Career Tech Education
Program Recommendation

December 19, 2019

DJUSD

CTE | CAREER TECHNICAL EDUCATION

DJUSD

Preparing Students for College & Careers

Our Approach

Coalition Building

Visioning

Program Development

Pathways Proposal

Implementation & Considerations

DJUSD

Rationale

- Mission to *Ignite a Love of Learning and Prepare Students for an Evolving World*
- CA Dashboard Accountability - College and Career Readiness
- Available State Funding and Support
- Community Demand
- DJUSD Facilities Master Plan (CTE & STEM)
- Community Resources/Network (UC Davis, Chamber, Industry)
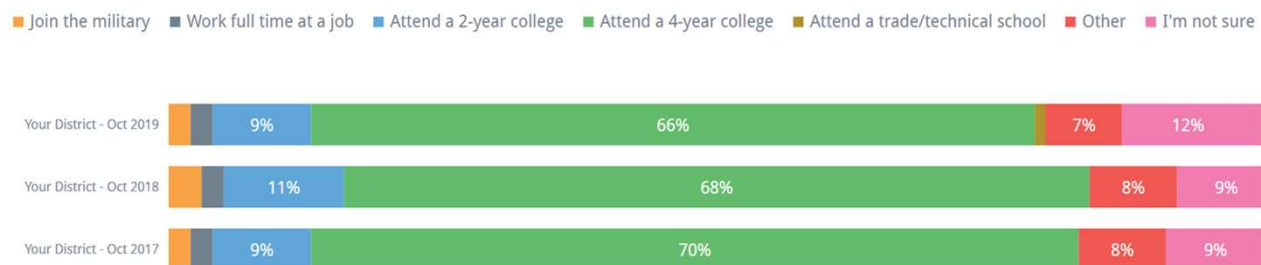- Student Voice & Student Data

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Rationale

DJUSD Career Readiness

- 67% College/Career Ready; 5% eligible through CTE Pathway Completion

College Completion Rates

- 46% of DJUSD students entering workforce without a college degree

Youthtruth: *"After you finish high school what do you expect to do next?"*

■ Join the military   ■ Work full time at a job   ■ Attend a 2-year college   ■ Attend a 4-year college   ■ Attend a trade/technical school   ■ Other   ■ I'm not sure

Your District - Oct 2019	9%	66%		7%	12%
Your District - Oct 2018	11%	68%		8%	9%
Your District - Oct 2017	9%	70%		8%	9%

Student Voice

YouthTruth: *"My school has helped me identify steps to have the career I want"*

Your District - Oct 2019	16%	27%	30%	21%	7%

YouthTruth: *"My school has helped me figure out which careers match my skills and abilities"*

Your District - Oct 2019	14%	26%	31%	22%	7%

■ Strongly disagree   ■ Disagree   ■ Neither agree nor disagree   ■ Agree   ■ Strongly agree

2019 Student Focus Groups (109 Sophomores and Seniors)

"What one word would you use to describe school?"

