







S.T.E.M.

Science, Technology, Engineering Mathematics

Calcasieu Parish Career & Technical Education

What are STEM Fields?

-  Natural, physical, and life sciences (sometimes including medicine)
-  Computer, electronics, and other technology-related disciplines
-  All types of engineering
-  Mathematics, or any field involving a heavy application of mathematical principles

Programs of Study



Careers in the Science Technology Engineering and Math cluster relate to planning, managing and providing scientific research and professional and technical services such as laboratory and testing services, and research and development services.

What's the Role of STEM Careers?

- STEM workers are employed by diverse industries, such as healthcare, manufacturing, telecommunications, construction, and agriculture.
- Technologies developed by STEM workers include smartphones and online shopping, climate change research and space exploration, along with life-saving innovations like cancer treatments and Alzheimer's research.
- Sample STEM work settings include laboratories where scientists develop pharmaceuticals, biofuels; home offices for IT workers designing websites; and construction jobsites for engineers.
- Universities and employers are recruiting more women and people of color to choose STEM-related college majors and workplaces.

Additional Courses - Select 4

AP Computer Science A (061175)

AP Calculus AB (160327)

Calculus: DE CMAT 2113-5 Calculus I (160506)

AP Calculus BC (160328)

Calculus: DE CMAT 2125-5 Calculus II (160507)

Statistical Reasoning (165031)

Probability and Statistics: DE CMAT 1303 Introductory Statistics (160356)

AP Statistics (160352)

Biology II (150302)

Biology II: AP Biology (150307)

Biology: DE - CBIO 1013 General Biology I (150321)

Chemistry II (150402)

AP Chemistry (150410)

Chemistry I: DE-CCEM 1103 Chemistry I (150414)

Physics I: DE CPHY 2113 Physics (Algebra/Trig Based)(150726)

Physics I: DE CPHY 2133 Physics I (Calculus Based)(150728)



2023-2024



STEM Pathway: Biomedical Sciences

Available at:

All High Schools

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|--|---|
| Advanced Credential 150 SPS Points Rigor Level 3 | Emergency Medical Technician (EMT) |
| Basic State Credential 110 SPS Points Rigor Level 2 | Certified Nurse Aide (CNA) Emergency Medical Responder (EMR) |

Required Courses

Intro to Biomedical Sciences (090811)

Introduction to Computational Thinking (061140)

Comparative Anatomy & Physiology (312095)

Data Manipulation and Analysis (080532)

Credential Courses (in addition to pathway coursework)

Emergency Medical Tech (090943)

Emergency Medical Responder (090711)**/****

* Courses taken for core requirements cannot be used for pathway

** Course offered at College Street or Westlake T&I

*** Course offered at Washington Marion

**** Course offered at Sulphur High

***** Course offered at Sulphur, Barbe, Vinton & DeQuincy



2023-2024



STEM Pathway: Computing

Available at:

VIP

| | |
|---|--|
| Advanced Credential 150 SPS Points Rigor Level 3 | CompTIA Fundamentals |
| STEM Diploma Seals | Silver Seal - Successfully complete the four required courses. |
| | Gold Seal - Satisfy the requirements for a Silver Seal and four additional courses from the Qualifying Course List. |

Requirements for Silver Seal

Introduction to Computational Thinking (061140)

Data Manipulation and Analysis (080532)

Cybersecurity (040217)

Survey of Computer Science (061179) **OR** Interactive Computing (061180)

* Courses taken for core requirements cannot be used for pathway credits.

** Course offered at College Street or Westlake T&I

*** Course offered at Washington Marion

**** Course offered at Sulphur High

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Gold Seal Coursework - Select 4

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Calculus: DE CMAT 2113-5 Calculus I (160506)

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Chemistry I: DE-CCEM 1103 Chemistry I (150414)

Physics I: DE CPHY 2113 Physics (Algebra/Trig Based)(150726)

Physics I: DE CPHY 2133 Physics I (Calculus Based)(150728)



STEM Pathway: Pre-Engineering

Available at:

Iowa, Sulphur, VIP

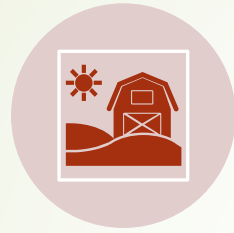
- AP Computer Science A (061175)
- Data Manipulation and Analysis (080532)
- AP Calculus AB (160327)
- Calculus: DE CMAT 2113-5 Calculus I (160506)
- AP Calculus BC (160328)
- Calculus: DE CMAT 2125-5 Calculus II (160507)
- Statistical Reasoning (165031)
- Probability and Statistics: DE CMAT 1303 Introductory Statistics (160356)
- AP Statistics (160352)
- Biology II (150302)
- Biology II: AP Biology (150307)
- Biology: DE - CBIO 1013 General Biology I (150321)
- Chemistry II (150402)
- AP Chemistry (150410)
- Chemistry I: DE-CCEM 1103 Chemistry I (150414)
- Physics I: DE CPHY 2113 Physics (Algebra/Trig Based)(150726)
- Physics I: DE CPHY 2133 Physics I (Calculus Based)(150728)
- Environmental Science (150310)
- AP Environmental Science (150311)

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|---|--|
| Advanced Credential <i>150 SPS Points</i> <i>Rigor Level 3</i> | Autodesk Inventor Certified User |
| STEM Diploma Seals | Silver Seal - Successfully complete the four required courses. |
| | Gold Seal - Satisfy the requirements for a Silver Seal and four additional courses from the Qualifying Course List. |

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|---|
| Requirements for Silver Seal |
| Intro to Engineering Design (110801) Introduction to Computational Thinking (061140) Robotics (150780) Principles of Engineering (110864) OR AP Computer Science Principles (061177) |

- * Courses taken for core requirements cannot be used for pathway credits.
- ** Course offered at College Street or Westlake T&I
- *** Course offered at Washington Marion
- **** Course offered at Sulphur High
- ***** Course offered at Sulphur, Barbe, Vinton & DeQuincy

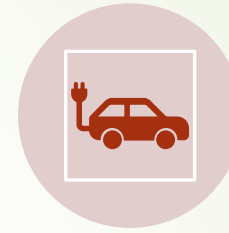
Local Business Opportunities: STEM



STEM TEACHER –
CHARTER SCHOOL



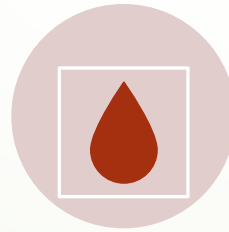
ENGINEER I –
CITY ENGINEER



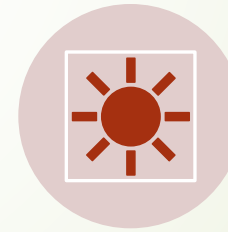
FIELD SERVICE
TECH/DIESEL MECHANIC -
JOHN DEERE



LABORATORY TECH
AMSPEC SERVICES



SCIENTIST
HYDROGEOLOGIST/
GEOLOGIST



CLINICAL LABORATORY
SCIENTIST II
CHRISTUS HEALTH

Additional Resources: S.T.E.M.



O*NET Online Career Cluster

<https://www.onetonline.org/find/career?c=15>

Career One Stop (video)

<https://www.careeronestop.org/Videos/IndustryVideos/science-technology-engineering-and-math-overview.aspx>

myFuture

<https://myfuture.com/career/science-technology-engineering-mathematics>

Louisiana Believes: Jump Start Brief

[STEM - Biomedical Science](#)

[STEM - Computing](#)

[STEM - Pre-Engineering](#)