

# SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS (STEM) ENDORSEMENT

A STEM endorsement can be earned by completing the foundation program general endorsement requirements including Algebra II, Chemistry, and Physics and either A, B, C, D, or E:

**A)** A coherent sequence of courses of four or more credits\* in CTE; consisting of at least two courses in the same career cluster; with at least one advanced CTE course. The final course in the sequence must be from the STEM career cluster

## CTE Courses – STEM Career Cluster

- Introduction to Engineering Design PLTW
- Princ. of Engineering PLTW
- Aerospace Engineering PLTW
- Civil Engineering & Architecture PLTW
- Computer Integrated Manufacturing PLTW
- Engineering Design and Development PLTW
- Digital Electronics v
- Principles of Applied Engineering
- Engineering Design and Presentation I
- AC / DC Electronics
- Engineering Design and Presentation II
- Robotics
- Solid State Electronics
- Robotics II & PBR Robotics
- Engineering Design & Problem Solving Science
- Engineering Math Math
- Practicum in STEM (3)
- Career Preparation (3)

**B)** A coherent sequence of four credits\* in computer science

## Computer Science Courses

- Fundamentals of Computer Science
- Computer Science I
- AP Computer Science
- Computer Science II
- Computer Science III

**C)** A total of five credits\* in mathematics by successfully completing Algebra I, Geometry, Algebra II and two additional mathematics courses for which Algebra II is the prerequisite

## Mathematics Courses

- Pre-Calculus
- AP Calculus AB
- AP Calculus BC
- AP Statistics
- Engineering Mathematics
- Independent Study in Mathematics
- Statistics and Risk Management
- AP Computer Science
- Dual Credit Mathematics
- Advanced Quantitative Reasoning

**D)** A total of five credits\* in science by successfully completing Biology, Chemistry, Physics, and two additional science courses

## Science Courses

- AP Biology
- AP Chemistry
- AP Physics I
- AP Physics II
- AP Physics C
- AP Environmental Science
- Aquatic Science
- Astronomy
- Earth & Space Science
- Anatomy & Physiology
- Environmental Systems
- Adv. Animal Science
- Adv. Plant & Soil Science
- Forensic Science
- Medical Microbiology (.5)
- Pathophysiology (.5)
- Principles of Technology
- Engineering Design & Problem Solving
- Principles of Engineering
- Food Science

**E)** A coherent sequence of three additional credits\* from no more than two areas listed in A, B, C, or D

\*Most courses are worth 1 credit. If a course is worth more or less than 1 credit, the numbers of credits is written in parentheses to the right of the course. The courses on this document are the courses currently available in Alief ISD. Course availability varies by campus. (Last revision -04/19/2018)

# BUSINESS & INDUSTRY ENDORSEMENT

A Business & Industry endorsement can be earned by completing the foundation program general endorsement requirements and either A, B, C, or D:

**A)** A coherent sequence of courses of four or more credits\* in CTE that consists of at least two courses in the same career cluster including at least one advanced CTE course. The final course in the sequence must be from one of the following CTE career clusters: Agriculture Food & Natural Resources; Architecture & Construction; Arts, Audio/Video Technology & Communications; Business Management & Administration; Finance; Hospitality & Tourism; Information Technology; Marketing; Manufacturing; Transportation, Distribution & Logistics

**B)** Four English electives \*credits by selecting three levels in one of the following areas: Advanced Journalism; Public Speaking & Debate

**C)** Four Technology Application \*credits

**D)** A coherent sequence of four \*credits from A, B or C

**CTE Courses by Career Cluster**

**Agricultural Science:**

- Principles of AG, Food & Natural Resources
- Small Animal Management (.5)
- Livestock Production (1)
- Equine Science (.5)
- Wildlife, Fishing, & Ecology Management
- Range & Ecology Management
- Landscape Design & Management (.5)
- Turf Grass Management (.5)
- Horticulture
- Floral Design
- Veterinary Medical Applications and Ag Lab & Field Experience
- Practicum in Ag—Vet Tech
- Math Applications in AFNR
- Adv. Animal Science
- Adv. Plant & Soil Science
- Food Technology & Safety (1)
- Practicum in Agriculture, Food, and Natural Resources (2-3)

**Architecture/Construction:**

- Principles of Architecture
- Principles of Construction
- Architectural Design I
- Architectural Design II (2)
- Construction Technology I
- Construction Technology II (2)
- Mill & Cabinetmaking Technology (2)
- Electrical Tech I HCC
- Electrical Tech II (2) HCC
- HVAC Tech I HCC
- Plumbing Tech I HCC
- Plumbing Tech II (2) HCC
- Practicum in Construction Technology (2-3)
- Practicum in Arch. Design(2-3)