1. Stressful
2. Competitive
3. Busy
4. Tiring
5. Boring

DJUSD
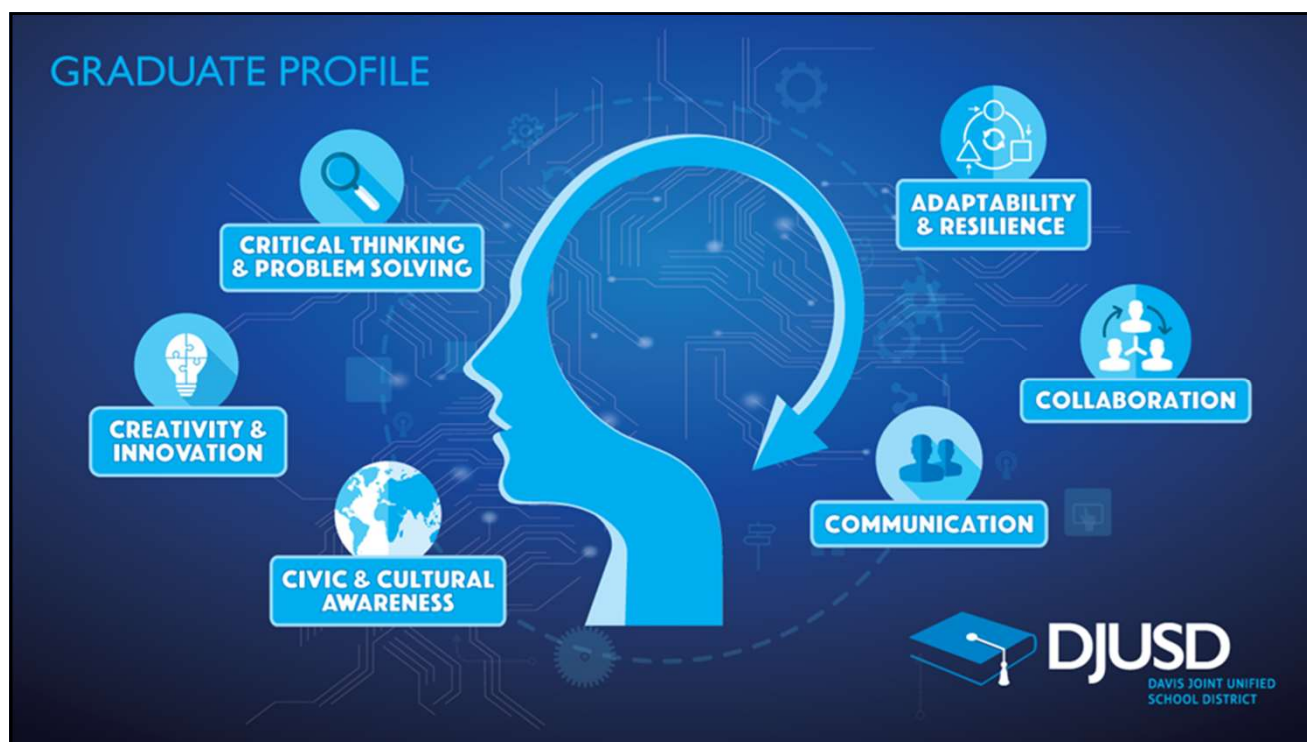
Board Presentations *(Nov. 1 2018; Feb. 21, 2019)*

Superintendent's CTE Advisory *(April 24, May 15, Sept. 4, Dec. 16)*

Community Town Hall *(Aug. 7)*

DSHS Staff, Counselors, Special Ed. Meetings

DVCA Stakeholder Outreach

King Program Research

CTE Staff Credentialing

Program & Economic Workforce Analysis

Course Development & Student Enrollment

Internship Expansion

CTE Facilities Design

BOE Recommendation *(Dec. 2019)*

Our Process

DJUSD

CTE Advisory Committee

Charge (February 21, 2019): Advise District staff on a recommendation for future Career Tech Education programming in DJUSD

- Develop a formal rationale for CTE programming
- Ideate Pathway opportunities
- Review data and community input
- Support prioritization of Pathway options

CTE Advisory Committee

- Students, DJUSD
- American Association of University Women
- Yolo County Office of Education
- Davis Chamber of Commerce
- Fouts Homes
- Land Based Learning
- 4H
- Kaiser Health
- Sacramento City College
- Board of Education, DJUSD
- Parents, DJUSD
- Teachers, DJUSD
- Counseling & Admin, DJUSD

- Sunpower
- Syngenta
- Toyota
- Yolo County Health & Human Services
- Adams Grain
- Pacific Livestock
- Davis Farm to School
- National Auto Sport Association
- Bayer Crop Science
- Transportation Services
- Travis Credit Union
- UC Davis (Human Resources, Engineering, Viticulture, Biological/Ag Engineering)

CTE Vision & Purpose

CTE Advisory Committee

Why: We believe all students, *particularly those who are furthest from opportunity,* should be able to engage in learning that is purposeful, aligned with their passions, and values their contributions.

