

Anchorage School District

Career and Technology
Education

Program of Studies

















CTEPS

Career Cluster Pathways

2010-2011

September 2010

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| Career Cluster Name | Description | Career Cluster Name | Description |
|--|--|---|---|
|  | The production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources. |  | Hospitality & Tourism encompasses the management, marketing and operations of restaurants and other foodservices, lodging, attractions, recreation events and travel related services. |
|  | Careers in designing, planning, managing, building and maintaining the built environment. |  | Preparing individuals for employment in career pathways that relate to families and human needs. |
|  | Designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services. |  | Building Linkages in IT Occupations Framework: For Entry Level, Technical, and Professional Careers Related to the Design, Development, Support and Management of Hardware, Software, Multimedia, and Systems Integration Services. |
|  | Business, Management and Administration careers encompass planning, organizing, directing and evaluating business functions essential to efficient and productive business operations. Business Management and Administration career opportunities are available in every sector of the economy. |  | Planning, managing, and providing legal, public safety, protective services and homeland security, including professional and technical support services. |
|  | Planning, managing and providing education and training services, and related learning support services. |  | Planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering |
|  | Planning, services for financial and investment planning, banking, insurance, and business financial management. |  | Planning, managing, and performing marketing activities to reach organizational objectives. |
|  | Executing governmental functions to include Governance; National Security; Foreign Service; Planning; Revenue and Taxation; Regulation; and Management and Administration at the local, state, and federal levels. |  | Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services. |
|  | Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development. |  | Planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional and technical support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance. |

| Career Cluster | Pathway |
|---|--|
| B. Agriculture, Food & Natural Resources | <ul style="list-style-type: none"> • Food Products and Processing Systems • Plant systems • Animal Systems • Power, Structural and Technical Systems • Natural Resources Systems • Environmental Service Systems • Agribusiness Systems |
| C. Architecture & Construction | <ul style="list-style-type: none"> • Design/Pre-Construction • Construction • Maintenance/Operations |
| D. Arts, A/V Technology & Communications | <ul style="list-style-type: none"> • Audio and Video Technology and Film • Printing Technology • Visual Arts • Performing Arts • Journalism and Broadcasting • Telecommunications |
| E. Business, Management & Administration | <ul style="list-style-type: none"> • Management • Business Financial Management & Accounting • Human Resources • Business Analysis • Marketing • Administrative and Information Support |
| F. Education & Training | <ul style="list-style-type: none"> • Administration & Administrative Support • Professional Support Services • Teaching/Training |
| G. Finance | <ul style="list-style-type: none"> • Financial and Investment Planning • Business Financial Management • Banking and Related Services • Insurance Services |
| H. Government & Public Administration | <ul style="list-style-type: none"> • Governance • National Security • Foreign Service • Planning • Revenue & Taxation • Regulation • Public Management & Administration |
| I. Health Science | <ul style="list-style-type: none"> • Therapeutic Services • Diagnostic Services • Health Informatics • Support Services • Biotechnology Research & Development |

| Career Cluster | Pathway |
|--|---|
| J. Hospitality & Tourism | <ul style="list-style-type: none"> • Restaurants and Food/Beverage Services • Lodging • Travel & Tourism • Recreation, Amusements & Attractions |
| K. Human Services | <ul style="list-style-type: none"> • Early Childhood Development & Services • Counseling & Mental Health Services • Family & Community Services • Personal Care Services • Consumer Services |
| L. Information Technology | <ul style="list-style-type: none"> • Network Systems • Information Support & Services • Interactive Media • Programming & Software Development |
| M. Law, Public Safety, Corrections & Security | <ul style="list-style-type: none"> • Correction Services • Emergency & Fire Management Services • Security & Protective Services • Law Enforcement Services • Legal Services |
| N. Manufacturing | <ul style="list-style-type: none"> • Production • Manufacturing Production Process Development • Maintenance, Installation and Repair |
| O. Marketing, Sales & Service | <ul style="list-style-type: none"> • Management & Entrepreneurship • Professional Sales & Marketing • Buying & Merchandising • Marketing Communications & Promotion • Marketing Information Management & Research • Distribution & Logistics • E-Marketing |
| P. Science, Technology, Engineering & Mathematics | <ul style="list-style-type: none"> • Engineering & Technology • Science & Mathematics |
| Q. Transportation, Distribution & Logistics | <ul style="list-style-type: none"> • Transportation Operations • Logistics Planning & Management Services • Warehousing & Distribution Center Operations • Facility & Mobile Equipment Maintenance • Transportation Systems/Infrastructure Planning, Management & Regulation |



<http://cte.asdk12.org>

www.careerclusters.org

Program of Studies Index

1. Agriculture, Food & Natural Resources
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7. Human Services
8. Information Technology
9. Law, Public Safety, Corrections & Security
10. Manufacturing
11. Marketing
12. Science, Technology, Engineering & Mathematics
13. Transportation, Distribution & Logistics
14. Government & Public Administration
15. Education & Training
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Career Cluster Agriculture, Food & Natural Resources

District Name Anchorage School District

Date September 2010

Career Cluster Description: The production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources. **Pathways include Food Products & Processing Systems, Plant Systems, Power Structural & Technical Systems, Natural Resources Systems, Environmental Service Systems, and Agribusiness Systems.**

Major Options: Bioinformatics Specialists • Plant Breeders and Geneticists • Biotechnology Lab Technician • Soil & Water Specialists • Crop Farm Managers • Agricultural Educators • Plant Pathologists • Aquaculturalists • Sales Representatives • Botanists • Tree Surgeons • Education & Extension Specialists • Agricultural Journalists • Commodity Marketing Specialists • Grain Operations Superintendents • Custom Hay/Silage Operators • Forest Geneticists • Golf Course Superintendents • Greenhouse Managers • Growers • Food Scientists • Meat Processors-Toxicologists • Biochemists-Nutritionists-Dieticians • Food Brokers-Food Inspectors

Middle School Option: • Applied Technology 7, 8 • Computers 8 • Family Consumer Science 7,8

RECOMMENDED SECONDARY CAREER DEVELOPMENT SCHEDULE *Scheduling of classes may vary according to each school's course offerings and student needs.*

| 9 th Grade | | 10 th Grade | | 11 th Grade | | 12 th Grade | |
|--|----------------------|---|--------------|--|------------|---|-------------------------|
| Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 |
| English 9-1 | English 9-2 | English 10-1 | English 10-2 | English 11 | English 11 | Technical Writing in the 21 st Century | LA Elective |
| Algebra I | Algebra I | Geometry | Geometry | Algebra II | Algebra II | | |
| Integrated Science 9 | Integrated Science 9 | Biology 1 | Biology 2 | Chemistry | Chemistry | Geology / Natural Resources Environmental Science / Biotechnology / Physics | |
| World History | World History | US History | US History | Alaska Studies | Economics | US Government | Social Studies elective |
| Physical Ed | Physical Ed | Lifetime Activity | | <ul style="list-style-type: none"> *KCC Horticulture 1, 2 *KCC Horticulture OJT *KCC Natural Resources 1, 2 *KCC Natural Resources OJT Food Science Nutrition & Food Preparation Note: KCC course are 1.5 credits per semester | | | |
| <ul style="list-style-type: none"> *Computer Keyboarding 1, 2 *Computer Business Applications 1, 2 | | <ul style="list-style-type: none"> CAD 1, 2 *Material Science & Construction 1 Introduction to Small Engine Repair Introduction to Welding Introduction to Marketing Business Principles & Management 1 | | | | | |



Career Cluster Agriculture, Food & Natural Resources

District Name Anchorage School District

Date September 2010

| Work-Based Learning Opportunities | | Career-Technical Student Organizations (CTSO) | Certifications |
|--|---|--|---|
| <ul style="list-style-type: none"> • Apprenticeship • Cooperative Education • Job Shadowing | <ul style="list-style-type: none"> • Paid/Unpaid Internship • School-Based Enterprise • Service Learning | <ul style="list-style-type: none"> • FFA • FCCLA | Naturalist Interpreter Career Readiness Certificate (WorkKeys) |

