

# **Yukon-Koyukuk School District**

## ***Career & Technical Education Handbook***



**2020-2021**

# **Yukon-Koyukuk School District**

## **Yukon-Koyukuk School District Vision**

Every learner will attain excellence and learn with passion in a challenging and culturally enriched environment.

## **Yukon-Koyukuk School District Mission**

The mission of the Yukon-Koyukuk School District, in active partnership with its families and communities, is to provide our students with the skills and knowledge necessary to become contributing members of their families, communities and society.

## **Yukon-Koyukuk School District Goals**

### **Start Strong:**

Every student starts strong with a solid foundation in grades pre-k through third.

### **Read by Third Grade:**

Every student reads by the end of third grade.

### **Graduate Ready:**

Every student graduates college and career ready.

# **Yukon-Koyukuk School District**

## ***Career Technical Education***

### **What is Career & Technical Education?**

Career & Technical Education (CTE) is educational opportunities that allow students to gain technical knowledge and skills based on academic and industry standards to prepare students for future careers and further education and/or training.

### **What are Career Clusters?**

There are 16 different career areas, with the majority of occupations split into 16 different clusters. Career Clusters contain several career pathways. The Career Clusters consist of:

- Agriculture, Food & Natural Resources
- Architecture & Construction
- Arts, A/V Technology & Communications
- Business Management & Administration
- Education & Training
- Finance
- Government & Public Administration
- Health Science
- Hospitality & Tourism
- Human Services
- Information Technology
- Law, Public Safety, Corrections & Security
- Manufacturing
- Marketing
- Science, Technology, Engineering & Mathematics
- Transportation, Distribution & Logistics

### **Can Career & Technical Education students earn college credits while in high school?**

Yes, for certain classes. If the class has been preapproved through the university, students who earn a C or above will receive both high school and college credit for the course. If a student takes a 3-credit university course, YKSD will provide 1 high school credit. If the course is 2 or 1 university credits, respectively YKSD will grant 0.5 high school of a credit or 0.25 high school of a credit. College credit is most often offered in the Education and Health Science Career Pathways.

### **How many credits of Career & Technical Education do I need to graduate?**

Students are required to earn 0.5 CTE of a credit in order to graduate; however, students are highly encouraged to take multiple CTE courses. In order for a student to graduate with Career Pathway Honors students will have to earn 2.0 credits in a specific career pathway!

### **What are Career Pathways?**

Career Pathways are a series of courses and learning experiences for students based on a particular career area that is in a career area of high need and in high demand in our state and region. The Career Pathways allow students to explore a variety of occupational opportunities within a specific career area while learning work-related skills and knowledge common to that particular career area.

# **Yukon-Koyukuk School District**

## ***Career Technical Education - Career Pathways***

### **How many Career Pathways are there?**

The Yukon-Koyukuk School District has four Career Pathways:

- Construction
- Education
- Service Careers
- STEM – Computer Science

### **What is the purpose of the Career Pathways?**

Career Pathways allow students to prepare for a future career in a specific area. Being part of a career pathway allows students to gain:

- Skills and knowledge relating to a specific career area
- High School Credit
- College Credit
- Industry Certifications
- Work-based learning opportunities including job shadows, internships, and work experience
- Career-related student club membership
- First priority to camps, academies, and extracurricular activities relating to a career pathway
- Career Pathway graduation honors

### **What is Career Pathways Honors?**

Students who complete two or more credits in one Career Pathway will be honored at graduation by graduating with Career Pathway Honors!

### **How do I sign up to be part of a Career Pathway?**

There is no need to sign up to be part of a Career Pathway. Students transcripts will be evaluated each year and those who have earned 1 or more credits in a pathway will be notified of participation in that pathway.

## Construction Career Pathway

Interested in these occupations?

- Carpenter
- Laborer
- Welder
- Painter
- Ironworker
- Truck Driver
- Pipefitter
- Surveyor
- Maintenance Person
- Plumber
- Roustabout
- Electrician
- Heavy Equipment Operator
- Crane Operator
- Sheet Metal Worker
- Millwright
- Roofer
- Construction Manager

***Do you like to build or repair things?  
The Construction Career Pathway is for you?***



The **Construction Career Pathway** program is designed to help students develop the technical qualifications and life skills needed to begin a career in the construction industry or the ability to meet the requirements for an apprenticeship program. Students can participate in learning opportunities through on-site classes, intensive academies, and work-based experiences.

- Learn about different construction careers
- NCCER Industry certification
- Hands on skills
- Graduation honors

## Construction Pathway Course Offerings

This is a recommended sequence of course offerings and activities:

### 10<sup>th</sup> Grade Recommendations

- Introduction to Construction 1a and 1b
- Introduction to Construction Math
- Obtain Driver's Permit

### 11<sup>th</sup> Grade Recommendations

- Drafting
- Construction or Construction 1a/Construction 1b
- Math for the Construction Trades
- Small Engines I & II
- Welding

### 12<sup>th</sup> Grade Recommendations

- Heavy Equipment Operations
- Industry Boot Camp
- Small Engine Repair
- Applied Math
- Career Practicum or Construction Internship
- Personal Finance
- Career Planning