How: By having hands-on opportunities for students to develop "real life skills," and develop themselves as authentic problem-solvers.

What: School structures and programs that include community connections, career pathways, and internships.

CTE Program Vision
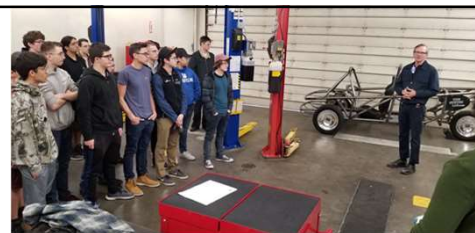
Guided by DJUSD's Graduate Profile

Pathway Model across Multiple Industry Sectors

Balance of Career and College Readiness Opportunities

Internships & Community Partnerships

Sustainable Program Structures (FTE, Schedule, Cost)

History of CTE in DJUSD

1990s - 2008	Yolo County funded Regional Occupational Programs (ROP) ● Biotech, Drafting, Auto, Ag, Foods, Journalism (Hub), Nursing
1999 - 2003	Federal School-to-Career (STC) Grant: $1 million Federal Award ● K-6: Counseling FTE, Career Curriculum ● 7-9: Career Day, Classroom Technology purchase ● 10-12: Energy/Engineering, Law/Public Service, Visual/Performing Arts, Health/Ag, Automotive
2003 - 2004	Residual Spending of STC Grant, Discontinued STC Program
2008 - Current	State Restructured Categorical Funding, including ROP, DJUSD assumes responsibility ● CTE Pathways: Agriculture, Auto
2015 - 2016	CTE/STEAM Advisory

Lessons Learned: Integrate CTE programs supported by general funding, policies, structures. Grants used to enhance and improve.

Program Design: Guiding Principles

Future Forward
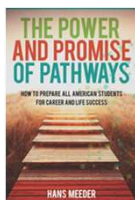
Community Demand

Achievability

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Future Forward: Workforce Analysis

Workforce - Annual Positions Open:
- Healthcare, IT, Education, Construction

Economic Development Priorities:
- Agriculture and Biotechnology
- Healthcare and Life Science
- Advanced Manufacturing

THE POWER AND PROMISE OF PATHWAYS
HOW TO PREPARE ALL AMERICAN STUDENTS FOR CAREER AND LIFE SUCCESS
HANS MEEDER

DJUSD

Future Forward:
Regional Program Review

Comparative Analysis: Chico, Palo Alto, Rocklin, & Santa Barbara

Findings include: Robust CTE Offerings, emphasis on A-G completion, College & Career Readiness Plan, Career Exploration beginning in Middle Grades

Additional Regional Program Research

Rocklin USD	Woodland JUSD
Napa Valley USD	Winters JUSD
Elk Grove USD	Lindsay USD
Washington USD	Sanger USD
Fairfield Suisun USD	Yolo County Office of Education
Vacaville USD	