POSTSECONDARY OPTIONS

| Two-Year College or Proprietary Programs | Adult Registered Apprenticeships | Four-Year College and University Programs | Post-Secondary Certificates | Licenses, On The Job Training, Training Certificates, etc. |
|--|---|--|--|---|
| <ul style="list-style-type: none"> • Environmental Technology • Renewable Resources (F) • Environmental Technology (S) • Fisheries Technology (S) • Food Technology | <ul style="list-style-type: none"> • Landscape Technician • Forestry Technician | <ul style="list-style-type: none"> • Natural Sciences • Botany • Environmental Science (S) • Fisheries (F) • Geological-Environmental Studies (F) • Geology (F) • Geological Sciences (A) • Natural Resources & Agricultural Science (F) • Natural Resource Management (F) • Wildlife Biology • Food Science • Dietetics | <ul style="list-style-type: none"> • Wastewater Operations (S) • Water Operations (S) • Mining Application & Technology (F) | <ul style="list-style-type: none"> • Registered Dietician • Dietetic Technician |

Major Academic Unit Codes: (A) = University of Alaska Anchorage, (F) = University of Alaska Fairbanks, (S) = University of Alaska Southeast



Career Cluster Description: The construction career cluster prepares learners to enter an industry which starts with designing, planning, managing, building, and maintaining physical structures and the larger building environment including roadways and bridges, industrial, commercial, and residential facilities. The environmental aspects of the structures as well as restorations and alterations of structures are included in this industry. **Pathways include Design/Pre-Construction, Construction, and Maintenance/Operations.**

Major Options: General Contractor/Builder • Specialty Contractor • Construction Engineer • Construction Manager • Superintendent • Project Manager • Construction Foreman • Estimator • Project Inspector • Manufacturer’s Representative • Sales and Marketing Manager • Equipment and Material Manager • Scheduler • Education and Training Director • Safety Director • Construction Inspector • Subcontractor • Preservationist • Service Contractor • Field Supervisor • Specialty Trades Subcontractor • Mason • Construction Craft Laborer • Iron/Metalworker (structural and reinforcing) • Carpenter • System Installer • Electrician • Boilermaker • Electronic Systems Technician • Sheet Metal Worker • Security and Fire Alarm Systems Installer • Concrete Finisher • Glazier • Tile and Marble Setter • Landscaper/Groundskeeper • Elevator Installer • Roofer • Painter • Explosives Worker • Plasterer/Drywall • Paperhanger • Insulation Worker • Drywall Installer • Plumber • Pipe Fitter • Millwright • Heating, Ventilation, Air Conditioning and Refrigeration Mechanic • Carpet Installer • Electrician • Steamfitter • Terrazo Worker and Finisher • Interior Designer • Kitchen Designer • Paint Specialist

Middle School Option: Applied Technology 7 & 8, Business Technology, Family and Consumer Sciences 7&8

RECOMMENDED SECONDARY CAREER DEVELOPMENT SCHEDULE *Scheduling of classes may vary according to each school’s course offerings and student needs.*

| 9 th Grade | | 10 th Grade | | 11 th Grade | | 12 th Grade | |
|--|--|------------------------|--------------|--|------------|---|-------------|
| Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 |
| English 9-1 | English 9-2 | English 10-1 | English 10-2 | English 11 | English 11 | Technical Writing in the 21 st Century | LA Elective |
| Algebra I | Algebra I | Geometry | Geometry | Algebra II | Algebra II | PreCalc | |
| Integrated Science 9 | Integrated Science 9 | Biology 1 | Biology 2 | Chemistry | Chemistry | Physics | |
| World History | World History | US History | US History | Alaska Studies | Economics | US Government | SS Elective |
| Physical Ed | Physical Ed | Lifetime Activity | | <ul style="list-style-type: none"> Housing & Living Environment Surveying & Blueprint *KCC Carpentry 1, 2, 3 Carpentry OJT *KCC Construction Electricity Construction Electricity OJT *KCC Welding 1, 2, 3 Welding OJT KCC Small Engine 1, 2, 3 Small Engine OJT Plumbing & Pipefitting PLTW Civil Engineer & Architecture | | Note: KCC course are 1.5 credits per semester | |
| <ul style="list-style-type: none"> *Computer Keyboarding 1 & 2 Applied Technology 1 & 2 *Business Computer Applications 1&2 | <ul style="list-style-type: none"> *Material Science & Construction 1 *Material Science & Construction 2 Residential Wiring 1, 2 *Business Logistics 1 Intro to Welding Intro to Construction Electricity Intro to Plumbing & Fitting Intro to Carpentry CAD 1 CAD 2 *CAD 3 | | | | | | |



| Work-Based Learning Opportunities | | Career-Technical Student Organizations (CTSO) | Certifications |
|--|---|--|---|
| <ul style="list-style-type: none"> Apprenticeship Cooperative Education Job Shadowing | <ul style="list-style-type: none"> Paid/Unpaid Internship School-Based Enterprise Service Learning | <ul style="list-style-type: none"> FCCLA—Interior Design SKILLSUSA | NCCER, AWS Career Readiness Certificate (WorkKeys) |

The following sample of a Program of Study beyond high school is with the Southern Alaska Carpenters Training Center U.S. Registry #AK000550001, based in Anchorage. Completion of this apprenticeship requires 1,120 hours of classroom instruction and 5,880 hours of on-the-job learning for a total of 7,000 hours. High school math courses recommended by the Carpenters Training Center include Algebra I and Geometry.

| Year 1 (320 Hours) Carpenter Apprenticeship | Year 2 (280 Hours) Carpenter Apprenticeship | Year 3 (280 Hours) Carpenter Apprenticeship | Year 4 (240 Hours) Carpenter Apprenticeship |
|---|--|---|--|
| Areas of Instruction | Areas of Instruction | Areas of Instruction | Areas of Instruction |
| <ul style="list-style-type: none"> Ethics, tools & materials OSHA 10 Hammer, saw & nail Wood & metal stake Sawhorse Builder math, ratio & proportion Optical instruments Rigging Framing (wood & metal) Scaffolding (frame & rolling tower) Concrete forming | <ul style="list-style-type: none"> Review Optical instruments Fall protection Interior finish Joinery Wood stairs Concrete stairs | <ul style="list-style-type: none"> Review Optical Instruments Scaffolding (metal frame, tube & clamp, systems) Detail/material list for cabin Building layout Framing (floors, walls & roofs) Sheathing (floors, walls & roofs) Exterior finish Asphalt shingles Doors, windows Metal stud framing (soffits) | <ul style="list-style-type: none"> Review Optical instruments Door hardware Advanced math Blueprint reading & detailing Detail & build cabin CPR/First aid Trust financial seminar |



POSTSECONDARY OPTIONS

| Two-Year College AA or Proprietary Programs / Tech Prep* | Other Adult Registered Apprenticeships / Tech Prep* | Four-Year College and University Programs | Post-Secondary Certificates | Licenses, On The Job Training, Training Certificates, etc. |
|---|---|--|---|---|
| <ul style="list-style-type: none"> • AWS training, Construction • Architectural Drafting • Construction Technology • Construction Management • *UAA Tech Prep Articulation • Apprenticeship Tech (A,F,S) • Architecture & Engineering Technology (A) • Construction Management (A,F) • Construction Technology (S) • Construction Trades Tech (F) • Refrigerator & Heating Tech (A) • Welding & Non- Destructive Testing Technology (A) • Welding Tech (A) | <ul style="list-style-type: none"> • Assoc. Builders/Contr of AK • Electrical Lineman • Electrical Wireman • Ironworkers • Operating Engineers • Asbestos Workers • Alaska Works Partnership Building Maintenance & Repair • Bricklayers • Cement Mason/Plasterer • Laborers • Millwrights • Painter/Taper/Glazier/Floor Covers • Piledrivers • Plumbers & Fitters • Roofers • Sheet Metal Workers • Teamsters | <ul style="list-style-type: none"> • Teacher • Engineer • Architect • Family & Consumer Sciences—Interior Design | <ul style="list-style-type: none"> • Architectural Drafting (A) • Civil Drafting (A) • Drafting Technology (F,S) • Heating (A) • Mechanical & Electrical Drafting (A) • Refrigerator & Heating Tech (A) • Structural Drafting (A) • Construction Technology (S) • Construction Trades Technology (F) • Industrial Welding Technology (A) • Non-Destructive Testing (A) • Residential Building Science (S) • Welding Technology (A,S) | <ul style="list-style-type: none"> • Interior Design A.I.D. • OSHA 10 • Power Actuated Tools • Scaffold 16 & 40 • Fall Protection • First Aid/CPR |
| <p>Major Academic Unit Codes: (A) = University of Alaska Anchorage, (F) = University of Alaska Fairbanks, (S) = University of Alaska Southeast.</p> | | | | |

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Career Cluster Arts, A/V Technology & Communications

District Name Anchorage School District

Date September 2010

Career Cluster Description: Designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services. **Pathways include Audio & Video Technology & Film, Printing Technology, Visual Arts, Performing Arts, Journalism & Broadcasting, and Telecommunications.**

Major Options: Video Systems Technicians, Video Graphics, Special Effects, and Animation, Audio-Video Designers and Engineers, Technical Computer Support Technicians, Film, Video, and DVD, Audio-Video System Service Technicians, Audio Systems Technicians, Commercial Photographers, Digital, Still, Video, Film, Audio/Video Operations, Control Room Technician, Station Mangers and Radio & TV Announcers, Textile Designers, Fashion Designers.