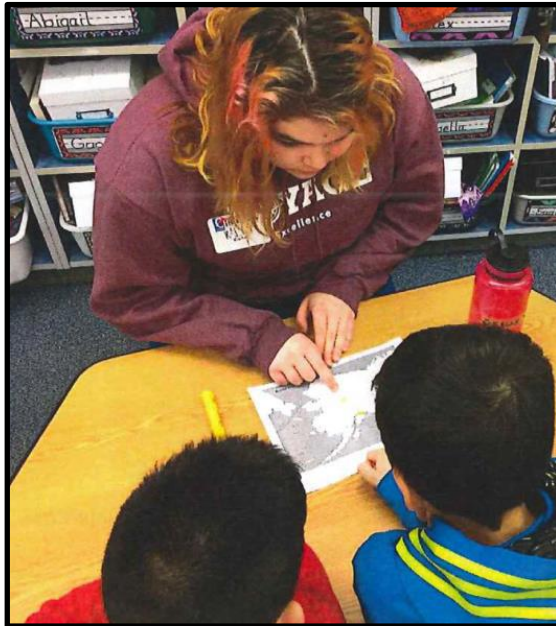
***Start your career pathway in  
the  
Construction Career Pathway!***

## Education Career Pathway

Interested in these occupations?

- Elementary Teacher
- School Counselor
- Therapist
- Middle School Teacher
- School Librarian
- Social Studies Teacher
- Reading Specialist
- Teacher's Aide
- English Teacher
- CTE Teacher
- Special Education Teacher
- High School Teacher
- School Psychologist
- Science Teacher
- University Professor
- Principal
- Preschool Teacher
- Speech Therapist
- PE Teacher
- Math Teacher

***Do you want to make a difference and help others?  
The Education Career Pathway is for you!***



The YKSD **Education Career Pathway** is designed to introduce students to the different careers within the education career pathway. Students will have the opportunity to learn about basic teaching strategies, current educational trends, human relations, technology, communication, and child development. In addition to core courses, students will have the opportunity to obtain their



Paraprofessional Certification and participate in a Career Practicum class to gain experience and practice the skills learned in class.

## Education Pathway Course Offerings

This is a recommended sequence of course offerings and activities:

### 10<sup>th</sup> Grade Recommendations

- Education I: Leadership Development
- Educators Rising (EdRising) Club

### 11<sup>th</sup> Grade Recommendations

- Education II: Ed Dev & Psychology or Child Development Part 1 and 2
- Education III: Supporting Learning
- Educators Rising (EdRising) Club

### 12<sup>th</sup> Grade Recommendations

- Education Internship I & II
- Introduction to Early Childhood\*
- Personal Finance
- Career Planning
- Educators Rising (EdRising) Club

*\*Course may offer high school and college credit.*



***Start your career pathway in  
the  
Education Career Pathway!***





## Service Careers - Health Science Career Pathway

Interested in these occupations?

- Athletic Trainer
- Dental Assistant
- Dental Hygienist
- Dentist
- Dietitian
- Community Health Aide
- Registered Nurse (RN)
- Midwife
- Home Care Provider
- Behavioral Health Aide
- Nurse Practitioner
- Physician Assistant (PA)
- Pharmacist
- Veterinarian
- Veterinary Technician
- Surgeon
- Radiologist
- Optometrist
- Med Lab Technician
- Medical Transcriptionist

***Do you want to help people and make a difference?  
Health Science is the Career Pathway for you!***



The YKSD **Health Science Career Pathway** is designed to provide students with an introduction to health care careers, a basic foundation to health care, and health care related certifications. Healthcare is one of the most dynamic and fastest growing career areas in Alaska and across the nation. The Health Science industry is facing an aging population as well as renewed focus on health prevention and wellness.

## Service Careers - Health Science Pathway Course Offerings

This is a recommended sequence of course offerings and activities:

### 10<sup>th</sup> Grade Recommendations

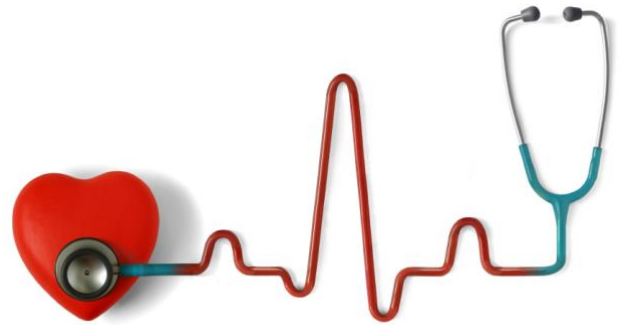
- Alaska Culture & Dog Mushing
- Introduction to Health Careers\* or Introduction to Medical Careers
- Professionalism in the Healthcare Workplace\*
- HOSA Club

### 11<sup>th</sup> Grade Recommendations

- Human Behavior in Healthcare\*
- Emergency Trauma Technician\*
- Alaska Health & Nutrition
- HOSA Club

### 12<sup>th</sup> Grade Recommendations

- Medical Terminology\*
- Mathematics in Healthcare\*
- Certified Nursing Assistant\* or Emergency M
- Personal Finance
- Career Planning
- HOSA Club



*\*Course may offer high school and college credit.*

***Start your career pathway in  
the  
Health Science Career Pathway!***

## Service Career Pathway

Interested in these occupations?

