assistant (PA) programs. The reason being, very simply, is that the BS Natural Science major’s course requirements line up <i>fairly well</i> with the prerequisite course requirements of most post graduate PA programs. “<i>Fairly well</i>” here is the key phrase in the previous sentence, since students who</p>

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	<p>have successfully used the Natural Science program in the past to prepare for PA programs had to be made aware of certain specific shortfalls in the existing BS Natural Science curriculum. First, most PA programs list a medical terminology course as one requirement. Previously, no such course existed at IUP and students who needed the course were forced to take it at another institution. The Biology Department has now created a 2-credit medical terminology course and now plans to offer the course each spring semester. Second, many PA programs require a 4-credit human anatomy course, and the required course for the Natural Science program is BIOL 150, a three credit course. To alleviate the disadvantage of IUP student applicants to PA and some other post-graduate professional school programs, the Biology Department has revised BIOL 150 to 4-credits and created a new course, BIOL 402 (Advanced Human Anatomy), 4-credits. The course is now listed in the IUP Undergraduate Catalog and the department plans to offer the course each spring term. Finally, some PA programs require a 4-credit microbiology course. The Biology Department has revised their existing courses in microbiology, making BIOL 241 General Microbiology now a 4-credit course and thereby meeting the needs of the Natural Science pre-professional students as well as the Nursing majors. Now that we are now able to meet the prerequisite course requirements for allowing our students to put forward a competitive application to post-graduate PA programs, the time is now right for submitting this proposal.</p> <p>2. Having a named undergraduate track will have the effect of drawing attention to the program by students who are interested in a career as a Physician Assistant. Prospective students will correctly view the track as one that is pre-designed to allow them to meet the requirements for admission to PA programs after graduation. Simply put, the PA track name will have the effect of drawing the interest of prospective students who might not otherwise have considered IUP and the program.</p>
<p>What role, if any, does it serve the college/university above and beyond the role it serves in the department?</p>	<p>The proposed Natural Science/Pre-Physician Assistant track will serve the university because it will attract more students to IUP. A significant fraction of high school students are interested in careers in the health care field. Those students have an innate desire to pursue a career in which they can help people, and they view careers in the health care field as being particularly attractive. Such careers have a track record of being in high demand, of producing good wages, and of being largely recession-proof occupations. Indeed, the US Bureau of Labor Statistics predicts that the employment outlook for Physician Assistants (PAs) is expected to increase in the ten-year period starting in 2012 by 38 percent, or “much faster than the average for all occupations”. According to the American Academy of Physician Assistants (AAPA), more than 93,000 physician assistants are currently employed in the United States and 6,700 of those are employed within the state of Pennsylvania. As more US citizens become insured through the recently enacted “Affordable Care Act”, the demand for access to health care and the services provided by physician assistants will only increase in the coming years. The bottom line is that all indicators and projections point to the need for increasing numbers of physician assistants in the coming years. The median pay for physician assistants in the US was in 2012 (again, according to the US Bureau of Labor Statistics) \$90,930 per year.</p>