Middle School Option: Applied Technology 7 & 8, Computers 7 & 8

RECOMMENDED SECONDARY CAREER DEVELOPMENT SCHEDULE *Scheduling of classes may vary according to each school's course offerings and student needs.*

| 9 th Grade | | 10 th Grade | | 11 th Grade | | 12 th Grade | |
|-----------------------|----------------------|------------------------|--------------|--|------------|---|-------------|
| Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 |
| English 9-1 | English 9-2 | English 10-1 | English 10-2 | English 11 | English 11 | Technical Writing in the 21 st Century | LA Elective |
| Algebra I | Algebra I | Geometry | Geometry | Algebra II | Algebra II | | |
| Integrated Science 9 | Integrated Science 9 | Biology 1 | Biology 2 | Chemistry | Chemistry | | |
| World History | World History | US History | US History | Alaska Studies | Economics | US Government | SS Elective |
| Physical Ed | Physical Ed | Lifetime Activity | Health | <ul style="list-style-type: none"> • *KCC Radio & TV Production • *KCC Radio & TV OJT • *KCC Advertising, Art & Design • *KCC Advertising, Art & Design OJT <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <ul style="list-style-type: none"> • *Computer Keyboarding 1, 2 • *Business Computer Applications 1, 2 • Art classes </div> <div style="width: 45%;"> <ul style="list-style-type: none"> • Photography 1, 2 • Textiles 1, 2 • Applied Technology 1, 2 • Introduction to Business Technology & Web Design • Electronic Communications </div> </div> <p style="margin-top: 10px;">Note: KCC course are 1.5 credits per semester</p> | | | |
| | | | | | | | |



Career Cluster Arts, A/V Technology & Communications

District Name Anchorage School District

Date September 2010

| Work-Based Learning Opportunities | | Career-Technical Student Organizations (CTSO) | Certifications |
|--|---|---|---|
| <ul style="list-style-type: none"> • Apprenticeship • Cooperative Education • Job Shadowing | <ul style="list-style-type: none"> • Paid/Unpaid Internship • School-Based Enterprise • Service Learning | <ul style="list-style-type: none"> • SKILLSUSA • BPA (Business Professionals of America) • FCCLA | Career Readiness Certificate (WorkKeys) |

POSTSECONDARY OPTIONS

| Two-Year College or Proprietary Programs | Adult Registered Apprenticeships | Four-Year College and University Programs | Post-Secondary Certificates | Licenses, On The Job Training, Training Certificates, etc. |
|---|----------------------------------|---|-----------------------------------|--|
| | | Journalism (F) Journalism & Public Communication (A) | Desktop Publishing & Graphics (A) | |
| Major Academic Unit Codes: (A) = University of Alaska Anchorage, (F) = University of Alaska Fairbanks, (S) = University of Alaska Southeast | | | | |



Career Cluster Description: Business Management and Administration careers encompass planning, organizing, directing and evaluating business functions essential to efficient and productive business operations. Business Management and Administration career opportunities are available in every sector of the economy. **Pathways include Management, Business Financial Management & Accounting, Human Resources, Business Analysis, Marketing, and Administrative & Information Support.**

Major Options: Accountants * Accounting Clerk * Accounting Supervisor * Adjuster * Adjustment Clerk * Assistant Treasurer * Auditor * Bookkeeper * Budget Analyst * Budget Manager * Billing Supervisor * Cash Manager * Controller * Merger & Acquisitions Manager * Price Analyst * Top Collections Executive * Top Investment Executive * Treasurer * Chief Financial Officer * Finance Director * Certified Public Accountant * Accounts Receivable Clerk * Cost Accountant * Financial Accountant * Billing Clerk * Payroll Accounting Clerk

Middle School Option: Computers 7, 8, Business Technology 7 & 8, Keyboarding

RECOMMENDED SECONDARY CAREER DEVELOPMENT SCHEDULE *Scheduling of classes may vary according to each school's course offerings and student needs.*

| 9 th Grade | | 10 th Grade | | 11 th Grade | | 12 th Grade | |
|---|----------------------|---|--------------|---|--------------|---|-------------|
| Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 |
| English 9-1 | English 9-2 | English 10-1 | English 10-2 | English 11 | English 11 | Technical Writing in the 21 st Century | LA Elective |
| Algebra I | Algebra I | Geometry | Geometry | Algebra II | Algebra II | Elective | Elective |
| Integrated Science 9 | Integrated Science 9 | Biology 1 | Biology 2 | Chemistry | Chemistry | Elective | Elective |
| World History | World History | US History | US History | Alaska Studies | AP Economics | US Government | SS Elective |
| Physical Ed | Physical Ed | Lifetime Activity | | <ul style="list-style-type: none"> • Bus. Principles & Management 1 & 2 • Accounting 3, Accounting 4 • Office Technology 1 & 2 • *Business Logistics 1 • Computer Science 1 & 2 • Introduction to Marketing • Sports Entertainment & Marketing • Marketing Operations & Advertisement | | <ul style="list-style-type: none"> • *KCC Business Technology 1 & 2 • Business Technology OJT • *KCC Computer Science 1 & 2 • Computer Science OJT • *KCC Business Marketing 1 & 2 • Business Marketing OJT • Computer Programming 3 & 4 | |
| <ul style="list-style-type: none"> • *Computer Keyboarding 1 & 2 • *Computer Fundamentals • Accounting | | <ul style="list-style-type: none"> • *Business Computer Applications 1, 2 • Accounting 1, 2 • Intro to Bus. Tech & Web Page Design • School Business Partnership • Marketing | | | | | |

Note: KCC courses are 1.5 credits per semester



Career Cluster Business, Management & Administration, Finance

District Name: Anchorage School District

Date: September 2010

| Work-Based Learning Opportunities | | Career-Technical Student Organizations (CTSO) | Certifications |
|--|---|---|--|
| <ul style="list-style-type: none"> • Apprenticeship • Cooperative Education • Job Shadowing | <ul style="list-style-type: none"> • Paid/Unpaid Internship • School-Based Enterprise • Service Learning | <ul style="list-style-type: none"> • Business Professionals of America (BPA) • DECA | <ul style="list-style-type: none"> • MOS • Career Readiness Certificate (WorkKeys) |

POSTSECONDARY OPTIONS

| Two-Year College or Proprietary Programs / *Tech Prep | Adult Registered Apprenticeships / *Tech Prep | Four-Year College and University Programs | Post-Secondary Certificates | Licenses, On The Job Training, Training Certificates, etc. |
|--|--|---|--|--|
| <ul style="list-style-type: none"> • *UAA Tech Prep Articulation • *Art Institute of Seattle Articulation • *Charter College Articulation • Applied Business (F) • Business Administration (A,S) • General Business (A) • Small Business Administration (A) • Accounting (A) • Applied Accounting (F) • Office Occupations (A) | <ul style="list-style-type: none"> • Office Manager • Material Coordinator (Logistics) | <ul style="list-style-type: none"> • Business Administration (F,S) • Management (A) • Accounting (A,F) • Economics (A,F) • Finance (A) • Marketing • Management Info Systems (A) | <ul style="list-style-type: none"> • Applied Business Management (F) • Small Business Management (A) • Accounting Technician (F, S) • Planning (A) • Administration Office Supply (A,S) | |

Major Academic Unit Codes: (A) = University of Alaska Anchorage, (F) = University of Alaska Fairbanks, (S) = University of Alaska Southeast



Career Cluster Health Services
Pathway
Major

District Name Anchorage School District
Developed by
Date May 2010

Career Cluster Description: Planning, managing, and providing health services. **Pathways include therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.**