**CTE Courses by Career Cluster**

**Arts, A/V Tech & Comm:**

- Principles of Arts, A/V Tech & Comm
- Audio Video Production I
- Audio Video Prod. II & AV Lab II (2)
- Video Game Design
- Fashion Design
- Fashion Design II & FD Lab II (2)
- Graphic Design & Illustration
- Graphic Design & Illustration II & GDI Lab II (2)
- Commercial Photography I
- Commercial Photography II and CP Lab II (2)
- Practicum in Audio Video Production (2-3)
- Practicum in Graphic Design (2-3)
- Practicum in Commercial Photography (2-3)
- Practicum in Fashion Design (2-3)

**Business, Management & Administration:**

- Principles of Business, Marketing & Finance
- Business Information Management I
- Business Information Management II
- Business Law
- Virtual Business (.5)
- Global Business (.5)
- Business Management
- Human Resource Mgmt. (.5)
- Practicum in Business Management (3)
- Entrepreneurship

**CTE Courses by Career Cluster**

**Finance:**

- Principles of Business, Marketing & Finance
- Accounting I
- Accounting II
- Banking & Financial Services (.5)
- Financial Analysis
- Practicum in Business Management (2-3)
- Statistics & Business Decision Making

**Marketing, Sales & Service:**

- Principles of Business, Marketing & Finance
- Advertising (.5)
- Sports & Entertainment Marketing (.5)
- Fashion Marketing (.5)
- Social Media Marketing (.5)
- Entrepreneurship
- Practicum in Marketing (2-3)

**Transportation:**

- Introduction to Transportation Careers (.5)
- Principles of Transportation
- Energy, Power and Transportation & Automotive Basics (Blocked for 2)
- Automotive Technology I (2)
- Automotive Technology II (2)
- Practicum in Transportation Services (2-3)

**CTE Courses by Career Cluster**

**Hospitality & Tourism:**

- Principles of Hospitality & Tourism
- Culinary Arts (2)
- Advanced Culinary Arts (2)
- Baking and Pastry (2)
- Practicum in Culinary Arts (2)
- Hotel Management
- Travel & Tourism Management
- Hospitality Services Hotel Internship (2)
- Practicum in Hospitality Services (2-3)
- Food Science

**Information Technology:**

- Principles of Information Technology
- Computer Maintenance & CM Lab (2)
- Networking & Networking Lab (2)
- Computer Technician Practicum (2-3)
- Digital Media
- Web Technologies
- Practicum in Information Technology (2-3)

**Manufacturing:**

- Principles of Manufacturing
- Introduction to Welding
- Welding I (2)
- Welding II (2)
- Manufacturing Engineering Tech I and II (Blocked for 2)
- Practicum in Manufacturing (2-3)

**English Elective Courses**

**Advanced Journalism:**

- Newspaper Production I, II, III, IV, V
- Yearbook Production I, II, III, IV, V

**Public Speaking:**

- Public Speaking I, II, III
- Advanced Independent Study – Public Speaking

**Debate:**

- Debate I, II, III
- Advanced Independent Study – Debate

\*Most courses are worth 1 credit. If a course is worth more or less than 1 credit, the numbers of credits is written in parentheses to the right of the course. The courses on this document are the courses currently available in Alief ISD. Course availability varies by campus. (Last revision -04/19/2018)

# PUBLIC SERVICES ENDORSEMENT

A Public Services endorsement can be earned by completing the foundation program general endorsement requirements and either A or B:

**A)** A coherent sequence of courses of four or more credits\* in CTE; that consists of at least two courses in the same career cluster including at least one advanced CTE course. The final course in the sequence must be from one of the following CTE career clusters: Education & Training; Human Services or Health Science

**B)** Four courses in Junior Reserve Officer Training Corps (JROTC)

## CTE Courses by Career Cluster

### Education & Training:

- Principles of Education and Training
- Human Growth & Development
- Instructional Practices (2)
- Practicum in Education & Training (2-3)

## CTE Courses by Career Cluster

### Health Science:

- Medical Terminology
- Principles of Health Science
- Health Science Theory
- Health Science Clinical & Health Science Theory (Blocked for 2)
- Pharmacology & Health Science Theory (Blocked for 2)
- Practicum in Health Science
- Practicum in Health Science- Pharmacy Technician (2)
- Practicum in Health Science- CNA & World Health Research (Blocked for 2)
- Medical Microbiology (1)
- Pathophysiology (1)
- Anatomy & Physiology
- Honors Anatomy & Physiology

## CTE Courses by Career Cluster

### Human Services:

- Principles of Human Services
- Family and Community Services
- Counseling and Mental Health
- Child Development
- Child Guidance
- Practicum in Human Services (2-3)

