Strong High School Pathways with Stackable Credentials, Postsecondary Credit, and Industry Certifications

Candi Norwood, Director of Student Success
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<td>Seamless Pathways Revisited</td>
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Objectives for Today

- Understand how your school can create a master schedule complete with offerings for dual enrollment and industry certifications
- Design a plan for students to leave high school prepared for postsecondary or employment with credits and credentials in hand
Graduation Requirements

Tennessee Graduation Requirements include 22 credits

- 4 Math
- 4 English
- 3 Science
- 3 Social Studies
- 1½ PE & Wellness
- ½ Personal Finance
- 2 Foreign Language
- 1 Fine Arts
- 3 Elective Focus
Graduation Requirements

Important to Consider

- Credits are aligned to requirements for entrance into public universities in Tennessee
- Elective focus is meant to support students in preparation for their chosen postsecondary plans
  - Prepare for a potential career path and/or postsecondary program
  - Practice a passion
  - Explore new fields or subjects
- 22 credits needed for graduation still leave multiple spaces for electives and remediation
  - On traditional schedules, students can earn up to 28 credits through high school
  - On block schedules, students can earn up to 32 credits through high school
- The 22 credits may not include the Capstone Experience also required by the state board. This experience is determined locally.
What is an elective focus?

- Students select from Career & Technical Education (CTE), Arts, International Baccalaureate, AP, Math or Science, etc.
- If CTE, students follow a prescribed path in a specific career cluster.
- Pathways ("program of study") are grouped by knowledge and skills in the career field and prepare them for success at the next level.

Entrepreneurship Program of Study in Marketing Career Cluster
The U.S. Department of Education developed The National Career Clusters™ Framework to group similar occupations and industries that depend on like sets of knowledge and skills. The Tennessee Department of Education adopted the 16 Career Clusters as promoted by U.S. DOE and the U.S. Department of Labor.
Governor Haslam has challenged our state with a critical new mission: the **Drive to 55** – the Drive to get 55 percent of Tennesseans equipped with a college degree or certificate by the year 2025.

It’s not just a mission for higher education, but a mission for Tennessee’s future workforce and economic development.

As secondary educators, this changes our goal for our students from **high school graduation** to **postsecondary success**.
TN Department of Education Strategic Plan

SUCCESS AFTER GRADUATION

GOAL #1
Tennessee will continue its rapid improvement and rank in the top half of states by 2019.

MEASUREMENT
We will rank in the top half of states on 4th and 8th grade NAEP in 2019.

GOAL #2
The average ACT score in Tennessee will be a 21, allowing more students to earn HOPE scholarships.

MEASUREMENT
Tennessee will have an average public ACT composite score of 21 by 2020.

GOAL #3
A majority of high school graduates will go on to earn a certificate or degree.

MEASUREMENT
The class of 2020 will be on track to achieve 55% postsecondary completion within six years.
What Does a Pathway Look Like?

Middle School
- Career Exploration
- Intro Courses

High School
- General Education Courses
- Elective Focus Area
- TCAT
- Industry Certification

Community College
- A.A./A.S.

University
- B.A./B.S.
- Post-baccalaureate

Job Entry

Regional Business & Industry
High Skill, High Wage, High Growth

Career Continuum

LEAD Conference
<table>
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<tr>
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## Program of Study

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1. **Flexibility for Schools/Districts**
2. **General Education Courses**

Supervised Agricultural Experience (WBL)
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1. **Flexibility for Schools/Districts**
2. General Education Courses
3. **Lab Science Credit**

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1. **Flexibility for Schools/Districts**
2. General Education Courses
3. Lab Science Credit
4. Personal Finance

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2. General Education Courses
3. Lab Science Credit
4. Personal Finance
5. Work-Based Learning
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1. **Flexibility for Schools/Districts**
2. General Education Courses
3. Lab Science Credit
4. Personal Finance
5. Work-Based Learning
6. Dual Credit

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2. General Education Courses
3. Lab Science Credit
4. Personal Finance
5. Work-Based Learning
6. Dual Credit / Dual Enrollment