- Payroll Clerks
  - Billing Clerks
  - Cooks
  - Teller
  - Library Assistant
  - Cargo & Freight Agents
  - Postal Service Clerks
  - Store Clerks
  - Secretaries
  - Dishwashers
  - Custodians
  - Bookkeeper
  - Food Preparation Workers
  - Court Clerk
  - Receptionist
  - Ticket Agent Dispatchers
  - Stockers
  - Insurance Claim Clerks
  - Food Servers
  - Hairstylists
  - Administrative Support Worker
- 

***Do you love people and want to help them?  
A career in Service is for you!***

The YKSD **Service Career Pathway** is designed to introduce students to the different careers within the service career pathway. Students will have the opportunity to learn about a variety of careers relating to helping others. A focus is placed on computer and business-related skills including customer service and work ethic. As many of these service positions are found in urban and rural locations, these are valuable careers!

This is a recommended sequence of course offerings and activities:

### 10<sup>th</sup> Grade Recommendations

- Computer Business Applications

### 11<sup>th</sup> Grade Recommendations

- Culinary Arts I & II
- Entrepreneurship
- Personal Finance

### 12<sup>th</sup> Grade Recommendations


- Internship
- Business Finance
- Career Planning

***Start your career pathway  
in the  
Service Career Pathway!***



## Science, Technology, Engineering & Math (STEM) Careers

Interested in these occupations?

- Geologist
  - Environmental Engineer
  - Chemist
  - Water Monitoring Technician
  - Computer Scientist
  - Petroleum Engineer
  - Computer Systems Analysts
  - Wildlife Biologist
  - Forester
  - Logger
  - Ecologist
  - Hydrologist
  - Web Developers
  - Computer Programmers
  - Software Developers
- 

***Do you love solving problems and working independently?  
A career in STEM is for you!***

The YKSD **STEM Career Pathway** is designed to introduce students to the different careers within the STEM career pathway. Students will have the opportunity to use and develop analytical skills, science skills, math skills, and technical skills. The pathway will help prepare students for occupations that will change our future and are in high-demand and pay well!

### STEM Pathway Course Offerings

This is a recommended sequence of course offerings and activities:

#### 9<sup>th</sup> Grade Recommendations

- Computer Science Discoveries
- Aviation Technology

#### 10<sup>th</sup> Grade Recommendations

- Computer Science Principles
- 3-D Printing
- Introduction to Aviation

#### 11<sup>th</sup> Grade Recommendations

- Electronics I & II
- Aviation I: Ground School

#### 12<sup>th</sup> Grade Recommendations

- Internship
- Personal Finance
- Career Planning
- Aviation II: Flight School



***Start your career pathway  
in the  
STEM Career Pathway!***

## Career Technical Education Course Offerings

The following course offerings are listed in alphabetical order by course name and include: course name, PowerSchool course number, grade level, length, credits, prerequisites, delivery method, career pathway, textbook, and course description.

### 3-D Printing

**Course #:** 870

**Grades:** 9-12

**Length:** Semester

**Credit:** 0.5

**Prerequisites:** None

**Delivery Method:** On-Site

**Career Pathway:** **STEM**

**Career Cluster:** STEM

**Textbook:** Learn by Layers Onshape

This course teaches students the basics of 3-D printing. By the end of the course, students will be able to design their own simple models to 3-D print and will gain an understanding of 3-D printing and the materials. Through this project-based course, students will learn about the theory of 3-D printing and participate in design challenges. Students will learn about the different types of 3-D printers, CAD, 3-D printing materials, and custom slicing. Finally, students will learn about manufacturing and sustainability.

### Alaska Health & Nutrition

**Course #:** 656

**Grades:** 9-12

**Length:** Semester

**Credit:** 0.5

**Prerequisites:** None

**Delivery Method:** On-Site

**Career Pathway:** **Health Science**

**Career Cluster:** Health Science

**Textbook:** *Traditional Food Guide*

This course covers a comprehensive overview of Alaska Native Nutrition and food systems, including harvest methods, nutrient values, cultural, political and economic impacts and change relationships (spiritual, personal, environmental, community, and diet). Traditional common elements of regional diets and nutrients that support health are identified, compared and contrasted with modern diet. Current food system issues are addressed. Students will learn the various components of being healthy including, nutrition, exercise, and being clean and sober. Students will develop their own project focused on a topic of health concern.

**Applied Math I****Course #:** 607**Grades:** 9-12**Length:** Semester**Credit:** 0.5**Prerequisites:** None**Delivery Method:** Distance Course**Career Pathway:** **Construction****Career Cluster:** Architecture & Construction**Textbook:** *Building a Foundation in Mathematics*

This course is designed to prepare students for a career in construction with a focus on electrical concepts. Students will learn about whole numbers, fractions, and decimals, while building upon this knowledge to master vector operations, linear equations, and Boolean algebra. This course focuses on providing practical applications for math.

**Aviation Technology I - Private Pilot Ground School****Course #:** 215**Grades:** 9-12**Length:** Yearlong**Credit:** 0.5**Prerequisite:** None**Delivery Method:** Distance or Intensive Camp; qualified instructor**Career Pathway:** **STEM****Career Cluster:** STEM**Textbook:** *Guided Flight Discovery Private Pilot* by Jeppesen

During this course, learning will focus on these aeronautical concepts: fundamentals of flight, flight operations, aviation weather, performance and navigation, and integrating pilot knowledge and skills. This is the first part of a two-part course designed to provide the knowledge and experience necessary for FAR 61 Private Pilot Airmen Knowledge Test. This is a distance-based semester long course. The units covered are an aviation overview, airplane systems, aerodynamic principles, flight environment, communication and flight information, meteorology, interpreting weather data, airplane performance, navigation, human factors and flying cross-country. Option to provide high school and college credit.