Major Options: Athletic Trainer • Biochemist • Dental Assistant/Hygienist • EMT/Paramedic • Geneticist • Health Information Coder • Home Health Aide • Industrial Hygienist • Lab Technician • Nutritionist • Occupational Therapist • Phlebotomist • Physician (MD/DO) • Physician’s Assistant • Psychologist • Radiographer • Radiologist • Registered Nurse • Research Scientist • Speech/Language Pathologist • Veterinarian • Dietician

Middle School Option: Family & Consumer Science 7/8, Computers 7 & 8

RECOMMENDED SECONDARY CAREER DEVELOPMENT SCHEDULE *Scheduling of classes may vary according to each school’s course offerings and student needs.*

| 9 th Grade | | 10 th Grade | | 11 th Grade | | 12 th Grade | |
|---|---|------------------------|--------------|--|-------------|---|-----------------------------|
| Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 |
| English 9-1 | English 9-2 | English 10-1 | English 10-2 | English 11 | English 11 | Technical Writing in the 21 st Century | LA Elective |
| Algebra I | Algebra I | Geometry | Geometry | Algebra II | Algebra II | <i>Pre Calc</i> | |
| Integrated Science 9 | Integrated Science 9 | Biology 1 | Biology 2 | Chemistry I | Chemistry I | Human Anatomy/ Physiology | Biotechnology Forensic Sci. |
| World History | World History | US History | US History | Alaska Studies | Economics | US Government | Psychology |
| Physical Ed | Lifetime Activity | Physical Ed | First Aid | <ul style="list-style-type: none"> • *KCC EMT • *KCC EMT OJT • *KCC Health Occupations 1, 2 • KCC Health Occupations OJT • * KCC Rescue Practices • Rescue Practices OJT • Personal Care Assistant • Office Technology 1, 2 • *Business Logistics 1 • *KCC Business Technology 1, 2 • KCC Business Technology OJT <p style="text-align: right;">Note: KCC course are 1.5 credits per semester</p> | | | |
| <ul style="list-style-type: none"> • *Computer Keyboarding 1, 2 • *Business Computer Applications 1, 2 • Nutrition & Food Prep | <ul style="list-style-type: none"> • Introduction to Business Technology & Web Design • Food Science • Emergency Trauma Technology • Health Occupations Essentials • Psychology • Criminology | | | | | | |



Career Cluster Health Services
Pathway
Major

District Name Anchorage School District
Developed by
Date May 2010

| Work-Based Learning Opportunities | | Career-Technical Student Organizations (CTSO) | Certifications |
|--|---|---|--|
| <ul style="list-style-type: none"> Apprenticeship Cooperative Education Job Shadowing | <ul style="list-style-type: none"> Paid/Unpaid Internship School-Based Enterprise Service Learning | <ul style="list-style-type: none"> SKILLS USA HOSA FCCLA | NAEMT Certification State of AK PCA First Aid CPR-BLS FEMA IS-100, IS-200 Career Readiness Certificate (WorkKeys) |

POSTSECONDARY OPTIONS

| Two-Year College or Proprietary Programs | Adult Registered Apprenticeships | Four-Year College and University Programs | Post-Secondary Certificates | Licenses, On The Job Training, Training Certificates, etc. |
|---|--|--|--|--|
| <ul style="list-style-type: none"> Community Health (F) Dental Assistant (A,F) Dental Hygiene (A, F is pending approval) Emergency Services (F) Medical Assistant (A,F) Nursing Science (S) Nursing (A) Medical Laboratory Technology Radiologic Technology (A) Health Information Management (S) Healthcare Management (F) Health Sciences (S) | <ul style="list-style-type: none"> CNA Dental Assistant Dispensing Optician EMT Environmental Science and Health Technician Material Coordinator (Logistics) Surgical Technologist Veterinarian Technician | <ul style="list-style-type: none"> Community Health (F) Dental Assistant (A,F) Dental Hygiene (A, F is pending approval) Emergency Services (F) Medical Assistant (A,F) Nursing Science (S) Nursing (A) Medical Laboratory Technology Radiologic Technology (A) Health Information Management (S) Healthcare Management (F) Health Sciences (S) Dietician | <ul style="list-style-type: none"> Dental Assistant (A,F) Medical Assistant (A,F) Community Health (F) Community Wellness (S) Pre-Nursing Qualification(S) Community Wellness Advocate Certificate (S) Pre-Nursing Qualifications (S) Pre-Radiological Technology Qualifications (S) Health Care Privacy (S) Health Care Reimburse (F) Health Information Management (S) HIM Coding Specialist (S) Medic./Dent. Reception (F) Coding Specialist (S) Nurse Aide (F) Clinical Assistant (A) Pharmacy Technology (A) Limited Radiography (A) Coding & Billing (A) Medical Office Specialist (S) | <ul style="list-style-type: none"> CNA PCA First Aid CPR RN RD (Registered Dietician) DTR (Dietetic Technician, Registered) |

Major Academic Unit Codes: (A) = University of Alaska Anchorage, (F) = University of Alaska Fairbanks, (S) = University of Alaska Southeast



Career Cluster Description: Hospitality & Tourism encompasses the management, marketing and operations of restaurants and other foodservices, lodging, attractions, recreation events and travel related services. **Pathways include Restaurants and Food/Beverage Services, Lodging, Travel & Tourism, Recreation, Amusements & Attractions.**

Major Options: •General Manage Director/Manager (Sales & Marketing, Human Resources, Rooms Division, Security, Food & Beverage, Resident, Operations, Regional, Quality Assurance, Marketing & Advertising, Volunteer Services, Club, Theme/Amusement Park, Festival/Event, Tourism, Convention Services • Supervisor (Communications, Room, Shift, Front Desk, Reservations) • Motor Coach Operator • Interpreter • Meeting Planner • Exhibit Developer • Zoo Animal Trainer & Handler • Guides/Rangers/Docents

Middle School Option: Family & Consumer Science 7 & 8, Computers 7 & 8

RECOMMENDED SECONDARY CAREER DEVELOPMENT SCHEDULE *Scheduling of classes may vary according to each school's course offerings and student needs.*

| 9 th Grade | | 10 th Grade | | 11 th Grade | | 12 th Grade | |
|---|---|------------------------|--------------|--|----------------------|---|-----------------------|
| Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 |
| English 9-1 | English 9-2 | English 10-1 | English 10-2 | English 11 | English 11 | Technical Writing in the 21 st Century | LA Elective |
| Algebra I | Algebra I | Geometry | Geometry | Algebra II | Algebra II | | |
| Integrated Science 9 | Integrated Science 9 | Biology 1 | Biology 2 | Geology / Chemistry | Elective / Chemistry | | |
| World History | World History | US History | US History | Alaska Studies | Economics | US Government | Environmental Studies |
| Physical Ed | Physical Ed | Lifetime Activity | Health | <ul style="list-style-type: none"> *KCC Culinary Arts 1, 2, 3, OJT *KCC Natural Resource Management * Pro Start 3, 4 AK Tour Guide Program Introduction to Marketing Note: KCC course are 1.5 credits per semester | | | |
| <ul style="list-style-type: none"> Computer Keyboarding 1, 2 Intro to Culinary Arts Nutrition & Food Preparation | <ul style="list-style-type: none"> ProStart 1, 2 | | | | | | |



Career Cluster Hospitality & Tourism

District Name Anchorage School District

Date Sep 2010

| Work-Based Learning Opportunities | | Career-Technical Student Organizations (CTSO) | Certifications |
|--|---|--|---|
| <ul style="list-style-type: none"> • Apprenticeship • Cooperative Education • Job Shadowing | <ul style="list-style-type: none"> • Paid/Unpaid Internship • School-Based Enterprise • Service Learning | <ul style="list-style-type: none"> • SKILLSUSA • FCCLA | ProStart Certification Food Handlers Card ServSafe Certificate Alaska Host |

POSTSECONDARY OPTIONS

| Two-Year College or Proprietary Programs | Adult Registered Apprenticeships | Four-Year College and University Programs | Post-Secondary Certificates | Licenses, On The Job Training, Training Certificates, etc. |
|--|---|---|--|--|
| <ul style="list-style-type: none"> • Culinary Arts (A,F) • Foodservice Technology (F) • Tourism (F) • AVTEC Culinary Arts • Job Corps Culinary Arts | <ul style="list-style-type: none"> • | <ul style="list-style-type: none"> • Hospitality Restaurant Management (A) • Business Administration (F, S) • Nutrition • Dietetics | <ul style="list-style-type: none"> • Applied Business Management (F) • Small Business Management (A) | <ul style="list-style-type: none"> • |
| Major Academic Unit Codes: (A) = University of Alaska Anchorage, (F) = University of Alaska Fairbanks, (S) = University of Alaska Southeast | | | | |



Career Cluster Description: Preparing individuals for employment in career pathways that relate to families and human needs. **Pathways include Early Childhood Development & Services, Counseling & Mental Health Services, Family & Community Services, Personal Care Services, & Consumer Services.**

Major Options: Assistant Directors and Directors, Childcare Facilities, Elementary School Counselors, Preschool Teachers, Educators for Parents, Nannies, Teachers' Assistants, Childcare Assistants, Barbers, Cosmetologists, Hairdressers, & Hairstylists, Shampooers, Nail Technicians, Manicurists & Pedicurists, Skin Care Specialists/Estheticians, Electrolysis Technicians, Electrologists, Dieticians, Geriatric Service Workers, Adult Day Care Workers, Residential Advisors, Emergency and Relief Workers, Community Food Service Workers, Personal Nursing Assistant, Psychologists, Mental Health Counselors, Religious Leaders, Financial Advisors, Consumer Credit Counselors, Customer Service Representatives, Employee Benefits Representatives, and Event Specialists.