## JROTC Courses

- Air Force JROTC I, II, III, IV
- Marine JROTC I, II, III, IV
- Navy JROTC I, II, III, IV

\*Most courses are worth 1 credit. If a course is worth more or less than 1 credit, the numbers of credits is written in parentheses to the right of the course. The courses on this document are the courses currently available in Alief ISD. Course availability varies by campus. (Last revision -04/19/2018)

# ARTS & HUMANITIES

An Arts & Humanities endorsement can be earned by completing the foundation program general endorsement requirements and either A, B, C, D, E or F:

**A)** A total of five credits\* in social studies

**B)** Four levels of the same language other than English (LOTE); or  
**C)** Two levels of the same LOTE and two levels of a different LOTE; or  
**D)** Four levels of American Sign Language (ASL)

**E)** A coherent sequence of four credits\* by selecting courses from one or two categories or disciplines in fine arts

**F)** Four English elective \*credits from the following courses:

## Social Studies Courses

- World Geography
- World History
- US History
- Economics
- Government
- Psychology (.5)
- Sociology (.5)
- AP Human Geography
- AP World History
- AP US History
- AP European History
- AP U.S. Govt. & Politics (.5)
- AP Comparative Govt. & Politics (.5)
- AP Macroeconomics (.5)
- AP Microeconomics (.5)
- AP Psychology (.5)
- S.S. Research Methods (.5)
- S.S. Advanced Studies (.5)
- Special Topics in S.S. (.5)
- Other Special Topics in S.S. (.5-2)**
- American History for New Americans (.5)
- American Culture Studies (A.A. Studies) (.5)
- Holocaust and Genocide Studies (.5)
- Academic Decathlon (.5)
- Street Law (.5)
- AP S.S.-Skills for Success (.5)
- Current Events (.5)
- U.S. History through Film

## LOT Courses

- French I, II, III
- AP French IV
- Spanish I, II, III
- AP Spanish IV, V, VI
- Chinese I, II, III
- AP Chinese IV, V
- Arabic I, II, III

## Fine Arts Courses

- Art:**
- Art I
  - Art II-Drawing, Printmaking, Ceramics, Sculpture, Photography, Digital Art & Media, Jewelry
  - Art III – Drawing, Painting, Printmaking, Ceramics, Sculpture, Photography, Digital Art & Media, Jewelry, Commercial Art/Graphic Design
  - Art IV-Advanced Commercial Art/ Computer Graphics, AP Studio-Drawing Portfolio, AP Two-Dimensional Design Portfolio, AP Three-Dimensional Design Portfolio
  - AP History of Art
  - Art & Media Communications I
  - Art & Media Communications II

## Fine Arts Courses

- Theatre:**
- Theatre Arts I, II, III, & IV
  - Theatre Production I, II, III, & IV
  - Technical Theatre I, II, III, & IV
- Dance:**
- Dance/Drill Team I, II, III, IV
  - Alief Jazz Ballet I, II, III, IV
- Music:**
- Band I, II, III, IV
  - Jazz Band I, II, III, IV
  - Orchestra I, II, III, IV
  - Choir I, II, III, IV
  - Music Theory I
  - Music Theory II
  - Vocal Ensemble I, II, III, IV
  - Instrumental Ensemble I, II, III, IV
  - AP Music Theory

## English Elective Courses

- English IV
- Research/Tech Writing
- Humanities
- AP English Literature & Composition
- Literary Genres: Survey of World Literature
- Communications Applications (.5)

\*Most courses are worth 1 credit. If a course is worth more or less than 1 credit, the numbers of credits is written in parentheses to the right of the course. The courses on this document are the courses currently available in Alief ISD. Course availability varies by campus. (Last revision -04/19/2018)

## MULTIDISCIPLINARY STUDIES ENDORSEMENT

A Multidisciplinary Studies endorsement can be earned by completing the foundation program general endorsement requirements and either A, B or C:

**A)** Four advanced courses that prepare a student to enter the workforce successfully or postsecondary education without remediation from within one endorsement area or more endorsement areas that are not in a coherent sequence

**B)** Four credits\* in each of the four foundation subject areas to include English IV and Chemistry and/or Physics

**C)** Four credits\* in advanced placement, International Baccalaureate, or dual credit selected from English, mathematics, science, social studies, economics, languages other than English, or fine arts

\*Most courses are worth 1 credit. If a course is worth more or less than 1 credit, the numbers of credits is written in parentheses to the right of the course. The courses on this document are the courses currently available in Alief ISD. Course availability varies by campus. (Last revision -04/19/2018)