

**Proposal for BS in Health Science, Pre-Physician Assistant Concentration**

**Faculty Senate Reading:**

**Full Name of Current Program:** Bachelor of Science in Health Science

**Stockton Program Acronym:** HLTH

**Degree/Level of Current Program:** BS

**CIP Codes:** 51.0000 (Health Services/Health Science, General)

**Names and signatures of Faculty Proposing New Program:**



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**Date of Program Faculty Votes to Approved the Proposed New Program**

2/8/2024, 9 Yes, 0 No, 0 Abstain

**Text Description of Proposed New Program**

This proposal describes a new Bachelor of Science in Health Science (BSHS) concentration. Since its inception, the BSHS program has offered concentrations in “pre” studies for the graduate programs offered at Stockton University (*i.e.*, pre-physical therapy (PT), pre-occupational therapy (OT), and pre-communication disorders (CD)). The respective graduate programs require a significant number of bachelor’s level pre-requisite courses to apply. Therefore, those concentrations were designed to assist the students interested in those professions to progress efficiently through the BSHS program, while taking the pre-requisite course requirements of their chosen career path.

From AY2015-16 through AY2024-25, Stockton has had a dual degree program BS in Health Science/MS in Physician Assistant Studies in partnership with Jefferson University. Recently, this agreement with Jefferson University has ended. Even though Stockton does not have our own MS in Physician Assistant Studies program, an increased interest in this profession has remained. Currently,  $n = 104$  (11.1%) of the BSHS students have a declared interest in Physician Assistant (PA) and this interest has remained above 10% of the students in the program for the past several years.

Like the Physical Therapy, Occupational Therapy, and Speech Pathology programs, Physician Assistant programs require students to take a significant number of courses before applying to the program. Having a separate concentration for a pre-physician assistant (PA) will make it easier for students to progress through the BSHS curriculum while also completing the prerequisites to apply to a physician assistant graduate program. Also, since there is a significant interest in this profession in the region, it may be an appealing alternative for those students who are interested in physician assistant (PA) programs but cannot make it into one of the very rare direct entry programs; therefore, the pre-PA concentration may be a helpful recruitment tool for Stockton University.

Implementation of this new concentration should not have any requirements for new resources (i.e., library, ITS, new faculty lines) because the only thing this concentration does is pre-arrange the curriculum of the BSHS program to make it easier for students to complete the BSHS program at the same time they take the pre-requisite course to apply to physician assistant programs. A Degree Works curriculum map for a pre-PA concentration would need to be created, but no additional resources are expected. While not foreseen now, future evaluation of this concentration will indicate if new resources will be needed.

**Date of Dean's Council Review:**

**Date of Faculty Senate Committee on Academic Programs and Planning Review:**

**Date of Provosts' Council Review:**

**Date of Faculty Senate Review:**

## **I. Admission and Eligibility Requirements**

Admission to and eligibility for the pre-PA concentration is the same as the admission requirements for the BSHS program. For admission to the Bachelor of Science in Health Science (BSHS) program, students must meet **one** of the following mathematics requirements:

- An SAT Math score of at least 570.
- An ACT Math score of at least 24.
- An Accuplacer Math score equivalent to College Level Math.
  - Elementary Algebra Accuplacer Score of 76 or higher.
  - Next-Gen Quantitative Reasoning, Algebra, and Statistics (QAS) Accuplacer score of 256 or higher **AND** Advanced Algebra and Functions (AAF) Accuplacer score of 260 or higher.

## II. Pre-Physician Assistant Curriculum

### A. BS in Health Science Required Courses (41 credits)

- HLTH 1101: Introduction to Health Sciences
- HLTH 1241: Medical Terminology
- HLTH 2305: Stats for Health Professionals or any approved statistics course equivalent
- HLTH 2411: Informatics for the Health Sciences
- HLTH 2501: Ethics and Teamwork in Health Care
- HLTH 3411: Writing and Editing for Health Professionals
- HLTH 4200: Research for the Health Sciences
- CHEM 2110/15: Chemistry I/Chemistry Lab I
- BIOL 1260: Anatomy & Physiology I w/Lab & BIOL 2260: Anatomy & Physiology II w/Lab
  - or BIOL 2180: Human Anatomy w/ Lab & BIOL 2150: Principles of Physiology w/ Lab

### B. Required Electives (Cognates)

Students in the pre-PA must complete the following cognates (39 credits):

