



STEM Renaissance Pathway Brief

Pre-Healthcare & Pre-Veterinary



AN INITIATIVE OF  **LDOE**

Pre-Healthcare & Pre-Veterinary

The Louisiana pre-healthcare and pre-veterinary pathway provides a program for both TOPS University and TOPS Tech diploma-seeking high school students. Through hands-on projects and interaction with industry professionals, the curriculum prepares students to compete in the modern and future workscape. Students gain an understanding of fundamental STEM practices and the careers of the medical or veterinary fields. Students practice key skills like teamwork, oral and written technical communication, developing work ethic practices that mirror those of the profession all while mastering content knowledge. Students are exposed to a range of careers that allow them to see opportunities for just out of school employment to advanced degrees.

College and Career Connections

Finding high-wage career opportunities directly out of high school can be challenging. It typically requires advanced capstone credentials accompanied by work experience and/or apprenticeships in the field of study.

High School to Career	Community/ technical College to Career	University to Career
Animal Control Officer Emergency Medical Responder (EMR) Medical Data Entry Clerk Veterinary Technician	Certified Nurse Assistant (CNA) Emergency Medical Technician (EMT) / Paramedic Pharmacy Technician X-ray/ Ultrasound Technician	Nurse (RN)/ Nurse Anesthetist Medical Doctor (MD) Pharmacist Veterinarian

****The STEM Renaissance Pathways must be used for students entering grade 9 in the 2024-2025 school year and future cohorts. The archived Louisiana STEM Pathway briefs must be followed for students in grades 10, 11, and 12 in the 2024-2025 school year. Email STEM@la.gov with any questions.**

Universal Documents

[STEM Pathways](#)

[CDF Eligible Courses](#)

[Jump Start Funding](#)

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Capstone Credentials

In order to graduate, Jump Start students must earn at least one credential from the options below.

*Please contact the individual providers to confirm if provider specific courses are structured to offer the credential.

INDUSTRY BASED CREDENTIALS: Depending on student course completion	
Certified Patient Care Technician/ Assistant	Emergency Medical Technician (EMT)
Certified Nurse Aide	Pharmacist Technician Certification (PTCE)
Emergency Medical Responder (EMR)	Pharmacist Technician Certification (ExCPT)

Xavier University of Louisiana's Pre-Pharmacy Studies Certificate

All students who pass the *Survey of Pharmacy (Xavier Partnership) 090011*, attain a Silver Pre-Healthcare Diploma Seal, and successfully complete an approved *Xavier University Summer Experience* are eligible for this certificate. For information on the *Xavier University Summer Experience* or this certificate please contact STEM@la.gov.

STEM Renaissance Pre-Healthcare & Pre-Veterinary Pathway Structure

To earn the **Silver STEM Diploma Seal** students *must* pass one course from each of the four following concentration areas: an Introductory Biomedical course, an Anatomy course, an Introductory Focus Area course, and a Silver Level Focal course. (These course options are listed on the following chart.)

To earn the **Gold STEM Diploma Seal** students *must* complete the requirements for the Silver STEM Diploma Seal, pass three Pre-Healthcare/ Pre-Veterinary courses, and pass an additional Math or Science course. (These course options are listed on the following chart.)

To complete the **TOPS Tech Diploma** students *must* complete the Gold STEM Diploma Seal requirements and one course from the approved Career Readiness Course list.

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Pre-Healthcare & Pre-Veterinary STEM Pathway Course Options

Concentration Area	Course Code	Course Title	Carnegie Credits
To earn the Silver STEM Diploma Seal students <i>must</i> pass one course from each of the four following concentration areas: an Introductory Biomedical course, an Anatomy course, an Introductory Focus Area course, and a Silver Level Focal course.			
Introductory Biomedical Course (Select 1)	090811	Intro to Biomedical Sciences (LSU Partnership) OR	1
	090809	PLTW Principles of Biomedical Sciences	1
Focus 1: Anatomy Course (Select 1)	312095	Comparative Anatomy and Physiology (LSU Partnership) OR	1
	150306	Human Anatomy and Physiology OR	1
	090819	PLTW Human Body Physiology	1
Focus 2: Introductory Content Focus Course (select 1)	312096	Forensic Science (LSU Partnership) OR	1
	090829	PLTW Medical Interventions OR	1
	090011	Survey of Pharmacy (Xavier Partnership) OR	1
	010390	Veterinary Assistant	1
Focus 3:Content Area Focal Course (Select 1)	222004	AP Psychology OR	1
	010475	CASE (Curriculum For Agri and Sc Ed) Animal Science OR	1
	010474	CASE (Curriculum For Agri and Sc Ed) Plant Science OR	1
	080532	Data Manipulation and Analysis (LSU Partnership) OR	1
	225011	Introduction to Psychology DE OR	1
	090151	Medical Terminology OR	1
	090808	PLTW Biomedical Innovations	1

