BELLEVUE SCHOOL DISTRICT

2022 – 2023

CAREER & TECHNICAL EDUCATION

CAREER PATHWAYS CATALOG

Learning that works for Washington
CTE

Bsd405.org/programs/cte/

Dear Parents, Guardians, and Students:

The Bellevue School District Career and Technical Education program is aligned with employment and industry trends across Washington State and the country. Today, Career and Technical Education (CTE) is a component of every student's basic education experience and a genuine contributor to student engagement and success. With a focus on career exploration, acquisition of essential 21st century skills, and industry specific technical skills, CTE is preparing Bellevue School District students to be college and career ready at graduation. Bellevue School District offers courses in 12 different career clusters, so every student can focus on an area of study that interests them the most.

With the passage of House Bill 1599 (HB1599) in 2019, students can now use two high school CTE elective credits within a Graduation Pathway as an alternate route to graduation. You should consult with your high school counselor about your graduation requirements before pursuing this option. The Graduation Pathways are listed on page 8. Students should also look at the Career Interest survey on pages 6-7 to evaluate what type of careers best align with their interests.

Our comprehensive program supports the belief that all students should have career and educational choices as part of their high school experience. Therefore, starting at the middle school level, our CTE programs provide opportunities for students to begin to explore and design their future pathway. At the high school level, our career cluster courses offer relevant curriculum aligned to current workplace demands and industry standards. In the high schools, students can earn college credit while participating in CTE courses, and many students earn industry recognized certifications which support transition to post-secondary educational programs and/or employment. One of the strengths of the program is the strong partnership between CTE staff, the business community, local colleges, and community-based organizations.

This CTE Career Pathways Catalog is a guide to help parents, guardians, and students see the many opportunities and programs available, and to help students design their education.

Sincerely,

Marilyn Henselman

Marilyn Henselman, Director
Career and Technical Education Programs

Bellevue School District
CAREER & TECHNICAL EDUCATION
CAREER PATHWAYS CATALOG
2022-2023

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Career and Technical Education Improves Student Achievement in High School, College and Career

Parents play an important role in their children's college and career success.

Here's why you should encourage your child to participate in CTE.

ACADEMIC AND COLLEGE SUCCESS

80% of high school students taking both CTE and college prep courses meet college and career readiness goals, versus 63% who are college and career ready through college prep courses alone.[1]

600,000+ high school students enroll in dual-credit CTE courses to earn college credit.[2]

CAREER PLANNING

6 out of 10 students plan to pursue a career related to the CTE area they're exploring in high school.[3]

Students enrolled in **CTE** courses are significantly more likely to develop problem-solving, project completion, research, communication, time management and critical thinking skills during high school.[4]

CAREER AND TECHNICAL EDUCATION (CTE)

EMPLOYMENT AND EARNINGS

36% of STEM jobs require postsecondary credentials that CTE students can obtain within two years of high school graduation.[5]

Graduates with technical or applied science associate degrees can out-earn bachelor's degree holders by $11,000.[6]

SCHOOL AND JOB SATISFACTION

81% of high school dropouts say relevant, real-world learning opportunities, like CTE, would have kept them in school.[7]

Graduates are twice as likely to be engaged at work if they had a meaningful internship or job while in college.[8]

My career tech class has enabled me to do something I love and opened my eyes to possibilities that are ahead. – Kelsey McClure[9]

I'm forever grateful to career tech. I have learned how to manage time and money, be more responsible and support myself while being reliable to other people. – Zachary Zigler[10]

[1] Southern Regional Education Board, [2] Thomas et al. 2013, National Center for Education Statistics, [3] NRCCUA® and ACTE 2016, [4] Lekes et al. 2007, National Research Center for CTE, [5] Rothwell 2013, Brookings Institution, [6] Schneider 2013, College Measures, [7] Bridgeland et al. 2006, Civic Enterprises, [8] Gallup-Purdue Index report, [9] Ohio Department of Education Career-Technical Education Success Stories, [10] Ibid.

GRADUATION PATHWAY – HB1599

In 2019, the Washington State Legislature provided students with multiple pathways to graduation by passing House Bill (HB) 1599. HB 1599 expands the ways Washington students show their readiness for their next step after high school. Building off a robust plan (High School and Beyond Plan) and quality instruction across core academic areas, completing a graduation pathway helps prepare students for what comes after high school graduation. It also signals to employers and postsecondary education/training institutions a student's readiness for that step. The following Graduation Pathways were approved by the state and follow the guidelines of HB1599. Students must receive 2 credits in one Graduation Pathway in order to fulfill the graduation requirements. Students may need to combine several pathways to meet the 2 credits. Those combinations must be approved by OSPI and are initiated by the CTE office for approval. We currently have six (6) graduation pathways: AGRICULTURE; BUSINESS & MARKETING; SKILLED AND TECHNICAL SCIENCES; FAMILY AND CONSUMER SCIENCES; HEALTH SCIENCES; and STEM. The graduation pathways are color coded. Any two credits within a color code/pathway works for the 2 credits. The list contains the course and credits available.