**Aviation Technology II – Private Pilot Flight School****Course #:** 216**Grades:** 9-12**Length:** Semester**Credit:** 0.5**Prerequisites:** Aviation Technology I – Private Pilot Ground School**Delivery Method:** Intensive Camp; qualified instructor**Career Pathway:** **STEM****Career Cluster:** STEM**Textbook:** *Guided Flight Discovery Private Pilot* by Jeppesen

During this course, students will obtain the necessary aeronautical experience and skills required to obtain the Private Pilot Certificate with an Airplane Category rating and Single-engine Land Class rating. Units to be covered include training airplane introduction, flight altitudes and ground tracks, solo flying in traffic pattern, short-field takeoff and landing, night flying, altitude control with instruments and cross-country flights. Option to provide high school and college credit.



**Business Computer Applications I****Course #:** 623**Grades:** 9-12**Length:** Semester**Credit:** 0.5**Prerequisites:** None**Delivery Method:** On-site**Career Pathway:** **Service****Career Cluster:** Business Management & Administration**Textbook:** Learning Microsoft Office Level 1

During this course, students have the opportunity to learn introductory applications in word processing, database, spreadsheet, internet, multimedia presentation, and using the Microsoft Office Suite. This course provides the beginning experiences for anyone using a computer in today's world of modern technology. Students have the opportunity to get their Microsoft Office Specialist certification in word and excel.

**Business Computer Applications II****Course #:** 905**Grades:** 9-12**Length:** 1 semester**Credit:** 0.5**Prerequisites:** Business Computer Applications I**Delivery Method:** On-site**Career Pathway:** **Service****Career Cluster:** Business Management & Administration**Textbook:** Learning Microsoft Office Level 1

Students will gain experience in utilizing a computer to perform a variety of business functions. Students will demonstrate a proficiency with the following computer procedures: spread sheet usage (Microsoft Excel or equivalent), word processing data retrieval (Microsoft Word or equivalent), e-mail and electronic file transfers, database usage (File Maker Pro or equivalent), basic finance management (Quicken or equivalent), and desktop publishing (Aldus PageMaker or equivalent).

**Business Finance****Course #:** 660**Grades:** 9-12**Length:** Semester**Credit:** 0.5 (CTE, elective or math)**Prerequisites:** None**Delivery Method:** On-site**Career Pathway:** **Service****Career Cluster:** Business Management & Administration**Textbook:** *Mathematics for Business and Personal Finance*

In this course, students will learn finances related to business. Students will start by reviewing their basic math skills. Students will learn about making business decisions and managing business finances, including personal finances related to a business, purchasing and inventory, sales, marketing, services, accounting, and financial management. Students will develop their own business and set up the finances related to the business.

**Career Planning****Course #:** 817**Grades:** 9-12**Length:** Semester**Credit:** 0.5 (*REQUIRED CAREERS CREDIT*)**Prerequisites:** None**Delivery Method:** On-site**Career Pathway:** **Construction**, **Education**, **Health Science**, **STEM**, **Service****Career Cluster:** Any**Textbook:** *School to Career, 11<sup>th</sup> Edition* or *Succeeding in Life and Career, 11<sup>th</sup> Edition*

This course helps students engage in career development. Students will explore their skills, interests, career resources, current trends, and develop their own career plans. Students develop their own Career Plan in the Alaska Career Information System (AKCIS). Students will learn how to search, apply for, and interview for a job. Students learn teamwork, problem solving, communication, leadership, decision-making, employability skills, how to successfully manage their income, and how to be successful on the job.

**Computer Science Discoveries****Course #:** 890**Grades:** 6-10**Length:** Yearlong**Credit:** 0.5 – 1**Prerequisites:** None**Delivery Method:** On-site**Career Pathway:** **STEM****Career Cluster:** STEM**Textbook:** *CODE.org*

During this course, students are introduced to computer science. Students learn about hardware and how computers work. Students learn about web development and how web sites are created. Students are learn about programming and practice programming. The social aspects are explored. Students work individually and on collaborative projects as they develop creativity and problem-solving skills.

**Computer Science Principles****Course #:** 891**Grades:** 9-12**Length:** Yearlong**Credit:** 0.5 – 1**Prerequisites:** None**Delivery Method:** On-site**Career Pathway:** **STEM****Career Cluster:** STEM**Textbook:** *CODE.org*

This higher level introduction to computer science goes in depth. Students are introduced to the foundational concepts of computer science while exploring how computing and technology can impact the world. Students learn about the internet, digital information, programming, big data, building.

**Construction****Course #:** 616**Grades:** 9-12**Length:** Semester**Credit:** 0.5**Prerequisites:** None**Delivery Method:** On-site or Camp**Career Pathway:** **Construction****Career Cluster:** Architecture & Construction**Textbook:** *NCCER Core Curriculum: Introductory Craft Skills*

During this course, students are introduced to basic construction techniques. Students learn about basic safety, construction math, using hand tools, and using power tools, use construction drawings, how to effectively communicate with others, the skills needed for working on the job, and how to safely and properly handle materials through hands-on learning and projects. Students are given the opportunity to participate in a larger building project, such as a shed or small home.

**Construction 1a/1b****Course #:** 668/669**Grades:** 9-12**Length:** Semester**Credit:** 0.5/0.5**Prerequisites:** None**Delivery Method:** On-site**Career Pathway:** **Construction****Career Cluster:** Architecture & Construction**Textbook:** *Career Connections – Project Book 2*

This yearlong course is an intermediate level carpentry field. Detailed information on safety, hand and power tools, and materials required is provided with step-by-step procedures for many projects. Students complete lead up exercises to learn and practice specific skills for the upcoming project. A major focus is placed on job and classroom safety!