Additional Course Options	Course Code	Course Title	Carnegie Credits
To earn the Gold STEM Diploma Seal students <u>must</u> complete the requirements for the Silver STEM Diploma Seal, pass three Pre-Healthcare/ Pre-Veterinary courses, and pass an additional Math or Science course.			
Pre-Healthcare & Pre- Veterinary Course Options (Select 3)* *Course options continue on the next page.	090530	Advanced CPT Coding OR	1
	150330	Anatomy: DE - C BIO 2213 Human Anatomy and Physiology I OR	1
	150331	Anatomy: DE - C BIO 2214 Human Anatomy and Physiology I (Lec/Lab) OR	1
	150332	Anatomy: DE - C BIO 2223 Human Anatomy and Physiology II OR	1
	150333	Anatomy: DE - C BIO 2224 Human Anatomy and Physiology II (Lec/Lab) OR	1
	155010	Allied Health Science OR	1
	061177	AP Computer Science A OR	1
	061175	AP Computer Science Principles OR	1
	222004	AP Psychology OR	1
	090520	Basic CPT Coding OR	1
	090813	Bioinformatics (LSU Partnership) OR	1
	090812	Biomedical Capstone (LSU Partnership) OR	1
	010475	CASE (Curriculum For Agri and Sc Ed) Animal Science OR	1
	010474	CASE (Curriculum For Agri and Sc Ed) Plant Science OR	1
	080532	Data Manipulation and Analysis (LSU Partnership) OR	1
	090311	Dental Assistant I OR	1
	090312	Dental Assistant II OR	1
	090473	EKG I OR	1
	090474	EKG II OR	1
	090943	Emergency Medical Technician Basic (EMT) OR	1
	312096	Forensic Science (LSU Partnership) OR	1
	090471	Introduction to Emergency Medical Technology OR	1
	225011	Introduction to Psychology DE OR	1
090251	Medical Assistant I OR	1	

Pre-Healthcare/ Pre-Veterinary Elective Course Options Continued

090451	Medical Assistant II OR	1
090461	Medical assistant III OR	1
090151	Medical Terminology) OR	1
090009	Pharmacy Technician OR	1
090022	Phlebotomy OR	1
090570	Professional Practice Medical Coding I OR	1
090571	Professional Practice Medical Coding II OR	1
090808	PLTW Biomedical Innovations OR	1
090829	PLTW Medical Interventions OR	1
010375	Small animal Care and Management OR	1
090011	Survey of Pharmacy (Xavier University Partnership) OR	1
010390	Veterinary Assistant I OR	
010391	Veterinary Assistant II	1

Math OR Science course students should select ONE course option.

Math OR Science course (select 1)

160347	Advanced Math- Functions and Statistics OR	1
160346	Advanced Math- Pre-Calculus OR	1
160501	Advanced Math-Pre-Calculus: DE-CMAT 1223 Trigonometry OR	1
150307	Biology II: AP Biology OR	1
160327	AP Calculus AB OR	1
160328	AP Calculus BC OR	1
150410	AP Chemistry OR	1
150311	AP Environmental Science OR	1
150794	AP Physics C: Electricity and Magnetism OR	1
150795	AP Physics C: Mechanics OR	1
150724	Physics I: AP Physics I- Algebra Based OR	1
150725	Physics: AP Physics II- Calculus Based OR	1
222004	AP Psychology OR	1
160352	AP Statistics OR	1

Math OR Science course options continued.		
150321	Biology: DE CBIO 1013 General Biology I OR	1
150322	Biology I: DE CBIO 1033 General Biology I (Science Majors) OR	1
150302	Biology II OR	1
150324	Biology II: DE CBIO 1033 General Biology I (Science Majors) OR	1
150326	Biology II: DE CBIO 1043 General Biology II (Science Majors) OR	1
149995	Biology II: DE CBIO 2103 Microbiology OR	1
160506	Calculus DE CMAT 2113-5 Calculus I OR	1
160507	Calculus DE CMAT 2123-5 Calculus II OR	1
150414	Chemistry I: DE CCEM 1103 Chemistry I OR	1
150322	Chemistry I: DE CCEM 1123 General Chemistry I (Science Majors) OR	1
150402	Chemistry II OR	1
150420	Chemistry II: DE CCEM 1123 General Chemistry II (Science Majors) OR	1
150422	Chemistry II: DE CCEM 1133 General Chemistry II (Science Majors) OR	1
150914	Environmental Science DE- CEVS 1103 OR	1
225011	Introduction to Psychology CPSY 2013 OR	1
150726	Physics I: DE CPHY 2113 Physics I (Algebra/Trig Based) OR	1
150728	Physics I: DE CPHY 2113 Physics I (Calculus Based) OR	1
150701	Physics II OR	1
160348	Pre-Calculus OR	1
160349	Probability and Statistics OR	1
160356	Probability and Statistics: DE CMAT 1303 OR	1
222001	Psychology	1

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