- MATH 1100: Precalculus
- PSYC 1100: Introduction to Psychology
- CHEM 2120: Chemistry II/CHEM 2125: Chemistry II Lab
- CHEM 3250: Biochemistry
- BIOL 1200: Cells and Molecules/BIOL 1205: Cells and Molecules Lab
- BIOL 1400: Biodiversity & Evolution/BIOL 1405 Biodiversity & Evolution Lab
- BIOL 2110: Genetics/BIOL 2115: Genetics Lab
- BIOL 3020: Microbiology for Health Science
  - or BIOL 3170 Microbiology with Lab
- Upper-level BIOL course

### C. General Studies and At Some Distance (ASD) Courses (48 credits)

Students in the pre-PA concentration must complete the 48 credits in General Studies (32 credits) and At Some Distance (16 credits) required for all undergraduate programs at Stockton.

Table 1. Curricular Map for the pre-PA Concentration

<b>FIRST YEAR - FALL</b>	<b>Credit</b>	<b>FIRST YEAR - SPRING</b>	<b>Credit</b>
<b>Course load</b>	<b>17</b>	<b>Course load</b>	<b>17</b>
<b>Subject:</b> FRST, GAH, GEN, GNM, or GSS <b>Optional Attribute:</b> First Year Seminar	<b>4</b>	<b>Subject:</b> FRST, GAH, GEN, GNM, GSS, or ASD <b>Attribute:</b> A, H, I, and/or R	<b>4</b>
<b>Subject:</b> FRST, GAH, GEN, GNM, or GSS Suggestions: GEN 2240 or GSS 2121 <b>Attribute:</b> W1	<b>4</b>	Math 1100 – Precalculus (Q1)	<b>4</b>
HLTH 1101 – Introduction to Health Sciences	<b>4</b>	HLTH 1241 – Medical Terminology for Health	<b>4</b>
CHEM 2110/15 – Chemistry I / Chem I Lab (Q2)	<b>5</b>	CHEM 2120/25 – Chemistry II / Chem II Lab (Q2)	<b>5</b>

<b>SECOND YEAR - FALL</b>	<b>Credit</b>	<b>SECOND YEAR - SPRING</b>	<b>Credit</b>
<b>Course load</b>	<b>17</b>	<b>Course load</b>	<b>17</b>
<b>Subject:</b> GAH, GEN, GNM, GSS, or ASD <b>Attribute:</b> W2, A, H, I, and/or R	<b>4</b>	<b>Subject:</b> GAH, GEN, GNM, GSS, or ASD <b>Attribute:</b> W2, A, H, I, and/or R	<b>4</b>
<b>Subject:</b> FRST, GAH, GEN, GNM, GSS, or ASD <b>Attribute:</b> W2, A, H, I, and/or R	<b>4</b>	PSYC 1100 – Introduction to Psychology	<b>4</b>
HLTH 2305 – Stats for Health Professionals or equivalent (Q1)	<b>4</b>	HLTH 2411 – Informatics for the Health Sciences	<b>4</b>
BIOL 1200/05 – Cells and Molecules / Bio I Lab	<b>5</b>	BIOL 1400/05 – Biodiversity & Evolution / Bio II Lab	<b>5</b>

<b>THIRD YEAR - FALL</b>	<b>Credit</b>	<b>THIRD YEAR - SPRING</b>	<b>Credit</b>
<b>Course load</b>	<b>16</b>	<b>Course load</b>	<b>16</b>
<b>Subject:</b> GAH, GEN, GNM, GSS, or ASD <b>Attribute:</b> W2, A, H, I, and/or R	<b>4</b>	<b>Subject:</b> GAH, GEN, GNM, GSS, or ASD <b>Attribute:</b> W2, A, H, I, and/or R	<b>4</b>
<b>Subject:</b> GAH, GEN, GNM, GSS, or ASD <b>Attribute:</b> W2, A, H, I, and/or R	<b>4</b>	HLTH 3411 – Writing and Editing for HP (W1)	<b>4</b>
HLTH 2501 – Ethics & Teamwork in Healthcare (V)	<b>4</b>	BIOL 2150 – Principles of Physiology with Lab <b>OR</b> BIOL 2260 A&P II for HLTH Science w/Lab	<b>4</b>
BIOL 2180 – Human Anatomy with Lab <b>OR</b> BIOL 1260 A&P I for HLTH Science w/Lab	<b>4</b>	BIOL 2110/2115 - Genetics/Genetics Lab	<b>4</b>