**Culinary Arts I****Course #:** 663**Grades:** 9-12**Length:** Semester**Credit:** 0.5**Prerequisites:** None**Delivery Method:** On-site**Career Pathway:** **Service****Career Cluster:** Human Services**Textbook:** *Discovering Food*

During this course, students will learn the fundamentals of culinary arts and prepare the students for a career in the food service industry. Students will learn the principles and practices of the culinary arts by building a strong foundation based in sound fundamental techniques by focusing on five areas essential to a well-rounded culinary professional; Professionalism, Preparation, Cooking, Food Preparation, and Baking. This is part one of a two-part series, with a focus on culinary art careers, safety, menus, tools and equipment, preparing to cook, dairy products and cooking meat. Students will demonstrate their skills and knowledge through hands on learning. Students will have the opportunity to obtain their Alaska Food Worker Safety Card.

**Culinary Arts II****Course #:** 621**Grades:** 9-12**Length:** Semester**Credit:** 0.5**Prerequisites:** None**Delivery Method:** On-site**Career Pathway:** **Service****Career Cluster:** Human Services**Textbook:** *Discovering Food*

During this course, students will continue to learn the fundamentals of culinary arts. This course will prepare the students for a career in the food service industry. Students will learn the principles and practices of the culinary arts by building a strong foundation based in sound fundamental techniques by focusing on five areas essential to a well-rounded culinary professional; Professionalism, Preparation, Cooking, Food Preparation, and Baking. This is part two of a two-part series. Topics covered are preparation of eggs, vegetables, and carbohydrates; healthy cooking; preparing salads and dressings, sandwiches, sausages, smoking; principles of baking; breads and pastries; cakes and frostings; other deserts, food presentation; and buffet presentation. Students will demonstrate their skills and knowledge through hands on learning.

**Drafting I****Course #:** 622**Grades:** 9-12**Length:** Semester**Credit:** 0.5**Prerequisites:** None**Delivery Method:** On-site or Distance**Career Pathway:** **Construction****Career Cluster:** Architecture & Construction**Textbook:** *Exploring Drafting*

In this course, students will learn drafting fundamentals and basic construction skills. Drafting methods and processes are addressed. Students use hands-on skills to develop and practice drafting skills and techniques. Students will be introduced to drafting careers and employability skills. Throughout the course, careers, employability skills, vocabulary, hand drawn drafting, academic skills, and STEM specific areas will be focused on.

**Education I****Course #:** 840**Grades:** 9-12**Length:** Semester**Credit:** 0.5**Prerequisites:** None**Delivery Method:** On-site or Distance**Career Pathway:** **Education****Career Cluster:** Education & Training**Textbook:** *Educators Rising Online Curriculum*

Leadership Development is the essential first course in preparing students to become educators. Students will develop skills to become reflective, self-aware learners while building capacity as school and community leaders. Focused on the skills and dispositions required to lead, students will explore equity in education and how personal bias influence how they teach and learn. Students will explore their personal values identifying passions, strengths, and challenges to build a career and learning plan.

**Education II****Course #:** 841**Grades:** 9-12**Length:** Semester**Credit:** 0.5**Prerequisites:** None**Delivery Method:** On-site or Distance**Career Pathway:** [Education](#)**Career Cluster:** Education & Training**Textbook:** *Educators Rising Online Curriculum*

This course explores the development of students across the learning continuum and the importance of understanding students as learners. Students will learn about the diversity of learners in an education system and how educators prepare to meet the needs of all students. In preparation for teaching in a culturally diverse system, students will explore the role of the educator in developing a classroom of respect that embraces diversity and empowers students.

**Education III****Course #:** 842**Grades:** 9-12**Length:** Semester**Credit:** 0.5**Prerequisites:** None**Delivery Method:** On-site or Distance**Career Pathway:** [Education](#)**Career Cluster:** Education & Training**Textbook:** *Educators Rising Online Curriculum*

This course focuses on the learning environments that facilitate student growth. Students will explore how educators create an engaging learning environment that provides culturally relevant learning opportunities and the instructional strategies that support students' self-efficacy. Students will develop lesson plans and facilitate instruction in classrooms within their school or community.

**Education Internship I****Course #:** 843**Grades:** 9-12**Length:** Semester**Credit:** 0.5 or 1**Prerequisites:** None**Delivery Method:** On-site or Distance**Career Pathway:** [Education](#)**Career Cluster:** Education & Training**Textbook:** *Educators Rising Online Curriculum*

In this course, a focus is placed on student clinical experiences and the continued development of the education professional. Using reflective practices, students develop and deliver lesson plans that pull together all the elements learned in previous courses. Students will spend time building their professional portfolio and network while developing a learning and career plan. Students will spend most of their time in the classroom, implementing lesson plans, and building their teaching skills.