Supervised Agricultural Experience (WBL)
## Double Dipping

<table>
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<th>COURSE NAME</th>
<th>CAREER CLUSTER(S)</th>
<th>SATISFIES GRADUATION REQUIREMENT</th>
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<tbody>
<tr>
<td>Agriscience (5957)</td>
<td>Agriculture, Food &amp; Natural Resources</td>
<td>Lab Science</td>
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<tr>
<td>Veterinary Science (5961)</td>
<td>Agriculture, Food &amp; Natural Resources</td>
<td>Lab Science</td>
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<tr>
<td>Agricultural Business and Finance (5943)</td>
<td>Agriculture, Food &amp; Natural Resources</td>
<td>Personal Finance</td>
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<tr>
<td>Applied Environmental Science (6114)</td>
<td>Agriculture, Food &amp; Natural Resources</td>
<td>Lab Science</td>
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<tr>
<td>AP Environmental Science (3236)</td>
<td>Agriculture, Food &amp; Natural Resources</td>
<td>Lab Science / AP Elective Focus</td>
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<tr>
<td>Foundations of Interior Design (6014)</td>
<td>Architecture &amp; Construction</td>
<td>Fine Art</td>
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<td>Visual Art (3501)</td>
<td>Arts, A/V Technology &amp; Communications</td>
<td>Fine Art</td>
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<tr>
<td>Digital Arts &amp; Design I (6084)</td>
<td>Arts, A/V Technology &amp; Communications</td>
<td>Fine Art</td>
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<tr>
<td>Foundations of Fashion Design (6120)</td>
<td>Arts, A/V Technology &amp; Communications</td>
<td>Fine Art</td>
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<td>Entrepreneurship (5934)</td>
<td>Business Management &amp; Administration</td>
<td>Economics</td>
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An Example—Agribusiness Program of Study

Tennessee Graduation Requirements include 22 credits

- 4 Math
- 4 English
- 3 Science
- 3 Social Studies
- 1½ PE & Wellness
- ½ Personal Finance
- 2 Foreign Language
- 1 Fine Arts
- 3 Elective Focus

Subjects: Biology, Chemistry, Agriscience
Tennessee Graduation Requirements include 22 credits

- **4 Math**
- **4 English**
- **3 Science**
- **3 Social Studies**
- **1 Fine Arts**
- **1½ PE & Wellness**
- **½ Personal Finance**
- **2 Foreign Language**
- **3 Elective Focus**

- Agriscience
- Principles of Agribusiness
- Organizational Leadership
- Agriculture Business & Finance
Advantages of Double-Dipping in this Scenario

- Saved 1.5 credit spaces
- Satisfied graduation requirements
- Satisfied concentrator requirements
- Students taking classes of interest
  - Less disciplinary issues
  - Gaining postsecondary/workforce knowledge
- Freed up scheduling spots for other students in lab science and personal finance
Early Postsecondary Opportunities

ALL MEANS ALL

- Earn postsecondary credits while in high school
- Become familiar with postsecondary expectations
- Develop the confidence and skills for success in postsecondary
- Decrease the time and cost of completing a certificate or degree
# CTE Dual Credit / Dual Enrollment

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<th>Dual Enrollment</th>
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<th>Endorsement</th>
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<tbody>
<tr>
<td>Architecture &amp; Construction</td>
<td>DE Archt &amp;Cons</td>
<td>Cons</td>
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<tr>
<td>Residential &amp; Commercial Construction</td>
<td>DE Res &amp;Com Cons</td>
<td>Cons</td>
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<tr>
<td>Structural Systems</td>
<td>DE Struc Sys</td>
<td>Cons</td>
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<tr>
<td>Mechanical, Electrical, &amp; Plumbing Systems</td>
<td>DE MEP Sys</td>
<td>Cons</td>
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<tr>
<td>Architectural &amp; Engineering Design</td>
<td>DE Archt &amp;Eng Des</td>
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<td>Interior Design</td>
<td>DE Int Des</td>
<td>Cons</td>
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<td>Art, Audio/Visual Technology, &amp; Communications</td>
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<td>Arts &amp; Design</td>
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<td>Audio/Visual Production</td>
<td>DE AV Prod</td>
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<td>Fashion Design</td>
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Early Postsecondary Opportunities Available

- Dual Enrollment
- Local Dual Credit
- Statewide Dual Credit
- Advanced Placement (AP)
- International Baccalaureate (IB)
- College Level Examination Program (CLEP)
- Student Industry Certification (SIC)
### Early Postsecondary Opportunities in Tennessee