<b>FOURTH YEAR - FALL</b>	<b>Credit</b>	<b>FOURTH YEAR - SPRING</b>	<b>Credit</b>
<b>Course load</b>	<b>16</b>	<b>Course load</b>	<b>12</b>
<b>Subject:</b> GAH, GEN, GNM, GSS, or ASD <b>Attribute:</b> W2, A, H, I, and/or R	<b>4</b>	<b>Subject:</b> GIS <b>Attribute:</b> W2, A, H, I, and/or R	<b>4</b>
<b>Subject:</b> GAH, GEN, GNM, GSS, or ASD <b>Attribute:</b> W2, A, H, I, and/or R	<b>4</b>	HLTH 4200 – Research for the Health Sciences (W2/Q2)	<b>4</b>
CHEM 3250 - Biochemistry	<b>4</b>	BIOL 3020 Microbiology for Health Science <b>OR</b> BIOL 3170 Microbiology with Lab	<b>4</b>
Upper level BIOL course	<b>4</b>		

### III. BSHS, Pre-PA Concentration Program Vision, Mission, Philosophy, Goals, SLO, and ELO Alignment

The Bachelor of Science in Health Science Degree (BSHS) is philosophically aligned with the missions and strategic plans of the University and the School of Health Sciences. Students in the BSHS Program develop the skills needed for the continuous learning and critical thinking that are required throughout the rapidly changing healthcare industry.

#### ***Bachelor of Science in Health Science (BSHS)***

- A. Vision:** To become the regional academic model for pre-health professional education and to inspire the practice of interprofessional collaboration and clinical excellence across the learning continuum.
- B. Mission:** The mission of the BSHS Program is to provide a quality, contemporary, pre-health professional education for students who desire careers in the healthcare system. The curricular underpinning provided by the Core Competencies for Interprofessional Collaborative Practice<sup>1</sup> provides the foundational learning continuum for interprofessional competency development across the healthcare professions and the lifelong learning trajectory.
- C. Philosophy:** The BSHS Program supports the development of critical thinking, communication, and interpersonal skills; the development and integration of personal, and professional, values and ethics; and the development of a deep understanding of healthcare provider roles and responsibilities. Each student is a unique person with differing value systems, motivations, life experiences, and knowledge. Students are supported in the development of individualized educational goals and are held accountable for meeting them. The faculty of the BSHS Program aspires to operationalize the Program philosophy through the creation of learning environments where the principles of Interprofessional Education (IPE) are fostered. The faculty believes that successful learning is a shared experience and that students must be committed, active participants in the educational process.
- D. Program Goals:** The primary goal of the BSHS Program is to prepare graduates for a range of career options, from entry-level positions in the healthcare field to entry into graduate or professional programs leading to identified careers. Graduates will contribute to optimal healthcare outcomes as they participate in meeting society's 21<sup>st</sup>-century healthcare needs.

The BSHS Program courses are built upon four major IPE programmatic themes, namely: Values/Ethics, Roles/Responsibilities, Communication, and Teams/Teamwork<sup>1</sup>. In addition, the concepts of integrative health and wellness are utilized throughout the program to link and operationalize the IPE themes. These themes conceptually synthesize the progression of program outcomes throughout the BSHS curriculum. Program outcomes are congruent with the themes presented in the *Core Competencies of Interprofessional Collaborative Practice*<sup>1</sup>. From these core themes/competencies the following desired principles are integrated throughout the program, they include:

1. Patient/family centered.
2. Community/population oriented.
3. Relationship focused.
4. Process-oriented.
5. Able to integrate across the learning continuum.

6. Sensitive to systems context/applicable across practice settings.
7. Applicable across professions.
8. Stated in a language common and meaningful across professions.
9. Outcome driven.
10. Linked to learning activities and educational strategies appropriate to the learner.

**E. Program Student's Learning Outcomes:**

At the completion of the BSHS Program, students will be able to:

1. Analyze the impact the Core Competencies for Interprofessional Collaborative Practice (ICCP) have on health care.
2. Describe integrative health and wellness practices.
3. Analyze the U.S. Healthcare System and its impact on healthcare access, quality, and outcomes.
4. Evaluate the influence of values and ethics on healthcare practice and research.
5. Demonstrate the ability to locate, critically evaluate, analyze, and use information to solve problems or to produce an argument.
6. Demonstrate effective oral and written communication skills.
7. Demonstrate skills in teamwork and collaboration.
8. Utilize statistical analyses and health data management technologies.
9. Examine the influence of health determinants and other factors on health equity.
10. Demonstrate sound foundational knowledge of human body systems.