**Education Internship II****Course #:** 845**Grades:** 9-12**Length:** Semester**Credit:** 0.5**Prerequisites:** None**Delivery Method:** On-site or Distance**Career Pathway:** **Education****Career Cluster:** Education & Training**Textbook:** *Educators Rising Online Curriculum*

In this Education Internship II course, a focus is placed on student clinical experiences and the continued development of the education professional. Using reflective practices, students develop and deliver lesson plans that pull together all the elements learned in previous courses. Students will be putting into practice all the skills previously learned about being an educator while acting as an intern in the classrooms. Students will continue to build their professional portfolio and network while building up their learning and career plan

**Emergency Trauma Training – First Responder****Course #:** 210**Grades:** 9-12**Length:** Semester**Credit:** 0.5**Prerequisites:** None**Delivery Method:** On-site or Camp – Trained Instructor needed.**Career Pathway:** **Health Science****Career Cluster:** Health Science**Textbook:** *Emergency Trauma Training: A Text for First Responders in Alaska* by Southeast Region EMS Council

This course will provide the essential skills needed for emergency medical care for the ill or injured as a first-time responder. General principles and special medical interventions will be emphasized. Includes First Aid, CPR, and ETT Certification. Units to be covered are introduction to EMS systems, ethical issues, human body, airway and CPR, patient assessment, trauma, medical emergencies, pediatrics, environmental emergencies and EMS operations. Option to provide high school and college credit.

**EMT Bridge Class****Course #:** 214**Grades:** 9-12**Length:** Semester**Credit:** 0.5**Prerequisites:** Emergency Trauma Technician**Delivery Method:** Intensive Camp – Trained Instructor**Career Pathway:** **Health Science****Career Cluster:** Health Science**Textbook:** *Emergency Care and Transportation of the Sick and Injured, 9th Edition*

Teaches students the skills and knowledge to provide for sick or injured in emergency medical settings. Instruction covers assessing a patient's conditions, dealing with trauma relating to a variety of situations and conditions. Students participate in a variety of hands-on activities and must complete a skill test as well as a written test. The course will provide the opportunity to obtain Emergency Medical Technician certification. Option to provide high school and college credit.

**Entrepreneurship****Course #:** 868**Grades:** 9-12**Length:** 1 Semester**Credit:** 0.5**Prerequisites:** None**Delivery Method:** On-site**Career Pathway:** Construction, Education, Health Science, STEM, Service**Career Cluster:** Any**Textbook:** Online Wharton High School Entrepreneurship

This course is for students interested in wanting to start and operate a small business. Students will explore and prepare for work as an entrepreneur. Students will learn about starting a small business, operating a small business, and the legal aspects of having a small business. Students will develop skills and abilities to run a small business, learn and use marketing skills and participate in the actual operation of a small business.

**Heavy Equipment Operations I****Course #:** 737**Grades:** 9-12**Length:** 2-3 Camp**Credit:** 0.5**Prerequisites:** Construction – Core Certification**Delivery Method:** Intensive Camp**Career Pathway:** Construction**Career Cluster:** Architecture & Construction; Transportation, Distribution & Logistics**Textbook:** *NCCER Core & Heavy Equipment Operations 1,2, 3*

During this course, students learn about career, industries and safety information relating to heavy equipment operation. Students will have time to explore careers, identify heavy equipment and uses while understanding requirement for safety in construction. Students will have the opportunity to develop their skills on simulator based heavy equipment and will be challenged with national certifications and performance tests. Students will develop a resume and create a personal learning career plan to prepare themselves for work in industry, application to registered apprenticeship or a university construction management program.

**Human Behavior in Health Care****Course #:** 687**Grades:** 9-12**Length:** Semester**Credit:** 1**College Credit:** 3 UAF credits**Prerequisites:** None**Delivery Method:** Distance through UAF Alaska Advantage**Career Pathway:** Health Science**Career Cluster:** Health Science

This course provides students with an introduction to and discussion of general concepts in human behavior and specialized psychological issues when dealing with patients and loved ones in health care settings, including effects of illness on behavior, effects of traumatic events on health, Maslow's hierarchy of needs and trends toward holistic care. Students will perform self-evaluations and survey other cultures to allow examination of perceptions, individual biases, beliefs and their impacts on behavior. Option for high school and college credit.



**Introduction to Construction 1a/1b****Course #:****Grades:** 9-12**Length:** Semester**Credit:** 0.5/0.5**Prerequisites:** None**Delivery Method:** On-site**Career Pathway:** **Construction****Career Cluster:** Architecture & Construction**Textbook:** *Career Connections – Project Book 1*

This yearlong course is designed to introduce students to the carpentry field. Students will develop employability skills while working on skill-based projects. Subjects covered are safety, hand-tools, power tools, and materials. Through step-by-step procedures students complete projects. Students complete lead up exercises to learn and practice specific skills for the upcoming project. A major focus is placed on job and classroom safety!

**Introduction to Construction Math****Course #:** 677**Grades:** 9-12**Length:** Semester**Credit:** 0.5**Prerequisites:** None**Delivery Method:** On-site**Career Pathway:** **Construction****Career Cluster:** Architecture & Construction**Textbook:** *Applied Construction Math: A Novel Approach*

During this course, students will be introduced to construction related math having practical applications. This semester long course follows a series of characters through earning money and building a house. Students learn basic math skills and relate the skills to real life, including division, decimals/percentages, reading measurements, calculating area, powers of ten, linear measure, angles, volumes, pressure, slopes, solving for unknowns, square inches, feet and yards, volume, and more.

**Introduction to Health Careers****Course #:** 689**Grades:** 9-12**Length:** Semester**Credit:** 0.5

College Credit: 2 UAF

**Prerequisites:** None**Delivery Method:** Distance through UAF Alaska Advantage**Career Pathway:** **Health Science****Career Cluster:** Health Science**Textbook:** *Introduction to Health Care*

Students explore a variety of health-related careers and a basic overview of the following areas: roles and responsibilities of health care workers, job and educational opportunities, medical terminology, medical math, legal and ethical issues, confidentiality, personal safety and infection control, problem solving, basic medical skills, and anatomy and physiology related to emergency care. Option to provide high school and college credit.