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<th>Advanced Placement</th>
<th>CIE</th>
<th>Cambridge</th>
<th>CLEP</th>
<th>College Level Exam Program</th>
<th>DE</th>
<th>Dual Enrollment</th>
<th>IB</th>
<th>International Baccalaureate</th>
<th>LDC</th>
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<th>SDC</th>
<th>Statewide Dual Credit</th>
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<tbody>
<tr>
<td>Description</td>
<td>College-level high school courses offered in multiple subjects</td>
<td>High school academic programs (curricula, assessments, pedagogy)</td>
<td>Nationally recognized exams used to assess college-level knowledge</td>
<td>Exams offered in multiple subjects</td>
<td>Nationaly challenging course of study offered at the high school level</td>
<td>Postsecondary course taught at the PS institution, high school, or online</td>
<td>HS student is enrolled in the PS institution</td>
<td>Academically challenging course of study offered at the high school level</td>
<td>HS student is enrolled in the PS institution</td>
<td>High school course aligned to standards at local/ partner PS institution</td>
<td>Optional exam for credit at local institution</td>
<td>High school course aligned to statewide PS standards</td>
<td>Required challenge exam for PS credit at Tennessee institutions</td>
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<td>Structure</td>
<td>Course and Exam</td>
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<td>International Baccalaureate Organization</td>
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<td>AP courses meet specific graduation requirements and/or elective credit</td>
<td>Cambridge courses meet specific graduation requirements and/or elective credit</td>
<td>CLEP is not a course. It does not meet high school graduation requirements</td>
<td>District sets policy on awarding high school credit and graduation requirements</td>
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<td>LDC course fulfills the same requirements as aligned high school course</td>
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<tr>
<td>High School Recognition State Policies</td>
<td>Criteria for Graduation with State Distinction</td>
<td>Qualifies for state GPA weighting</td>
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<tr>
<td>Postsecondary Credit</td>
<td>AP Exam score</td>
<td>Cambridge AS or A Level subject grade</td>
<td>CLEP Exam Score</td>
<td>DE Course Completion</td>
<td>Passing Grade as assigned</td>
<td>IB SL or HL Exam Scores</td>
<td>Challenge exam score at or above cut score</td>
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<tr>
<td>Postsecondary Credit Award</td>
<td>Determined by individual institutions</td>
<td>Determined by individual institutions</td>
<td>Determined by individual institutions</td>
<td>Credit awarded on PS transcript upon course completion</td>
<td>Credit can be transferred to other PS institutions</td>
<td>Determined by individual institutions</td>
<td>Students must enroll with a partner institution to receive credit</td>
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**Note:** This table provides an overview of various early postsecondary opportunities in Tennessee, including Advanced Placement (AP), Cambridge International Examinations (CIE), College Level Examination Program (CLEP), Dual Enrollment (DE), International Baccalaureate (IB), Local Dual Credit (LDC), and Statewide Dual Credit (SDC). Each program offers unique benefits and requirements, as detailed above.
How do we offer Industry Certifications?

- Mechatronics/ Advanced Manufacturing
- Level 1 Siemens Certification
- Offered at some TCATs
- Find out about tested materials
- Testing dates
- Payment for tests
- Become a testing site
Mechatronics Program of Study
Advanced Manufacturing

Middle School
- STEM Explorers (0649)
- STEM Innovators (0749)
- Career Exploration (6166)

High School
- Principles of Manufacturing (5922)
- Digital Electronics (5925)
- Mechatronics 1² (6156)
- Manufacturing Facticum (5926)
- Advanced Manufacturing Dual Enrollment (4063)

TCAT
- Mechatronics Certificate or
  Hydraulic and Pneumatic Certificate

Community College
- Mechatronics AAS

University
- Mechatronics Engineering BS
- Engineering Technology MS

Regional Business & Industry
- CNC Operator $35,580
- Mechanical Engineering Technician $50,660
- Mechatronics Engineer $82,440

TN Department of Education | LEAD Conference
Stackable Credentials

MIDDLE SCHOOL
  Career Exploration
  Intro to Health Science
  Algebra I

Workforce
Stackable Credentials

HIGH SCHOOL
CTE: Health Science
Gen Ed: Advanced Science
Dual Enrollment
WBL (Clinical Internship)
Industry Certification: Certified Nursing Assistant