Middle School Option: Family & Consumer Science 7 & 8, Computers 7 & 8

RECOMMENDED SECONDARY CAREER DEVELOPMENT SCHEDULE *Scheduling of classes may vary according to each school's course offerings and student needs.*

| 9 th Grade | | 10 th Grade | | 11 th Grade | | 12 th Grade | |
|---|--|------------------------|--------------|---|------------|------------------------|--------------------------|
| Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 |
| English 9-1 | English 9-2 | English 10-1 | English 10-2 | English 11 | English 11 | Humanities | LA Elective |
| Algebra I | Algebra I | Geometry | Geometry | Algebra II | Algebra II | | |
| Integrated Science 9 | Integrated Science 9 | Biology 1 | Biology 2 | Chemistry | Chemistry | Physics | Human Anatomy |
| World History | World History | US History | US History | Alaska Studies | Economics | US Government | Psychology / Criminology |
| Physical Ed | First Aid | Lifetime Activity | Health | <ul style="list-style-type: none"> • KCC Cosmetology 1 & 2 Cosmetology OJT • *KCC Early Childhood Education 1 & 2 • Early Childhood Education OJT • Senior Strategies • *Child Development & Parenting • Housing & Living Environments • Textile Technology 3 & 4 • KCC Health Occupations • *KCC Business Technology 1, 2 • Food Science <p style="text-align: right;">Note: KCC course are 1.5 credits per semester</p> | | | |
| <ul style="list-style-type: none"> • *Computer Keyboarding 1, 2 • *Business Computer Applications 1, 2 • Nutrition & Food Preparation • Child Development | <ul style="list-style-type: none"> • Intro to Cosmetology • Intro to Early Childhood Education • Textile Technology 1 & 2 • Introduction to Business Technology & Web Design | | | | | | |



| Work-Based Learning Opportunities | | Career-Technical Student Organizations (CTSO) | Certifications |
|--|---|--|---|
| <ul style="list-style-type: none"> • Apprenticeship • Cooperative Education • Job Shadowing | <ul style="list-style-type: none"> • Paid/Unpaid Internship • School-Based Enterprise • Service Learning | <ul style="list-style-type: none"> • FCCLA • SKILLSUSA • HOSA | <ul style="list-style-type: none"> • AlaskaHost • Child Development Training Record • Red Cross Babysitting • Medic Pediatric First Aid • First Aid • CPR • State of Alaska PCA • Career Readiness Certificate (WorkKeys) |

POSTSECONDARY OPTIONS

| Two-Year College or Proprietary Programs / Tech Prep * | Adult Registered Apprenticeships | Four-Year College and University Programs | Post-Secondary Certificates | Licenses, On The Job Training, Training Certificates, etc. |
|---|---|---|--|--|
| <ul style="list-style-type: none"> • Disability Services (A) • Early Childhood Development (A) • Early Childhood Education (A,F,S) • Human Services (A,F) • * UAA Tech Prep Articulation | <ul style="list-style-type: none"> • CNA Dementia Specialty • CNA Geriatric Specialty | <ul style="list-style-type: none"> • Early Childhood (A) • Human & Rural Development (F) • Human Services (A) • Philosophy (A) • Psychology (F) • Sociology (A,F) • Family & Consumer Sciences | <ul style="list-style-type: none"> • Developmental Disability (A) • Disability Services (A) • Early Childhood Development (A) • • Early Childhood Education (A,F,S) • Rural Human Services (F) • | <ul style="list-style-type: none"> • CNA • PCA • First Aid • CPR • Cosmetology • CDA • RD (Registered Dietitian) • DTR (Dietetic Technician, Registered) |

Major Academic Unit Codes: (A) = University of Alaska Anchorage, (F) = University of Alaska Fairbanks, (S) = University of Alaska Southeast



Career Cluster Description: Building linkages in IT occupations framework: for entry Level, technical, and professional careers related to the design, development, support and management of hardware, software, multimedia, and systems integration services. **Pathways include Network Systems, Information Support & Services, Interactive Media, and Programming & Software Development.**

Major Options: Network Design and Administration • Database Development and Administration • Technical Writer • Technical Support • Enterprise Systems Analysis and Integration • Digital Media • Web Development and Administration • Programming/Software Engineering

Middle School Option: Applied Technology 7, 8 • Computers 8

RECOMMENDED SECONDARY CAREER DEVELOPMENT SCHEDULE *Scheduling of classes may vary according to each school's course offerings and student needs.*

| 9 th Grade | | 10 th Grade | | 11 th Grade | | 12 th Grade | |
|---|---|------------------------|--------------|--|------------|---|-------------|
| Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 |
| English 9-1 | English 9-2 | English 10-1 | English 10-2 | English 11 | English 11 | Technical Writing in the 21 st Century | LA Elective |
| Algebra I | Algebra I | Geometry | Geometry | Algebra II | Algebra II | Pre-Calculus / Trigonometry | |
| Integrated Science 9 | Integrated Science 9 | Biology 1 | Biology 2 | Chemistry | Chemistry | Physics | |
| World History | World History | US History | US History | Alaska Studies | Economics | US Government | SS Elective |
| Physical Ed | Physical Ed | Lifetime Activity | Health | <ul style="list-style-type: none"> • *KCC Computer Info Tech 1, 2 • *KCC Computer Info Tech OJT • *KCC Radio & TV Production 1, 2 • KCC Radio & TV Production OJT • Computer Science 3, 4 • PLTW Digital Electronics • *CAD 3 Note: KCC course are 1.5 credits per semester | | | |
| <ul style="list-style-type: none"> • *Computer Keyboarding 1, 2 • *Computer Business Applications 1, 2 • Electronic Communications • Intro to Radio & TV Production | <ul style="list-style-type: none"> • CAD 1, 2 • Business Principles & Management 1 • Applied Technology 1, 2 • Interactive Media • Computer Science 1, 2 | | | | | | |



| Work-Based Learning Opportunities | | Career-Technical Student Organizations (CTSO) | Certifications |
|--|---|--|--|
| <ul style="list-style-type: none"> Apprenticeship Cooperative Education Job Shadowing | <ul style="list-style-type: none"> Paid/Unpaid Internship School-Based Enterprise Service Learning | <ul style="list-style-type: none"> SKILLSUSA BPA (Business Professionals of America) | <ul style="list-style-type: none"> A+ Career Readiness Certificate (WorkKeys) |

POSTSECONDARY OPTIONS

| Two-Year College or Proprietary Programs | Adult Registered Apprenticeships | Four-Year College and University Programs | Post-Secondary Certificates | Licenses, On The Job Training, Training Certificates, etc. |
|---|--|--|--|---|
| <ul style="list-style-type: none"> Computer Electronics (A) Computer Systems Technology (A) Electronics Technology (A) Telecommunication Electronic & Computer Technology (A) Business Computer Information Systems (A) Business Information Systems Support (S) Computer Information Office Systems (A, S) Information Systems (S) Information Technology Specialist (F) Office Management & Technology (A, F) Audio Production (SA) Video Production (SA) | <ul style="list-style-type: none"> Computer & Information Systems Manager Computer Programmer Computer Support Specialist | <ul style="list-style-type: none"> Information Systems (S) Computer Engineering (F) Computer Science (A, F) Digital Filmmaking & Video Production (SA) | <ul style="list-style-type: none"> Computer & Networking Technology (A) Electronics Technology (A) Telecommunications & Electronic Systems (A) Business Information Systems Support (S) Computer Information Office Systems (A, S) Office Management & Technology (A, F) Office Technology (A) Word/Information Processing (A) | <ul style="list-style-type: none"> A+ & other CompTia Certifications Microsoft Product Certifications |