<sup>1</sup> Interprofessional Education Collaborative Expert Panel. (2016). *Core competencies for interprofessional collaborative practice: 2016 Update*. Washington, D.C.: Interprofessional Education Collaborative.

**F. BSHS Program's Student Learning Outcomes and University ELO's**

Table 2 shows the mapping and alignment of the BSHS program's Student Learning Outcomes (SLO) and the university's Essential Learning Outcomes (ELOs). The alignment of these two demonstrates the BSHS program's support for institutional priorities. While no one course meets all the SLOs or ELOs, in the aggregate, the program exposes students to all of them at least once, but most of them, several times. Further, BSHS students are further exposed to most ELOs through General Studies and at some distance (ASD) courses, complementing the education they get from the program; therefore, helping them move from "aware" to "competent" and from "competent" to "skilled" by graduation.

Table 2. Alignment of Program’s Student Learning Outcomes and University ELO’s

	BSHS Core Program Courses							
PO:P = Program Outcome Partial Completion PO: X = Program Outcome Completion  Adapting to Change (AC) Communication Skills (CS) Creativity & Innovation (CI) Critical Thinking (CT) Ethical Reasoning (ER) Global Awareness (GA) Information Literacy & Research Skills (IL) Program Competence (PC) Quantitative Reasoning (QR) Teamwork & Collaboration (TC)  Levels: 1 = Aware 2 = Competent 3 = Skilled	<b>HLTH 1101</b> Introduction to Health Science	<b>HLTH 1241</b> Medical Terminology	<b>BIOL 1260 &amp; BIOL 2260</b> Anatomy & Physiology I & II w Lab OR <b>BIOL 2150 &amp; BIOL 2180</b> Human Anatomy & Physiology OR <b>HLTH 2221</b> Functional Human Anatomy	<b>HLTH 2305</b> Statistics	<b>HLTH 2411</b> Informatics	<b>HLTH 2501</b> Ethics & Teamwork	<b>HLTH 3411</b> Writing & Editing	<b>HLTH 4200</b> Research
<i>Program Outcome 1:</i> Analyze the impact the Core Competencies for Interprofessional Collaborative Practice (IPCP) have on health care.	<b>PO:P</b>  PC: 1	PC: 1			<b>PO:P</b>  PC: 1	<b>PO: X</b>  PC: 3		<b>PO:P</b>  PC: 3
<i>Program Outcome 2:</i> Describe integrative health and wellness practices.	<b>PO:P</b>  PC: 1	CS: 1 PC: 1	<b>PO:P</b>  CT: 1 IL: 1			<b>PO:X</b>  PC: 3		
<i>Program Outcome 3:</i> Analyze the U.S. Healthcare System and its impact on healthcare access, quality, and outcomes.	<b>PO:X</b>  PC: 1			<b>PO:P</b>  PC:1 CT: 1	<b>PO:P</b>  CT: 1 PC: 1	CT: 2 GA: 1 PC: 3		CT: 2 IL: 2
<i>Program Outcome 4:</i> Evaluate the influence of values and ethics on healthcare practice and research.	<b>PO: P</b>  ER: 1			<b>PO:P</b>  ER: 1 PC: 1		<b>PO:X</b>  CT: 2 ER: 2 PC: 3	ER: 2	<b>PO: P</b>  <b>CT 3</b> <b>ER 3</b>