Community Demand - Town Hall
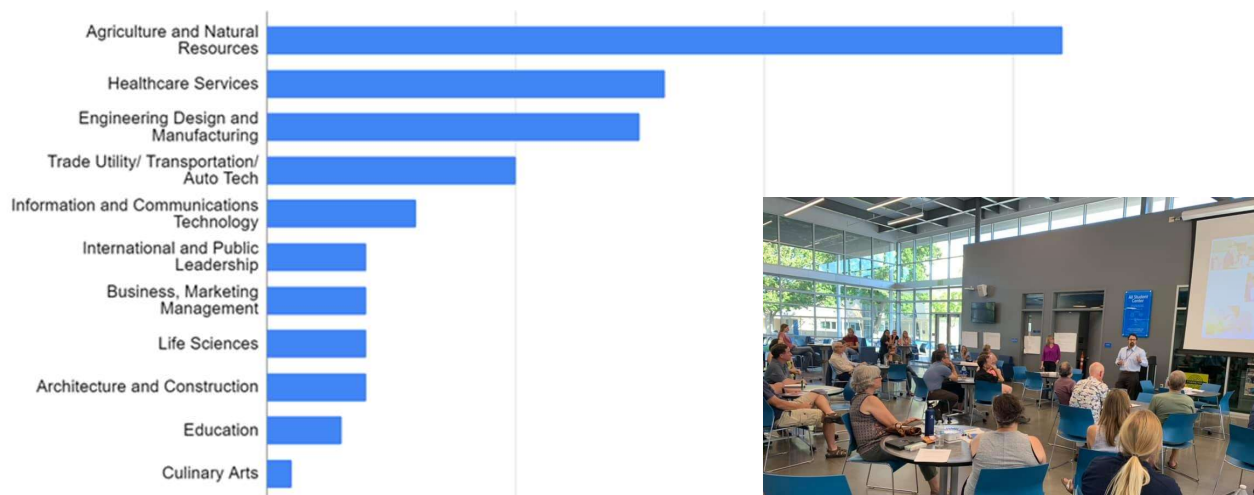
Community Demand - Student Interest

1	Health Science
2	Business/Finance
3	Arts/Media/Entertainment
4	Engineering/Architecture
5	Public Services

Achievability Factors - Program Ecosystem

- Staffing
- Facilities
- Master Schedules
- Opportunity Costs
- Credentialing
- Community Partnerships
- Student Scheduling Policies

- Resources Requirements
- Student Interest & Enrollment
- Depth vs. Breadth
- Sustainability
- Pathway Feeders
- Bell Schedules
- Graduation Requirements

2020 Vision - Industry Sectors

	Current Offerings	Industry Sectors
Enhance	● Agriculture ● Automotive ● Robotics	● Agriculture and Natural Resources ● Transportation ● Engineering & Architecture
Restructure	● Journalism & Art ● Internet Engineering & Programming	● Arts, Media, Entertainment ● Information & Communication Technologies
New		● Health Science and Medical Technology

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2020 Vision - CTE Pathways Proposal

Industry Sector	DJUSD Pathways
Ag & Natural Resources	1. Animal Science 2. Agricultural Mechanics 3. AgriScience
Transportation	4. System Diagnostics, Service, Repair 5. Electric Vehicle Technology
Engineering & Architecture	6. Engineering Design (Robotics)
Arts, Media, Entertainment	7. Design, Media, & Visual Arts (Photography) 8. Design, Media, & Visual Arts (Film) 9. Design, Media, & Visual Arts (Graphic Design) 10. Design, Media, & Visual Arts (Journalism) 11. Design, Media, & Visual Arts (Digital Arts) **DVCA**
Information and Communication Technologies	12. Software & Systems Development (Computer Science) **DVCA** 13. Networking & Cyber Security
Health Sciences & Medical Technology	14. Patient Care

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Pathway Descriptions
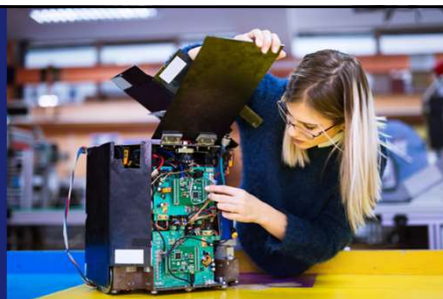
Industry Sector: Information and Communication Technologies
Pathway: Software and Systems Development
Sean Glantz (CTE credential)

Introductory Course: *Computer Science Discoveries*

Concentrator*: AP Computer Science Principles*

Capstone*: Project Invent*
[Pending BOE Approval]

Out of High School: web design computer and information systems manager, computer user support specialist, entrepreneur

Out of Program/Trade/Two year: full stack web development, digital marketing, information security analysis

Four year: software engineer, software developer, data analyst, systems developer

Industry Certifications: CompTIA IT Fundamentals, PCEP - Certified Entry-Level Python Programmer PCAP - Certified Associate in Python Programming