Major Academic Unit Codes: (A) = University of Alaska Anchorage, (F) = University of Alaska Fairbanks, (S) = University of Alaska Southeast, (SA) Seattle Art Institute



Career Cluster Law, Public Safety, Corrections & Security

District Name Anchorage School District

Date September 2010

Career Cluster Description: Planning, managing, and providing legal, public safety, protective services and homeland security, including professional and technical support services. **Pathways include Correction Services, Emergency & Fire Management Services, Security & Protective Services, Law Enforcement Services, and Legal Services**

Major Options: Warden • Jail Administrator • Case Manager • Public Information Officer • Corrections Officer • Probation/Parole Officer • EMT • Fire Fighter • Forest Fire Fighter • Rescue Worker • Corrections Support Staff • Training Officer • Hazardous Materials Responder • Dispatcher • Grant Writer & Coordinator • Security Director/Officer • Security Systems Designer/Consultant • Computer Forensics Specialist • Armored Car Guard • Security Systems Technician • Life Guard/Ski Patrol • Animal Control Officer • Police Officer • Criminal Investigator/Police Detective • Railroad/Airport Police Officer • Park Ranger • Sheriff • Federal Marshall • Attorney • Court Reporter • Law Clerk • Paralegal • Legal Secretary • Magistrate/Judge • Mediator/Arbitrator

Middle School Option: Computers 7, 8

RECOMMENDED SECONDARY CAREER DEVELOPMENT SCHEDULE *Scheduling of classes may vary according to each school's course offerings and student needs.*

| 9 th Grade | | 10 th Grade | | 11 th Grade | | 12 th Grade | |
|---|----------------------|---|--------------|---|------------|---|--------------------------|
| Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 |
| English 9-1 | English 9-2 | English 10-1 | English 10-2 | English 11 | English 11 | Technical Writing in the 21 st Century | LA Elective |
| Algebra I | Algebra I | Geometry | Geometry | Algebra II | Algebra II | Physics | |
| Integrated Science 9 | Integrated Science 9 | Biology 1 | Biology 2 | Chemistry | Chemistry | Forensic Science I Physics | Forensic Science II |
| World History | World History | US History | US History | Alaska Studies | Economics | US Government | Psychology / Criminology |
| Physical Ed | First Aid | Lifetime Activity | Health | <ul style="list-style-type: none"> • *KCC Public Safety & Security 1, 2 • KCC Public Safety & Security OJT • *KCC EMT • *KCC EMT OJT • *KCC Rescue Practices • *KCC Rescue Practices OJT Note: KCC courses are 1.5 credits per semester | | | |
| <ul style="list-style-type: none"> • Computer Keyboarding 1, 2 | | <ul style="list-style-type: none"> • Criminalistics • Intro to Emergency Service • Emergency Trauma Technology | | | | | |



Career Cluster Law, Public Safety, Corrections & Security

District Name Anchorage School District

Date September 2010

| Work-Based Learning Opportunities | | Career-Technical Student Organizations (CTSO) | Certifications |
|--|---|--|--|
| <ul style="list-style-type: none"> Apprenticeship Cooperative Education Job Shadowing | <ul style="list-style-type: none"> Paid/Unpaid Internship School-Based Enterprise Service Learning | <ul style="list-style-type: none"> SKILLSUSA Law Enforcement Explorers | CPR-BLS First Aid FEMA IS-100, IS-200 Work Readiness Certificate (WorkKeys) |

POSTSECONDARY OPTIONS

| Two-Year College or Proprietary Programs | Adult Registered Apprenticeships | Four-Year College and University Programs | Post-Secondary Certificates | Licenses, On The Job Training, Training Certificates, etc. |
|--|---|---|---|---|
| <ul style="list-style-type: none"> Emergency Services (F) Fire & Emergency Services Technology (A) Fire Service Administration (A) Paralegal Studies (F, S) Criminal Justice (SV) Personal Protection Officer Corrections (Kenai/UAA) | <ul style="list-style-type: none"> Hazardous Materials Removal Technician EMT Security Guard | <ul style="list-style-type: none"> Justice (A, F) Government (S) Philosophy (A) Political Science (A, F) International Studies (A) | <ul style="list-style-type: none"> Applied Ethics (A) Law Enforcement (S) Legal Secretary (A) Paralegal Studies (A) | <ul style="list-style-type: none"> CPR First Aid VPSO UAA Student Security Emergency Dispatch Certificaton |

Major Academic Unit Codes: (A) = University of Alaska Anchorage, (F) = University of Alaska Fairbanks, (S) = University of Alaska Southeast, (SV) Skagit Valley College



Career Cluster Manufacturing

District Name Anchorage School District

Date September 2010

Career Cluster Description: Planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering. **Pathways include Production, Manufacturing Production Process Development, Maintenance, Installation & Repair, Quality Assurance, Logistics & Inventory Control, and Health, Safety & Environmental Assurance.**

Major Options: • Foundry Workers • Machine Operators • Milling Machine Set-up Operators • Millwrights • Operators, Tenders, Cutters/Brazers • Soldering Machine Operators • Painters • Pattern & Model Makers • Precision Layout Workers • Sheet Metal Workers • Solders and Brazers • Tool and Die Makers • Welders • Design Engineers • Electrical and Electronic Technicians/Technologists • Electronics Engineers • Industrial Engineers • Labor Relations Managers • Manufacturing Engineers • Manufacturing Technicians • Power Generating and Reactor Plan Operators • Production Managers • Purchasing Agents • Biomedical Equipment Technicians • Boilermakers • Computer Installers/Repairers • Computer Maintenance Technicians • Facility Electricians • Industry Facilities Managers • Industrial Maintenance Mechanics and Technicians • Instrument Calibration and Repairers • Instrument Control Technicians • Laser Systems Technicians • Major Appliance Repairers • Millwrights • Plumbers, Pipe Fitters and Steam Fitters • Security System Installers/Repairers/Inspectors • Process Control Technicians • Quality Control Technicians/Engineers • Dispatchers • Freight, Stock and Material Movers • Industrial Truck and Tractor Operations • Logistical Engineers/Logisticians • Process Improvement Technicians • Traffic Managers • Traffic, Shipping and Receiving Clerks • Environmental Specialists/Engineers • Health and Safety Representatives • Safety Coordinators/Engineers.

Middle School Option: Applied Technology 7 & 8, Business Technology 7 & 8

RECOMMENDED SECONDARY CAREER DEVELOPMENT SCHEDULE *Scheduling of classes may vary according to each school's course offerings and student needs.*

| 9 th Grade | | 10 th Grade | | 11 th Grade | | 12 th Grade | |
|---|----------------------|---|--------------|--|------------|---|-------------|
| Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 |
| English 9-1 | English 9-2 | English 10-1 | English 10-2 | English 11 | English 11 | Technical Writing in the 21 st Century | LA Elective |
| Algebra I | Algebra I | Geometry | Geometry | Algebra II | Algebra II | <i>Pre Calc</i> | |
| Integrated Science 9 | Integrated Science 9 | Biology 1 | Biology 2 | Chemistry | Chemistry | Physics | |
| World History | World History | US History | US History | Alaska Studies | Economics | US Government | SS Elective |
| Physical Ed | First Aid | Lifetime Activity | Physical Ed | <ul style="list-style-type: none"> • *KCC Welding 1, 2, 3 • *KCC Welding OJT • KCC Small Engine 1, 2, 3 • KCC Small Engine OJT • *KCC Plumbing & Pipefitting • *CAD 3 • *KCC Computer Information Technology 1,2 • KCC Computer Information Technology OJT • PLTW Computer Integrated Manufacturing <p style="text-align: right;">Note: KCC course are 1.5 credits per semester</p> | | | |
| <ul style="list-style-type: none"> • *Computer Keyboarding 1 & 2 • Applied Technology 1 & 2 | | <ul style="list-style-type: none"> • *Material Science & Construction 1 • *Material Science & Construction 2 • *Business Logistics 1 • Intro to Welding • Intro to Plumbing & Fitting • Automated Systems • CAD 1, 2 | | | | | |