**Math for the Construction Trades****Course #:** 655**Grades:** 9-12**Length:** Year-long**Credit:** 0.5**Prerequisites:** None**Delivery Method:** On-site**Career Pathway:** **Construction****Career Cluster:** Architecture & Construction**Textbook:** *Mathematics for Carpentry and the Construction Trades, Third Edition*

This course is intended for students who want to go into carpentry and building construction.

Students will have the opportunity to learn about the fundamental math needed for a broad range of skills, with an emphasis on applications in the building construction field. Application of the skills covers board measurements for roofs to cost estimating.

**Mathematics in Healthcare****Course #:** 718**Grades:** 9-12**Length:** Semester**Credit:** 1**College Credit:** 3 UAF credits**Prerequisites:** None**Delivery Method:** Distance through UAF Alaska Advantage**Career Pathway:** **Health Science****Career Cluster:** Health Science**Textbook:** *Math Basics for the Health Care Professional*

This course provides a practical application of mathematics in health care including arithmetic review, decimals, fractions, percent, ratio, proportion, and metric measurement, and mathematical applications in medical careers including measurement instruments, graphs, charts, and medication dosage calculations. Option to provide high school and college credit.

**Medical Terminology****Course #:** 697**Grades:** 9-12**Length:** Full Year**Credit:** 1**College Credit:** 3 UAF credits**Prerequisites:** None**Delivery Method:** Distance through UAF Alaska Advantage**Career Pathway:** **Health Science****Career Cluster:** Health Science**Textbook:** *Quick and Easy Medical Terminology*

This course focuses on the study of medical terminology including analysis and origin of word roots, prefixes and suffixes. Understanding the word components, students will be able to build, spell and define medical words. Content will be presented by body systems focusing on terms for anatomy, diagnostic, laboratory and medical specialties. Includes use of medical dictionary, word pronunciation and abbreviations. Designed for health care professionals. Option to provide high school and college credit.

**Personal Finance****Course #:** 720**Grades:** 9-12**Length:** Semester**Credit:** 0.5 (CTE, math, or elective)**Prerequisites:** None**Delivery Method:** On-site**Career Pathway:** Construction, Education, Health Science, Service, STEM**Career Cluster:** Any**Textbook:** *Mathematics for Business and Personal Finance*

This course covers important consumer topics like budgeting and money management, banking and credit, saving and investing, and strategies for protecting financial resources. Students will learn about cash purchases versus credit cards and loans, as well as financial decisions relating to vehicles, housing, insurance, and investment. This program is built around a comprehensive, academically rigorous curriculum, with project-based learning and real-world connections to prepare students with the skills and experiences they need to succeed in college-level coursework and the workforce. Students will create their own budget and practice using it.

**Professional Skills for the Healthcare Workplace****Course #:** 642**Grades:** 9-12**Length:** Semester**Credit:** 0.5**College Credit:** 2 UAF credits**Prerequisites:** None**Delivery Method:** Distance through UAF Alaska Advantage**Career Pathway:** Health Science**Career Cluster:** Health Science**Fee:** None**Textbook:** *Professionalism in Health Care – A Primer for Career Success*

Students will learn about different careers in Health Care, including the education and training needed for these careers. Funding sources for health care education will be explored. Students will be introduced to Barrier Crimes and the significance of the current legislation to the current Health Care workers. Specific topics to be covered are job commitment, personal traits, working with others, personal skills, career planning and employment, and an overview of the Health Care Practicum and Externship. Option for high school and college credit.

**Small Engines****Course #:** 620**Grades:** 9-12**Length:** Yearlong**Credit:** 1**Prerequisites:** None**Delivery Method:** On-site**Career Pathway:** **Construction****Career Cluster:** Transportation, Distribution & Logistics; Architecture & Construction**Textbook:** *Small Engines*

In this hands-on course students learn about engine operation, maintenance and repair. Students will learn about theory, operation, maintenance, repair, and overhaul of two and four stroke gasoline and diesel engines. A focus will be placed on shop safety, tools and fasteners, precision measurement, engine systems, engine performance, and the use of specialized engine tools. A focus will be placed on hands-on projects which will allow the student to apply the skills they are learning.

**Small Engines II****Course #:** 676**Grades:** 9-12**Length:** 1 semester**Credit:** 0.5**Prerequisites:** None**Delivery Method:** On-site**Career Pathway:** **Construction****Career Cluster:** Transportation, Distribution & Logistics; Architecture & Construction**Textbook:** *Small Engines*

During this hands-on course, students will further develop the use, maintenance, operation, and repair of small engines. Students will continue to learn about engine operation for internal combustion and multiple-cylinder engines. Compression, fuel, governor, electrical, cooling, and lubrication systems will be covered. Students will have the opportunity to troubleshoot and review failure analysis.

**Small Engines Repair I****Course #:** 679**Grades:** 9-12**Length:** 1 semester**Credit:** 0.5**Prerequisites:** None**Delivery Method:** On-site**Career Pathway:** **Construction****Career Cluster:** Transportation, Distribution & Logistics; Architecture & Construction**Textbook:** *Small Engines*

During this hands-on course, students will use the skills learned in Small Engines I and II. Students will use this class to run a small engines repair shop and do maintenance and repair on a variety of engines.