<i>Program Outcome 5:</i> Demonstrate the ability to locate, critically evaluate, analyze, and use information to solve problems or to produce an argument.	<b>PO:P</b> IL: 1			<b>PO:P</b> CT: 2 PC: 2 QR: 2	<b>PO:P</b> CT: 2 IL: 2 PC: 2 QR: 1	<b>PO:P</b> CT: 2	<b>PO: P</b> CT: 2 IL: 2 PC: 2	<b>PO:X</b> CT: 3 IL: 3 PC: 3 QR: 2
<i>Program Outcome 6:</i> Demonstrate effective oral and written communication skills.	<b>PO: P</b> CS: 1	<b>PO:P</b> CS: 1 & 2		<b>PO:P</b> CS: 2 CT: 2 QR: 2		<b>PO:P</b> CS: 2 TC: 2	<b>PO:X</b> CS: 3 CT: 3 IL: 2	<b>PO:P</b> CS: 3 CT: 3
<i>Program Outcome 7:</i> Demonstrate skills in teamwork and collaboration.	<b>PO:P</b> TC: 1 PC: 1					<b>PO:X</b> CS: 2 TC: 3	<b>PO: P</b> CS: 2 TC: 2	<b>PO:P</b> TC: 3
<i>Program Outcome 8:</i> Utilize statistical analyses and health data management technologies.				<b>PO:X-S</b> PC: 3 IL: 2 QR:3	<b>PO:X-HDMT</b> CT: 2 ER: 1 IL: 2 PC: 2			<b>PO: P</b> CT: 3 IL: 3
<i>Program Outcome 9:</i> Examine the influence of health determinants and other factors on health equity.	<b>PO:P</b> ER: 1 PC: 1			<b>PO:P</b> PC:1		<b>PO:X</b> ER: 2 PC: 2		
<i>Program Outcome 10:</i> Demonstrate sound foundational knowledge of human body systems.		<b>PO: P</b> PC:1	<b>PO:X</b> PC: 3					

The BSHS program treats students as future healthcare professionals. As such, the program utilizes the ELOs most closely related to the skills healthcare professionals need to be effective clinicians. For example, clinical judgment relies heavily on Critical Thinking (CT), so this ELO is used heavily in the program. Similarly, Communication Skills (CS) are imperative for healthcare professionals to avoid human error and practice effectively. Finally, all healthcare professionals are required to use evidence-based practice; therefore, the BSHS program also relies on the Information Literacy & Research Skills (IL) ELO, so students learn how to access valid and reliable sources of information.



## IV. Program Assessment

### ***BSHS Program Assessment***

The BSHS program has several levels of assessment to maintain the high quality of the program, and to update the content of the program on an ongoing basis. The main assessment of the program happens through the Program's *Systematic Evaluation*; this evaluation assesses the Program's Student Learning Outcomes. Because the program utilizes so many adjuncts, each core course is monitored by a *course facilitator*. These course facilitators function as a point of contact for everyone teaching the course to maintain the flow of communication about updates and problems in the course. Finally, the program also has an Exit Survey to track the impact the program is having on the students after they graduate. All these assessments are used to update the curriculum and delivery of the program.

- 1. BSHS Program Systematic Evaluation:** The BSHS program adopted 10 Student Learning Outcomes (SLO). Two of those SLOs are assessed every semester in the core course in which the students are expected to master the outcome. This means the systematic evaluation has a five-and-a-half-year cycle to evaluate the 10 Student Learning Outcomes. The faculty teaching the course in which the outcome will be assessed, in collaboration with the BSHS Assessment Committee and designated Course Facilitator, decide on the method to assess the outcome. For example, the evaluation will be performed by extracting data from a project or by adding an item to the final examination.
- 2. Course Facilitators:** As part of their agreed duties, each *course facilitator* conducts an informal assessment among all the instructors teaching their designated course through regular discussions about the course to highlight successes and to propose any recommended changes. The Course Facilitator reports any recommendations to the Curriculum Committee.
- 3. BSHS Exit Survey:** The BSHS program conducts an *exit survey* at the end of the Fall and Spring semesters. The purpose of this survey is two-fold: 1) to retain permanent contact information so the graduating students can be contacted in the future, and 2) to assess how well the program was able to help them meet their goals. For example, we ask them if they applied to a graduate program and if they were accepted, among other questions about their career plans. This data is supplemented with data from the National Clearinghouse, so we have a long-term picture of how many of our students are going to professional/graduate programs, and their success in graduating from those programs.

## V. Conclusion

The mission of the BSHS Program is to provide a quality, contemporary, pre-health professional education for students who desire careers in the healthcare system. Graduate programs in the health professions are competitive and require a significant number of prerequisite courses before students can apply to them. The proposed pre-Physician Assistant concentration is designed to allow the students to complete the most frequently required prerequisite courses in the Physician Assistant programs in the region, at the same time they complete the Bachelor of Science in Health Science. Also, this concentration may be a useful tool to attract students interested in the Physician Assistant profession to complete their undergraduate degree at Stockton University.