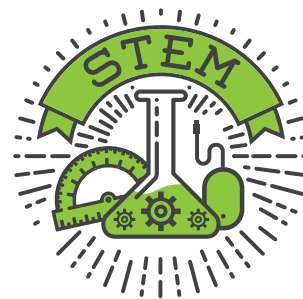


# STEM PATHWAY BRIEF

## LSU COMPUTING



### OVERVIEW

The [LSU Computing Certification Pathway](#) provides a computer science, computational thinking and computational science program for both TOPS University and TOPS Tech diploma-seeking students. Through hands on projects, the curriculum prepares students to compete in the 21st century job market by engaging them in understanding the fundamentals of computing. Students will be able to apply computational thinking techniques in many different STEM disciplines and demonstrate proficiency in computing in many settings, such as explain the implications of the use of technology in social interactions, advice on how to protect systems from possible cyberattacks, and create interactive Web sites and applications. Students will also understand the careers available to them in the field of computing 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 AND CAREER CONNECTIONS

College Ready	Career Ready
<ul style="list-style-type: none"> <li>• Artificial Intelligence Specialist</li> <li>• Computer Engineer</li> <li>• Computer Network Architect</li> <li>• Computer Scientist</li> <li>• Computer Software Engineer</li> <li>• Computer Systems Analyst</li> <li>• Computer Vision Software Engineer</li> <li>• Consultant-Forensics Cybersecurity Researcher</li> <li>• Cyber Security Engineer</li> <li>• Database Administrator</li> </ul>	<ul style="list-style-type: none"> <li>• Data Scientist</li> <li>• Information Security Analyst</li> <li>• Information Systems &amp; Decision Science</li> <li>• Machine Learning Specialist</li> <li>• Network and Computer Systems Administrator</li> <li>• Management Information Systems</li> <li>• Secure Software Engineer</li> <li>• Software Developer, Applications</li> <li>• Software Developer, Systems Software</li> <li>• Robotics Software Engineer</li> </ul>
	<ul style="list-style-type: none"> <li>• Audio/visual Support Specialist</li> <li>• Info Security Analyst</li> <li>• IT Security Analyst</li> <li>• IT Tech Support Analyst</li> <li>• IT Tech Support Specialist</li> <li>• Computer and Information Systems Assistant</li> <li>• Computer Network Support Specialist</li> <li>• Computer Programmer</li> <li>• Computer Support Specialist</li> <li>• Computer User Support Specialist</li> <li>• Computer Vision Software Engineer</li> <li>• Cyber Security Specialist</li> <li>• Data Security Analyst</li> <li>• Junior Computer Programmer</li> <li>• Junior Web Designer</li> <li>• Web Designer</li> </ul>

### STATEWIDE CREDENTIALS INCLUDED

- The **Computing and Computer Science - LSU Partnership Regional Core Credential** will be issued to students who successfully complete the full LSU endorsed pathway
- *CIW Network Technology Associate* **Basic**
- *CIW JavaScript Specialist* **Basic**
- *CIW Database Design Specialist* **Basic**
- *CIW Web Security Specialist* **Basic**
- *CompTIA A+ Certification* **Basic**
- *CompTIA Fundamentals* **Basic**
- *Network+ Certification* **Basic**
- *Security+* **Basic**
- *Operation Spark Fundamentals of JavaScript, Functional Programming and Web Development (Level 1)* **Basic**

### STEM DIPLOMA SEALS




#### GOLD SEAL

Students will earn a Gold STEM Diploma Seal by satisfying the requirements for a Silver STEM Diploma Seal and completing four additional courses from the Qualifying Course list.

#### SILVER SEAL

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

# STEM PATHWAY

Required Courses (4)					
Course Title	Course Code	Carnegie Credits	CTE 6%	CDF 6%	5-Point Scale
Intro to Computational Thinking (LSU Partnership)	061140	1	✓	✓	
<b>Programming Core:</b> Data Manipulation and Analysis (LSU Partnership) <b>OR</b> Programming for STEM/Engineering (LSU Partnership)	080532	1	✓	✓	
	144300	1	✓	✓	
<b>Networks and Society Core:</b> Cybersecurity (LSU Partnership) <b>OR</b> AP Computer Science Principles	040217	1	✓	✓	
	061177	1	✓	✓	
<b>Applications of Computing Core:</b> Survey of Computer Science (LSU Partnership) <b>OR</b> Interactive Computing (LSU Partnership)	061179	1	✓	✓	
	061180	1	✓	✓	
Additional Courses (choose 4)					
Course Title	Course Code(s)	Carnegie Credits	CTE 6%	CDF 6%	5-Point Scale
AP Computer Science Principles	061177	1	✓	✓	
Programming for Engineering (LSU Partnership)	144300	1	✓	✓	
Interactive Computing (LSU Partnership)	061180	1	✓	✓	
Data Manipulation and Analysis (LSU Partnership)	080532	1	✓	✓	
Cybersecurity (LSU Partnership)	040217	1	✓	✓	
AP Computer Science A 	061175	1	✓	✓	✓
Computer Science I	061102	1	✓		
Robotics (LSU Partnership)	150780	1	✓	✓	
Coding for the Web (LSU Partnership)	040244	1	✓	✓	
Programming Digital Media (LSU Partnership)	040243	1	✓	✓	
Video Game Design (LSU Partnership)	080022	1	✓	✓	
Bioinformatics (LSU Partnership)	090813	1	✓	✓	
AP Calculus (AB <b>OR</b> BC) 	AB 160327	1			✓
	BC 160328	1			✓
Statistical Reasoning <b>OR</b> AP Statistics 	Statistical Reasoning 165031	1			
	AP Statistics 160352	1			✓
AP Physics I, AP Physics II, AP Physics C: Elective, <b>OR</b> AP Physics C: Mechanics 	AP Physics I 150724	1			✓
	AP Physics II 150725	1			✓
	AP Physics C: Elec 150794	1			✓
	AP Physics C: Mec 150795	1			✓
Introduction to Programming	080500	1	✓		
CIW Network Security	061121	1	✓	✓	
Java Programming	080521	1	✓	✓	
COMP TIA+ Networking Fundamentals†	061122	1	✓	✓	
COMP TIA+ Fundamentals of Computer Installation and Configuration	061130	1	✓	✓	
COMPTIA+ Programming with PL/SQL	061127	1	✓	✓	
Robotics Beginner	150723	1			
Fundamentals of HTML, CSS, & Javascript	080523	1	✓	✓	
Computer Systems/Networking I	061112	1	✓		
Computer Service Technology I	310818	1	✓		
Computer Service Technology II	310819	1	✓		

**For Jump Start Tops Tech Diploma: Required Career Readiness Courses (1)**

Course Title	Course Code(s)	Carnegie Credits	CTE 6%	CDF 6%	5-Point Scale
Quest for Success	080411	1	✓	✓	
Agriscience I	010301	1	✓		
Jobs for America's Graduates I	042919	1	✓	✓	

*DE: Dual Enrollment, AP: Advanced Placement*

**CORE COURSES:**  **MATH**  **SCIENCE**