**Welding I****Course #:** 631**Grades:** 9-12**Length:** Semester**Credit:** 0.5**Prerequisites:** None**Delivery Method:** On-site**Career Pathway:** **Construction****Career Cluster:** Architecture & Construction**Textbook:** *NCCER Welding: Level One*

During this course, students will receive orientation and training in welding. Shielded metal arc welding and flame cutting are explored. Topics to be covered are welding careers, welding tools, responsibilities of a shielded metal arc welder, safety, shielded metal arc welding, flame cutting, welding problem-solving and blueprint reading. Students will create various metal projects using shielded metal arc welding techniques.

## CTE Course Names, Credits, & Numbers

Course Name	Course Number	Credits	Length	Tech Prep
3-D Printing	656	0.5	S	N
Alaska Health & Nutrition	656	0.5	S	N
Alaska Culture & Dog Mushing – Middle School	694	N/A	S/Y	N
Alaska Culture & Dog Mushing – High School	693	0.5/1.0*	S/Y	N
Alaska Aviation Technology – Private Pilot Ground School	215	0.5	S	N
Applied Math I	607	0.5	S	N
Aviation Technology I – Ground School	215	0.5	S	N
Aviation Technology II – Private Pilot Flight School	216	0.5	S	N
Business Computer Applications I	623	0.5	S	N
Business Computer Applications II	905	0.5	S	N
Business Finance	660	0.5	S	N
Career Planning	817	0.5	S	N
Computer Science Discoveries	890	0.5/1.0	S/Y	N
Computer Science Principles	891	0.5/1.0	S/Y	N
Construction	616	0.5	S	N
Construction 1a	668	0.5	S	N
Construction 1b	669	0.5	S	N
Culinary Arts I	663	0.5	S	N
Culinary Arts II	621	0.5	S	N
Drafting I	622	0.5	S	N
Education I	840	0.5	S	N
Education II	841	0.5	S	N
Education III	842	0.5	S	N
Education Internship I	843	0.5	S	N
Education Internship II	845	0.5	S	N
Emergency Trauma Technician: First Responder	210	0.5 (1.0*)	S	Y
EMT Bridge Course	214	0.5 (1.0*)	S	Y
Entrepreneurship	686	0.5	S	N
Heavy Equipment Operations I	737	0.5	S	N
Human Behavior in Health Care	687	0.5 (1.0*)	S	Y
Introduction to Construction 1a	TBD	0.5	S	N
Introduction to Construction 1b	TBD	0.5	S	N
Introduction to Construction Math	677	0.5	S	N
Introduction to Health Careers	689	0.5	S	Y
Math for the Construction Trades	655	0.5	S	N
Mathematics in Healthcare	718	0.5 (1.0*)	S	Y
Medical Terminology	697	1.0	Y	Y
Personal Finance	720	0.5	S	N
Professional Skills for the Healthcare Workplace	642	0.5	S	Y
Small Engines	620	1.0	Y	N
Small Engines II	676	0.5	S	N
Small Engines Repair I	679	0.5	S	N
Welding I	631	0.5	S	N

\*If students earn a C or higher in these courses and receive at least 3 college credits; YKSD will award 1.0 credit per semester/3 credit university course.

## CTE Course Delivery Methods

Yukon-Koyukuk School District offers Career & Technical Education course instruction through a variety of methods:

- On-site semester or year-long course - Taught by local teacher on site
- Distance course asynchronous – Course is offered online and student works independently throughout the semester. Students are expected to have a set aside time to work on this course every school day. An on-site adult monitors the progress of the student and assists with any questions.
- Distance course with video classes – Course is offered online with regular class meetings over videoconference. Generally, class will meet once a week. Students are expected to have a set aside time period to work on this class every day, with an on-site adult monitoring the students progresses and assisting with questions.
- Intensive course – Students travel to a central local where expert teacher provides intensive hands-on instruction during over a short time period usually 2 weeks.



# Camps

In partnership with EXCEL Alaska, YKSD offers a variety of short-term intensive sessions (camps) for students. The sessions are designed to prepare rural students for a future career and/or post-secondary education. To participate students must go through an application process.

Foundational Sessions Foundational Sessions teach students skills needed to achieve their career goals. Students learn employability skills, communication skills, teamwork, how a corporation operates, and explore careers. The Foundational Sessions build upon one other and are the basis for other camps. Those who participate in a Foundational Session will receive priority for their applications for the other sessions. The Foundational Sessions are:

- EXCEL 7
- EXCEL 8
- EXCEL
- EXCEL 10
- EXCEL 11
- EXCEL 12

Specialty sessions give students the opportunity for a hands-on training and experience in a career field in which they are interested. Students learn to apply what they learn in the classroom to solve real life problems or prepare for post-secondary education opportunities. The Specialty Sessions consist of:

- Academic Decathlon and Career Fair
- CTE Carpentry Camp
- CTE Heavy Equipment Operations Camp
- CTE Welding Camp
- Math Science Expedition
- Summer XL Camp
- Introduction to Aviation
- EXCEL Ground School
- Post-Secondary Prep and Credit Recovery
- Driver's Education
- Industry Boot Camp
- Law Enforcement
- Introduction to Medical Careers
- Math & Science Expedition
- George River Internship
- Aviation Camp and Internship
- Certified Nursing Assistant
- Emergency Medical Technician