Industry Sector: Arts, Media, and Entertainment **Pathway:** Design, Media, and Visual Arts Julia Kropinova (CTE credential pending) Introductory Course: *Digital Arts, Media, and Photography (Level 1)* [Pending BOE Approval] Concentrator: *Digital Arts II (Level 2)* [Pending BOE Approval] Capstone: *AP Studio Art III (Level III)* [Pending BOE Approval]	**Out of High School:** visual artist, photographer, graphic designer, marketing assistant, camera and sound technician **Four year:** photographer, graphic designer, graphic art technician, publisher, art director, museum curator, commercial artist, web designer, digital animator

Industry Sector: Engineering and Architecture **Pathway:** Engineering Design Steve Harvey (CTE credential) Exploratory Course: *Introduction to Robotics and Engineering* Concentrator: *Intermediate Robotics and Engineering* Capstone: *Advanced Robotics and Engineering, Honors* [Pending BOE Approval]	**Out of High School:** software technician, CAD design technician, machine operator **Out of Program/Trade/Two year**: advanced CAD design, advanced manufacturing **Four year**: software engineer, mechanical engineer, other engineering

Industry Sector: Transportation
Pathway: Systems Diagnostics, Service, and Repair
Robbie Thayer (CTE credential)

Introductory Course: *Basic Auto*

Capstone: *Advanced Automotive Technology*

Out of High School: automotive technician, parts professional, collision technician, specialty parts installer, manufacturing/assembly line worker

Out of Training/Trade/Two year: advanced automotive technician, advanced collision technician, parts store manager, insurance adjuster, service writer/advisor, car sales professional, car rental manager, machinist

Four year: service manager, logistics supervisor, business entrepreneur, automotive designer, automotive engineer, software engineer, automation engineer, production supervisor, auto loan specialist, automotive teacher

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Industry Sector: Transportation
Pathway: Systems Diagnostics, Service, and Repair
Robbie Thayer (CTE credential)

Concentrator: *Electric Vehicle Technology & Build (EV Tech & Build)*
[Pending BOE Approval]

Capstone: *Advanced Automotive Technology*

Out of High School: automotive technician, electrician's assistant, solar panel installer, manufacturing

Out of Program/Trade/Two year: advanced automotive technician, solar system engineer, electrician, logistical support professional, insurance adjuster, service writer/advisor, car sales professional

Four year: service manager, logistics supervisor, business entrepreneur, automotive designer, automotive engineer, software engineer, programming engineer, automation engineer, production supervisor, auto loan specialist, automotive teacher

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Industry Sector: Arts, Media, and Entertainment **Pathway**: Design, Media, and Visual Arts Rachel Sanchez-Mitchell (CTE credential pending) Concentrator: *Introduction to Photography* [Pending BOE Approval] Capstone: *Advanced Photography (AP2D)* [Pending BOE Approval]	**Out of high school**: visual artist, photographer, graphic designer, marketing assistant, camera and sound technician **Out of Training/Trade/Two year:** storyboard artist, camera operator, gaffer, graphic designer, sound engineer/boom operator, foley artist, make-up artist, special effects artist, photographer *Four year:* assistant director, director, film and video editor, cinematographer, associate producer, screenwriter, wardrobe supervisor, set designer, prop master, stunt coordinator, music supervisor

Industry Sector: Arts, Media, and Entertainment **Pathway**: Design, Media, and Visual Arts Korey Nagel (CTE credential) Concentrator: *Introduction to Video/Film* Capstone: *Advanced Video Film* [Pending BOE Approval]	**Out of High School:** visual artist, photography assistant, camera and sound technician, rigger, grip, clapper loader, videographer **Out of Training/Trade/Two year:** storyboard artist, camera operator, gaffer, graphic designer, sound engineer/boom operator, foley artist, make-up artist, special effects artist **Four year:** assistant director, director, film/ video editor, cinematographer, associate producer, screenwriter, wardrobe supervisor, set design, prop master, stunt coordinator, music supervisor