Career Exploration
Intro to Health Science
Algebra I

Workforce
Nursing Assistant $23,000
Stackable Credentials

TN College of Applied Technology (TCAT)
- CNA
- Home Health Aid
- Licensed Practical Nurse

CTE: Health Science
- Gen Ed: Advanced Science
- Dual Enrollment
- WBL (Clinical Internship)
- Industry Certification: Certified Nursing Assistant

Career Exploration
- Intro to Health Science
- Algebra I

Workforce

LPN
- $30,264

Nursing Assistant
- $23,000
Stackable Credentials

COMMUNITY COLLEGE
Nursing Associate of Applied Science AAS

TCAT: CNA
Home Health Aid
Licensed Practical Nurse

CTE: Health Science
Gen Ed: Advanced Science
Dual Enrollment
WBL (Clinical Internship)
Industry Certification: Certified Nursing Assistant

Career Exploration
Intro to Health Science
Algebra I

LPN
$30,264

Nursing Assistant
$23,000

Workforce
Stackable Credentials

UNIVERSITY
- Medical Doctor
- Nursing Practitioner
- Nursing BSN
- Registered Nurse

Nursing Associate of Applied Science AAS

CNA
- Home Health Aid
- Licensed Practical Nurse

CTE: Health Science
- Gen Ed: Advanced Science
- Dual Enrollment
- WBL (Clinical Internship)
- Industry Certification: Certified Nursing Assistant

Career Exploration
- Intro to Health Science
- Algebra I

Workforce
- LPN
  - $30,264
- Nursing Assistant
  - $23,000
Stackable Credentials

- Medical Doctor
- Nurse Practitioner
- Nursing BSN
- Registered Nurse
- Nursing Associate of Applied Science AAS
- CNA
- Home Health Aid
- Licensed Practical Nurse
- CTE: Health Science
- Gen Ed: Advanced Science
- Dual Enrollment
- WBL (Clinical Internship)
- Industry Certification: Certified Nursing Assistant
- Career Exploration
- Intro to Health Science
- Algebra I

Workforce

- Medical Doctor: $160,000
- NP: $90,124
- RN: $44,348
- LPN: $30,264
- Nursing Assistant: $23,000
Work-based Learning Opportunities
Addressing Common Misconceptions

- **Courses can count** toward both an elective focus **AND** a graduation requirement.
  - State policy allows “double-dipping,” but it could be prohibited by your local school board. Please confirm if a policy exists explicitly forbidding this type of scheduling. It is allowed by the Tennessee State Board of Education.

- **A student is able to complete an elective focus without finishing a complete CTE Program of Study course sequence.**
  - Students only need to complete three credit hours to become a CTE concentrator as well as complete their elective focus. Credits may be earned in a Program of Study (preferred) or in a Career Cluster.

- **Students should consider how their general education requirements interact with their course choices for elective focus.**
  - Many elective focus courses have prerequisites or co-requisites. Students and parents should have access to this information to be able to look ahead to plan courses selections for their entire high school career.
Addressing Common Misconceptions

- Work-based learning credit hours can count toward an elective focus.
  - If a work-based learning course is in a Program of Study, the credit earned will fulfill one of the three credits for the elective focus.
- Any student is allowed to take a CTE course. Students are not required to take a full program of study.
  - Career preparation should be for ALL students and ALL careers. CTE courses can be used to supplement other elective focus areas, based on student interest.
- CTE Courses are for all students, regardless of their postsecondary plans.
  - All programs of studies lead to postsecondary training, including Technology Centers, Community Colleges, four-year Universities, and on-the-job training and apprenticeships.
Potential Barriers to Student Success

- Programs of Study are dead ends
  - No offering at local postsecondary
  - No local jobs in that area
- No additional opportunities
  - Early Postsecondary
  - Work-Based Learning
  - Industry Certification Testing
Next Steps and Resources

- Review local policies regarding graduation requirements
- Work with your colleagues (CTE Director, counselors, counselors at feeder middle schools) to plan your LEA and/or your school’s offerings
- Review new/revised courses
- Identify programs of study/courses that meet multiple graduation requirements, offer early postsecondary opportunities, or contain work-based learning experiences
- Create/use materials to help your students and their families develop a long-term plan for successful completion of a robust pathway
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