Career Cluster Manufacturing

District Name Anchorage School District

Date September 2010

| Work-Based Learning Opportunities | Career-Technical Student Organizations (CTSO) | Certifications |
|--|---|--|
| <ul style="list-style-type: none"> Apprenticeship Cooperative Education Job Shadowing | <ul style="list-style-type: none"> Paid/Unpaid Internship School-Based Enterprise Service Learning | <ul style="list-style-type: none"> SKILLS USA |
| | | <ul style="list-style-type: none"> AWS A+ Career Readiness Certificate (WorkKeys) |

POSTSECONDARY OPTIONS

| Two-Year College or Proprietary Programs | Adult Registered Apprenticeships | Four-Year College and University Programs | Post-Secondary Certificates | Licenses, On The Job Training, Training Certificates, etc. |
|--|---|---|---|--|
| <ul style="list-style-type: none"> Industrial Process Instrumentation (A) Industrial Technology (A) Petroleum Technology (A) Occupational Safety and Health (A) Apprenticeship Technology (A, F, S) Refrigeration & Heating Technology (A) Welding & Non-Destructive Testing Technology (A) Welding Technology (A) | <ul style="list-style-type: none"> Ironworkers Operating Engineers Millwrights Laborers Painter/Taper/Glazier/Floor Covers Piledrivers Sheet Metal Workers Teamsters Hazardous Materials Removal Technician Health & Safety Technician Machinist | <ul style="list-style-type: none"> Electrical Engineering (F) Engineering (A) Mechanical/Electrical Engineering Consortium (A) Mechanical Engineering (F) Technology (F) | <ul style="list-style-type: none"> Instrumentation Technology (F) Petroleum Technology (A) Power Generation (F) Health, Safety, Environmental Awareness (F) | <ul style="list-style-type: none"> AWS |



Career Cluster Description: Planning, managing, and performing marketing activities to reach organizational objectives. **Pathways include Management and Entrepreneurship, Professional Sales and Marketing, Buying and Merchandising, Marketing Communications and Promotion, Marketing Information Management and Research, Distribution and Logistics, and E-Marketing.**

Major Options: Entrepreneurs • Small Business Owners • Chief Executive Officers • Franchisees • Customer Service Representatives • Administrative Support (Human Resources, Clerical Finance, Technical) • Managers (Inbound Call, Sales, Client Relationship, Business Development, Territory, Key Account, National Account, Merchandising, Store Operations, Visual Merchandise, Store Department, Advertising, Public Relations, Sales Promotion, Trade Show, Circulation, Promotions, Database, Traffic, Logistics, Brand) • Merchandise Buyers • Contract Administrators • Copywriters/Designers • Interviewers • Distribution Coordinators • E-Merchandising Managers/Directors • Web Designers/Masters • Researchers and Assistants

Middle School Options: Computers 7, 8, Business Technology 7, 8, Keyboarding

RECOMMENDED SECONDARY CAREER DEVELOPMENT SCHEDULE *Scheduling of classes may vary according to each school's course offerings and student needs.*

| 9 th Grade | | 10 th Grade | | 11 th Grade | | 12 th Grade | |
|---|---|------------------------|--------------|--|------------|------------------------|--------------------------|
| Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 |
| English 9-1 | English 9-2 | English 10-1 | English 10-2 | English 11 | English 11 | Humanities | LA Elective |
| Algebra I | Algebra I | Geometry | Geometry | Algebra II | Algebra II | | |
| Integrated Science 9 | Integrated Science 9 | Biology 1 | Biology 2 | Chemistry | Chemistry | | |
| World History | World History | US History | US History | Alaska Studies | Economics | US Government | Psychology/ Sociology |
| Physical Ed | Physical Ed | Lifetime Activity | Health | <ul style="list-style-type: none"> • Business Principles & Management 1, 2 • Accounting 3, 4 • *Business Logistics 1 • Marketing Operations & Advertisement • *KCC Business Technology 1, 2, OJT • *KCC Business Marketing 1, 2, OJT <p>Note: KCC courses are 1.5 credits per semester</p> | | | |
| <ul style="list-style-type: none"> • *Computer Keyboarding 1, 2 • Sports Entertainment & Marketing • Introduction to Marketing | <ul style="list-style-type: none"> • *Business Computer Applications 1, 2 • Accounting 1, 2 • Intro to Business & Web Page Design • School Business Partnership | | | | | | |



Career Cluster Marketing, Sales & Service

District Name Anchorage School District

Date September 2010

| Work-Based Learning Opportunities | | Career-Technical Student Organizations (CTSO) | Certifications |
|--|---|---|---|
| <ul style="list-style-type: none"> • Apprenticeship • Cooperative Education • Job Shadowing | <ul style="list-style-type: none"> • Paid/Unpaid Internship • School-Based Enterprise • Service Learning | <ul style="list-style-type: none"> • SKILLS USA • BPA (Business Professionals of America) • Distributive Education Clubs of America (DECA) | Career Readiness Certificate (WorkKeys) |

POSTSECONDARY OPTIONS

| Two-Year College or Proprietary Programs | Adult Registered Apprenticeships | Four-Year College and University Programs | Certifications | Licenses, On The Job Training, Training Certificates, etc. |
|---|--|--|---|--|
| <ul style="list-style-type: none"> • *UAA Tech Prep Articulation • *Art Institute of Seattle Articulation • *Charter College Articulation • Applied Business (F) • Business Administration (A, S) • General Business (A) • Small Business Administration (A) • Accounting (A) • Applied Accounting (F) • Office Occupations (A) • | <ul style="list-style-type: none"> • Office Manager • Material Coordinator (Logistics) | <ul style="list-style-type: none"> • Business Administration (F, S) • Management (A) <ul style="list-style-type: none"> ○ Accounting (A, F) ○ Economics (A, F) ○ Finance (A) ○ Marketing ○ Management Info Systems (A) | <ul style="list-style-type: none"> • Applied Business Management (F) • Small Business Management (A) • Accounting Technician (F, S) • Planning (A) • Administration Office Supply (A, S) | |



Career Cluster Description: Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services. **Pathways include Engineering and Technology and Science and Math**

Major Options: Engineers (Aerospace, Aeronautical, Agricultural, Application, Architectural, Automotive, Biomedical, Chemical, Civil, Communications, Computer, Computer Hardware, Computer Software, Construction, Development, Electrical, Energy Transmission, Environmental, Fire Protection, Geothermal, Hazardous Waste, Human factors, Industrial Licensing, Manufacturing, Manufacturing Processes, Marine, Materials, Mechanical Metallurgic, Mining, Naval Nuclear, Ocean, Operations Research, Packaging, Petroleum, Pharmaceutical, Plastics, Power Systems, Product Design, Laboratory, Nuclear, Project, Prototype, Quality, Radiology, Research, Safety, Structural Systems Design, Telecommunications, Textile, Transportation) • Technicians (Agricultural, Computer Science, Electronics, Hazardous Waste, Industrial Engineering, Manufacturing, Materials Lab & Supply, Network, Packaging Quality, Radio/TV Broadcast, Sound, Survey) • Drafter • Project Manager • Technical Sales Managers • Technical Writers • Chemists (Analytical, Inorganic, Nuclear, Organic, Radio) • Applied Mathematician • Archeologists • Biologists • CAD Operators • Cartographers • Cryptographers • Demographers • Ecologists • Economists • Geneticists • Geologists • Hydrologists • Mathematicians • Metallurgists • Meteorologists • Nutritionists • Oceanographers • Physicists • Scientific Visualization/Graphics Experts • Scientists (Atmospheric, conservation, environmental, expert systems, marine, materials, protein, quality control, teacher) • Toxicologists • Zoologists

Middle School Option: Applied Technology 7 & 8, Business Technology 7 & 8, Computers 7 & 8