Industry Sector: Arts, Media, and Entertainment **Pathway**: Design, Media, and Visual Arts Korey Nagel (CTE credential) Introductory Course: *Intro to Graphic Design* [Pending BOE Approval] Capstone: *Advanced Photography (AP2D)* [Pending BOE Approval]	**Out of High School:** visual artist, photographer, graphic designer, marketing assistant, camera and sound technician **Out of program/trade/two year:** graphic artist, production artist, photographer **Four year:** graphic designer, web designer, industrial/product designer, multimedia artist/animator, illustrator, storyboard artist, marketing manager, art director, creative director DJUSD
Industry Sector: Arts, Media, and Entertainment **Pathway**: Design, Media, and Visual Arts Kellie Wilkerson (CTE credential) Concentrator: *Multimedia Journalism I* [Pending BOE Approval] Capstone: *Multimedia Journalism II* [Pending BOE Approval]	*Out of High School:* executive assistant, marketing assistant, camera operator, and sound technician, online content coordinator. *Out of Program/Trade/Two year:* graphic designer, webmaster, photojournalist, public relations assistant, audio editor, video editor *Four year:* print journalist, broadcast journalist, podcast producer, data analyst, sound engineer, producer, visual effects coordinator, public relations executive, public information officer DJUSD

Industry Sector: Information and Communication Technologies
Pathway: Networking
Kevin Anderson (CTE credential)

Introductory Course: Cyber Security: ICT Essentials
Needs DJUSD CTE approval

Focus: Internet Engineering I
Needs DJUSD CTE approval

Capstone: Internet Engineering II
Needs DJUSD CTE approval

Out of High School: Computer repair technician, help desk support, client/server specialist

Out of Program/Trade/Two year: network engineering specialist, data warehousing specialist, hardware/software specialist, database analyst, cyber security specialist

Four year: network engineer, disaster recovery, software and application development, quality assurance, security administrator/officer

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Industry Sector: Agriculture and Natural Resources
Pathway: Agricultural Mechanics
Alex Hess (CTE credentialed) & Aria Lindsay (CTE credentialed)

Introductory Course: *Agricultural Engineering I*

Concentrator: *Agricultural Engineering II*

Capstone: *Advanced Agricultural Engineering- Design & Fabrication*

Out of High School: apprentice, shop assistant, equipment operator, warehouse worker, line operator

Out of Program/Trade/Two year: welder, machinist, technician, precision operator

Four year: agricultural engineer, mechanical engineer, equipment & machine design & fabrication

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Industry Sector: Agriculture and Natural Resources
Pathway: Animal Science
Alex Hess (CTE credentialed) & Aria Lindsay (CTE credentialed)

Introductory Course:
Biology and Sustainable Agriculture
[Pending BOE Approval]

Concentrator: *Animal Science*

Capstone: *Veterinary Science*

Out of High School: vet assistant, kennel staff, groomer, trainer's assistant, stable worker

Out of Training Program/Trade/Two year: vet tech, food animal tech, animal adoption counselor, USDA inspector, animal control officer

Four year: lab technician, sales rep, animal behaviorist, biotechnologist, nutritionist, shelter manager, veterinary pathology tech

Intern options: shelters, horse stables, Sacramento zoo

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Industry Sector: Agriculture and Natural Resources
Pathway: AgriScience
Alex Hess (CTE credentialed) & Aria Lindsay (CTE credentialed)

Introductory Course: *Biology and Sustainable Agriculture*
[Pending BOE Approval]

Concentrator: *Chemistry & Agriscience*

Capstone: *Agricultural Biotechnology & Engineering Systems, Honors*
[Pending BOE Approval]

Out of High School: lab assistant, clerk, agricultural inspectors, USDA grader, ag manufacturing line worker, quality control, lab assistant, nursery, greenhouse technician

Out of Program/Trade/Two year: agricultural & food science technicians, protein pharma production technician, horticulturist

