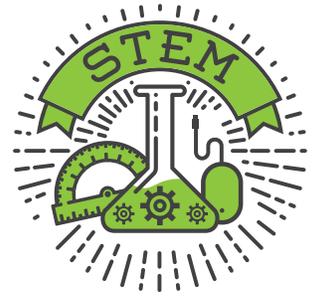


STEM PATHWAY BRIEF

LSU PRE-ENGINEERING



OVERVIEW

The [LSU Pre-Engineering Certification Pathway](#) provides a pre-engineering 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 21st century by engaging them in understanding the fundamentals of engineering in the classroom as well as in the workplace. Students will understand the careers available to them in the field of engineering as well as learn key skills such as teamwork, oral and written technical communication, and work ethic that will serve them well whether they pursue an advanced degree or immediately join the workforce.

College Ready	Career Ready
<ul style="list-style-type: none">• Aerospace Engineering• Biological Engineering• Chemical Engineering• Civil Engineering• Computer Engineering• Computer Science• Construction Management• Electrical Engineering• Environmental Engineering• Industrial Engineering• Mechanical Engineering• Petroleum Engineering	<ul style="list-style-type: none">• Mechanical Drafter• Mechanical Engineering Technician• Architectural and Civil Drafter• Surveying and Mapping Technicians• Computer Programmer

CREDENTIALS INCLUDED

All students who successfully complete the four required courses, including Engineering Design and Development, within the pathway will be prepared to attain Autodesk Inventor Certified User Advanced (Statewide Advanced IBC).

STEM DIPLOMA SEALS

GOLD SEAL

Students who successfully complete the four required courses and four courses from the Additional Course list will earn a Gold STEM Diploma Seal.

SILVER SEAL

Students who successfully complete the four required courses will earn a Silver STEM Diploma Seal.

STEM PATHWAY

CORE COURSES:



Required Courses (4)			
Course Title	Course Code	Carnegie Credits	5-Point Scale
Intro to Engineering Design (LSU Partnership)	110801	1	
Intro to Computational Thinking for STEM (LSU Partnership)	061140	1	
Robotics (LSU Partnership)	150780	1	
Engineering Design and Development (LSU Partnership) OR	110861	1	
Principles of Engineering (LSU Partnership)	110864	1	
Additional Courses (choose an additional 4)			
Course Title	Course Code(s)	Carnegie Credits	5-Point Scale
Engineering Economy (LSU Partnership)	144200	1	
Principles of Engineering (LSU Partnership)	110864	1	
Engineering Design & Development (LSU Partnership)	110861	1	
Programming for Engineers (LSU Partnership)	144300	1	
Data Manipulation and Analysis (LSU Partnership)	080532	1	
Robotics: Advanced (LSU Partnership)	150731	1	
AP Calculus AB OR	160327	1	✓
Calculus: DE CMAT 2113-5 Calculus 1	160506	1	✓
AP Calculus BC OR	160328	1	✓
Calculus: DE CMAT 2125-5 Calculus 2	160507	1	✓
Statistical Reasoning OR	165031	1	
AP Statistics	160352	1	✓
AP Computer Science Principles	061177	1	
AP Computer Science A	061175	1	✓
Biology II OR	150302	1	
Biology II: AP Biology OR	150307	1	✓
Biology: DE - CBIO 1013 General Biology I OR	150321	1	✓
Biology I/II: DE CBIO 1033 General Biology I (Sci Majors)	150322/150324	1	✓
Biology II: DE CBIO 1043 General Biology II (Sci Majors)	150326	1	✓
Chemistry II OR	150402	1	
AP Chemistry OR	150410	1	✓
Chemistry I: DE - CCEM 1103 Chemistry I OR	150321	1	✓
Chemistry I/II: DE CCEM 1123 General Chemistry I (Sci Majors)	150322/150324	1	✓
Chemistry II: DE CCEM 1133 General Chemistry II (Sci Majors)	150422	1	✓
AP Physics I OR	50724	1	✓
AP Physics II OR	50725	1	✓
AP Physics C: Elec OR	50794	1	✓
AP Physics C: Mec OR	50795	1	✓
Physics I: DE CPHY 2113 Physics I (Algebra/Trig Based) OR	50726	1	✓
Physics I: DE CPHY 2133 Physics I (Caclulus Based)	50728	1	✓
Environmental Science OR	150310	1	
AP Environmental Science	150311	1	✓
For Jump Start Tops Tech Diploma: Required Career Readiness Courses (1)			
Course Title	Course Code(s)	Carnegie Credits	5-Point Scale
Intro to STEM Pathways and Careers: LSU Partnership	061139	1	
Quest for Success	080411	1	
Agriscience I	010301	1	
Jobs for America's Graduates I	042010	1	
General Technology Education (Introduction to Skilled Crafts)	110010	1	
Introduction to Health Occupations	090029 OR 090930	1	

*Course counts on a 4-point scale

For full Pathway information, visit the [JumpStart graduation pathway page](#).

UNIVERSAL DOCUMENTS

[CDF ELIGIBLE COURSES](#) • [JUMP START FUNDING](#) • [UNIVERSAL COURSE CODES](#)