RECOMMENDED SECONDARY CAREER DEVELOPMENT SCHEDULE *Scheduling of classes may vary according to each school's course offerings and student needs.*

| 9 th Grade | | 10 th Grade | | 11 th Grade | | 12 th Grade | |
|---|--|------------------------|--------------|---|------------|---|------------------------|
| Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 |
| English 9-1 | English 9-2 | English 10-1 | English 10-2 | English 11 | English 11 | Technical Writing in the 21 st Century | LA Elective |
| Algebra I | Algebra I | Geometry | Geometry | Algebra II | Algebra II | Pre-Calculus or Trigonometry | |
| Integrated Science 9 | Integrated Science 9 | Biology 1 | Biology 2 | Chemistry | Chemistry | Physics | |
| World History | World History | US History | US History | Alaska Studies | Economics | US Government | Psychology / Sociology |
| Physical Ed | Physical Ed | Lifetime Activity | Health | <ul style="list-style-type: none"> *KCC Computer Information Technology 1, 2, OJT *KCC Radio & TV Production 1, 2, OJT *KCC Aviation Maintenance 1, 2, 3, 4, OJT KCC Engineering *KCC Computer Electronics Technology 1-4 Automotive Maintenance 1, 2, 3, 4, OJT PLTW Digital Electronics PLTW Computer Integrated Manufacturing *CAD 3 PLTW Civil Engineer & Architecture Computer Science 3, 4 Principles of Technology 1, 2, 3, 4 KCC Aviation Technology 1, 2, OJT *Nutrition and Food Preparation <p>Note: KCC course are 1.5 credits per semester</p> | | | |
| <ul style="list-style-type: none"> Intro to Radio & TV Production Electronic Communication Applied Technology 1, 2 PLTW Introduction to Engineering Design Engineering in Alaska Aviation Science | <ul style="list-style-type: none"> Computer Science 1, 2 Interactive Media CAD 1, 2 Automated Systems PLTW Principles of Engineering Biotechnology Marine Biology | | | | | | |



Career Cluster Science, Technology, Engineering & Mathematics

District Name Anchorage School District

Date September 2010

| Work-Based Learning Opportunities | | Career-Technical Student Organizations (CTSO) | Certifications |
|--|---|---|--|
| <ul style="list-style-type: none"> Apprenticeship Cooperative Education Job Shadowing | <ul style="list-style-type: none"> Paid/Unpaid Internship School-Based Enterprise Service Learning | <ul style="list-style-type: none"> SKILLSUSA BPA ETA | <ul style="list-style-type: none"> A+ FAA A&P Exam Work Readiness Certificate (WorkKeys) ETA Certification |

POSTSECONDARY OPTIONS

| Two-Year College or Proprietary Programs | Adult Registered Apprenticeships | Four-Year College and University Programs | Post-secondary Certificates | Licenses, On The Job Training, Training Certificates, etc. |
|--|---|---|--|--|
| <ul style="list-style-type: none"> Geomatics (A) Audio Production (SA) Video Production (SA) Electronic Technology | <ul style="list-style-type: none"> Computer & Information Systems Manager Computer Programmer Computer Support Specialist Environmental Science and Health Technician Materials Coordinator (Logistics) Surveyor Technician Gas Compressor & Gas Pumping Station Operator Civil Engineering Technician Processing Technician | <ul style="list-style-type: none"> Civil Engineering (A, F) Electrical Engineering (F) Engineering (A) Geomatics (A) Mechanical/Electrical Engineering Consortium (A) Mechanical Engineering (F) Technology (F) Applied Physics (F) Biology (S) Chemistry (A, F) General Science (F) Marine Biology (S) Mathematics (A, F, S) Natural Sciences (A) Physics (F) | <ul style="list-style-type: none"> Geographic Information Systems (A) | <ul style="list-style-type: none"> A+ and other CompTia Certifications Electrical Technician Association (ETA) |
| <p>Major Academic Unit Codes: (A) = University of Alaska Anchorage, (F) = University of Alaska Fairbanks, (S) = University of Alaska Southeast, (SA) Seattle Art Institute</p> | | | | |



Career Cluster Transportation, Distribution & Logistics

District Name Anchorage School District

Date September 2010

Career Cluster Description: Planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional and technical support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance. **Pathways include Transportation Operations; Logistics Planning and Management Services; Warehousing and Distribution Center Operations; Facility and Mobile Equipment Maintenance; Transportation Systems/Infrastructure Planning, Management, and Regulation; Health, Safety and Environmental Management; Sales and Service.**

Major Options: • Air/Space Transportation • Rail Transportation • Water Transportation • Road Transportation • Transit Systems • Logisticians • Logistics Managers/Engineers • Warehouse Managers • Traffic, Shipping and Receiving Clerks • Laborers • First-Line Supervisors • Car, Truck and Ship Loads Packers • Facility Maintenance Managers/Engineers/Mechanics • Installers/Repairers/Mechanics (General, Air/Space, Water, Rail Road) • Urban and Regional Planners • Civil Engineers Engineering Technicians • Surveying and Mapping Technicians • Government Service Engineers/Technicians/Executives (Air/Space, Road, Rail, Water, Transit)

Middle Schools Option: Computers 7, 8, Applied Technology 7,8

RECOMMENDED SECONDARY CAREER DEVELOPMENT SCHEDULE *Scheduling of classes may vary according to each school's course offerings and student needs.*

| 9 th Grade | | 10 th Grade | | 11 th Grade | | 12 th Grade | |
|--|----------------------|--|--------------|---|------------|---|-------------|
| Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 |
| English 9-1 | English 9-2 | English 10-1 | English 10-2 | English 11 | English 11 | Technical Writing in the 21 st Century | LA Elective |
| Algebra I | Algebra I | Geometry | Geometry | Algebra II | Algebra II | <i>Pre Calc</i> | |
| Integrated Science 9 | Integrated Science 9 | Biology 1 | Biology 2 | Chemistry | Chemistry | Physics / Geology | |
| World History | World History | US History | US History | Alaska Studies | Economics | US Government | SS Elective |
| Physical Ed | Physical Ed | Lifetime Activity | Health | <ul style="list-style-type: none"> • *KCC Aviation Maintenance Technology 1, 2, 3, 4, OJT • KCC Automotive Maintenance 1, 2, 3, OJT • KCC Collision Repair & Refinishing 1, 2, 3, 4, OJT • *KCC Welding 1, 2, 3, OJT • KCC Small Engine 1, 2, 3, OJT • *KCC Aviation Technology 1, 2, OJT Note: KCC course are 1.5 credits per semester | | | |
| <ul style="list-style-type: none"> • Computer Keyboarding 1, 2 • Applied Technology 1, 2 | | <ul style="list-style-type: none"> • Introduction to Automotive Maintenance • Business Logistics 1 • Accounting 1, 2 • Introduction to Welding • Transportation Technology 1, 2 • Aviation Science | | | | | |



Career Cluster Transportation, Distribution & Logistics

District Name Anchorage School District

Date September 2010

| Work-Based Learning Opportunities | | Career-Technical Student Organizations (CTSO) | Certifications |
|--|---|--|---|
| <ul style="list-style-type: none"> Apprenticeship Cooperative Education Job Shadowing | <ul style="list-style-type: none"> Paid/Unpaid Internship School-Based Enterprise Service Learning | <ul style="list-style-type: none"> SKILLS USA | FAA Airframe & Powerplant Career Readiness Certificate (WorkKeys) |

POSTSECONDARY OPTIONS

| Two-Year College or Proprietary Programs | Adult Registered Apprenticeships | Four-Year College and University Programs | Post-Secondary Certificates | Licenses, On The Job Training, Training Certificates, etc. |
|---|--|---|---|---|
| <ul style="list-style-type: none"> Air Traffic Control (A) Aviation Administration (A) Professional Piloting (A, F) Logistics Operations (A) Auto Technology (A) Aviation Maintenance (A, F) Heavy Duty Technology (A) Power Technology (S) | <ul style="list-style-type: none"> Teamsters Laborers Sheet Metal Workers Operating Engineers Alaska Works Partnership Building Maintenance & Repair Light & Heavy Truck Drivers Highway Maintenance Surveyor Technician Merchant Marines Dispatcher Hazardous Removal Technician Heavy Equipment Mechanic Industrial Machinery Mechanic Maintenance & Repair Worker Diesel Engine Mechanic Construction & Building Inspection | <ul style="list-style-type: none"> Aviation Technology (A) Global Logistics Management (A) Logistics (A) | <ul style="list-style-type: none"> Logistics (A) Airframe (F) Airframe & Powerpilot (F) Automotive Technology (A, F, S) Aviation Maintenance (A) Brakes, Suspensions & Alignment (A) Diesel Maintenance (S) Diesel/Marine (S) Diesel Technology (A) Engine Performance (A) Ground Vehicle Maintenance Technology (F) Marine Engine Repair (S) Marine Technology (S) Power Plant (F) Power Transmission (A) | <ul style="list-style-type: none"> ASE AWS EETC FAA Airframe & Powerplant |