Four year: soil and plant scientists, biologists, epidemiologist, agronomist, plant breeder, viticulturist, seed geneticist, biologist

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Industry Sector: Health Science and Medical Technology
Pathway: Patient Care
Helke Farin (CTE Credentialed)

Introductory Course: *Principles of Biomedical Sciences*
[Pending BOE Approval]

Focus: *Human Body Systems*
[Pending BOE Approval (2021-22)]

Capstone: *Medical Interventions & Innovation*
[Pending BOE Approval (2022-23)]

Out of High School: medical transcriptionist, nursing assistant/orderly, home health aide, personal trainer

Out of Training Program/Trade/Two year: emergency medical technician, licensed practical nurse, medical assistant, phlebotomist, laboratory technician, radiologic technician, paramedic

Four year/Four year plus: nurse practitioner, therapist, pharmacist, physician, optometrist, registered nurse, physician assistant

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Standards for Career Ready Practice

1. Apply appropriate technical skills and academic knowledge.
2. Communicate clearly, effectively, and with reason.
3. Develop an education and career plan aligned with personal goals.
4. Apply technology to enhance productivity.
5. Utilize critical thinking to make sense of problems and persevere in solving them.
6. Practice personal health and understand financial literacy.
7. Act as a responsible citizen in the workplace and the community.
8. Model integrity, ethical leadership, and effective management.
9. Work productively in teams while integrating cultural and global competence.
10. Demonstrate creativity and innovation.
11. Employ valid and reliable research strategies.
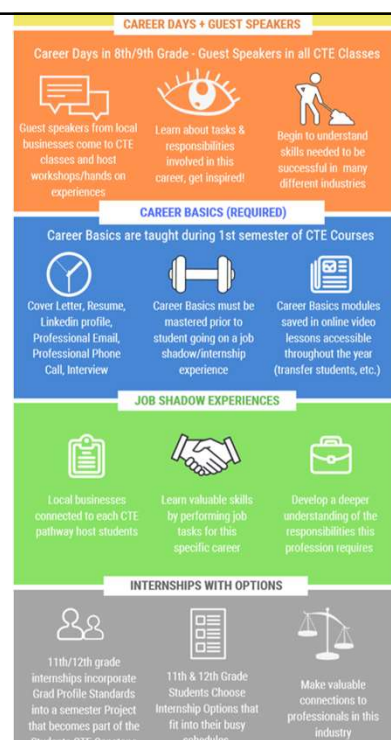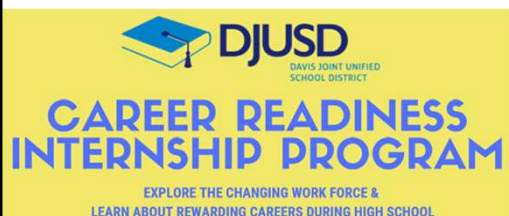12. Understand the environmental, social, and economic impacts of decisions.

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CTE Courses

Course Revisions	- Rewritten, existing courses - FTE neutral	15
Course Replacements	- New course to replace a section of existing courses - FTE neutral	3
New Course	- FTE neutral	2

20 Courses Total

Internship Program Features

1. Career Exploration Events
2. Career Basics Curriculum
3. Job Shadowing & Internships
4. Interest Aligned (Trades, Services)

Implementation & Next Steps

	Spring 2020	Summer 2020	Fall 2020	Winter 2020 - 2021
Course Approvals & Catalogue	●━━			●━━
Student Recruitment	●━━━━		●━━━━	
Master Scheduling	●━━━━			
New Pathways Implementation			●━━━━	
Professional Development	●━━━━━━━━━━━━━━━			
Elementary/JHS Feeder Planning	●━━━━━			
Standing DJUSD CTE Advisory	●		●	
Internship Expansion	●━━━━━━━━━━━━━━━			
Structure & Policy Review/Revision				●━━

Recommendation

Adopt the six industry sectors and related pathway descriptions described in the presentation using the noted achievability factors to guide and sustain the CTE and Career Readiness Internship programs.