AGRICULTURE SCIENCES PATHWAY

	Credits
Environmental Sustainability	1.0
Floral Design 1	.5
Floral Design 2	.5
Introduction to Horticulture	1.0 or .5
Nursery & Greenhouse Operations	2.0

BUSINESS & MARKETING PATHWAY

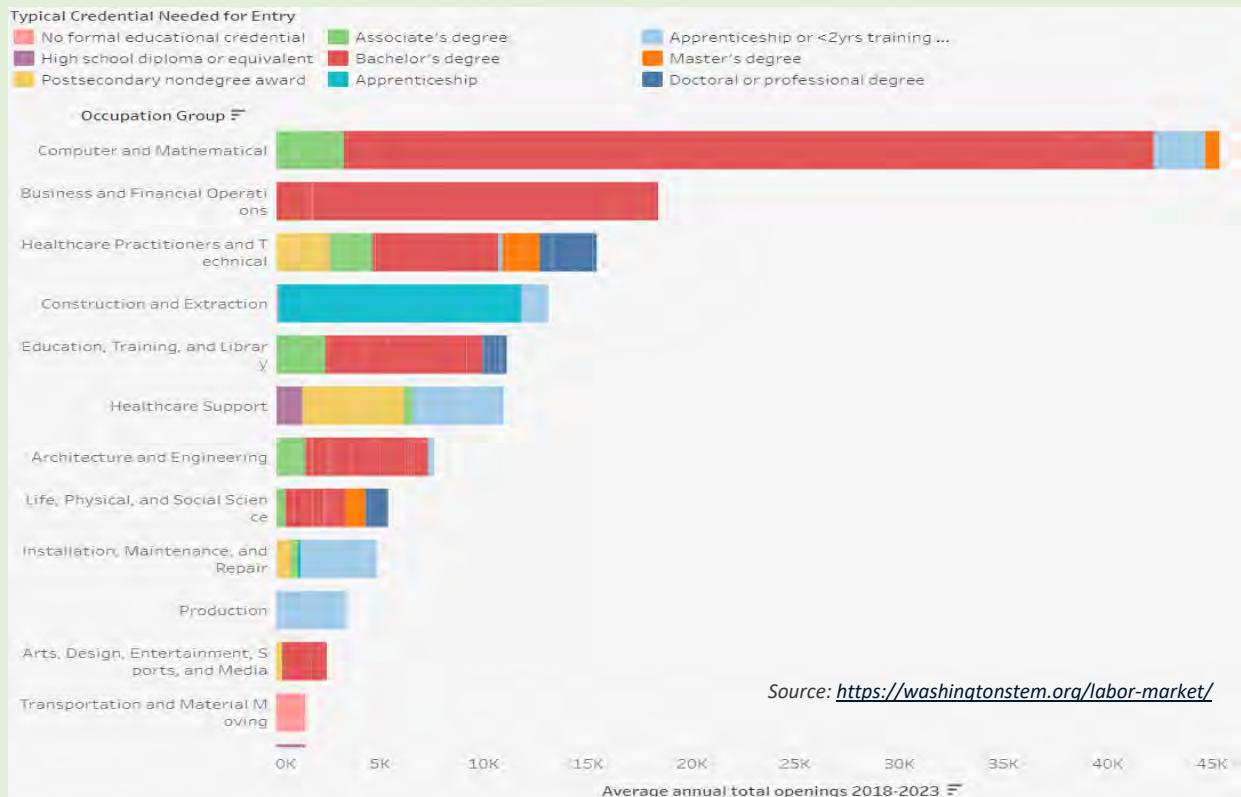|	Credits
Accounting 1	.5
Accounting 2	.5
Accounting 3	.5
Accounting 4	.5
Personal Finance	.5
Economics	.5
AP Microeconomics/Macroeconomics	1.0
Entrepreneurship	.5
IB Business & Management HL	1.0
IB Business & Management SL	1.0
Business Law	.5
Digital Communications & Technology	.5
Advanced Digital Com. & Technology	.5
Cisco Networking Academy – CCNA	3.0
Advanced Cisco – CCNP	3.0
Advanced Cisco – Cybersecurity	1.0
AP Computer Science	1.0
AP Computer Science Principles	1.0
CS201 – Coding in Python 1	.5
CS202 – Coding in Python 2	.5
CS203 – Coding in Python 3	.5
CS204 – Coding in Python 4	.5
Mobile Game Development	.5
Special Topics in Computer Science	1.0
Retail Management – Student Store	.5
Introduction to Marketing	1.0
Advanced Marketing & Entrepreneurship	1.0
Computer Graphics 1	.5
Computer Graphics 2	.5

6 CAREER & TECHNICAL EDUCATION GRADUATION PATHWAYS:

- Agriculture Sciences Pathway
- Business and Marketing Pathway
- Skilled and Technical Sciences Pathway
- Family and Consumer Sciences Pathway
- Health Science Pathway
- STEM Pathway

SKILLED & TECHNICAL SCIENCES

	Credits
Digital Media Production 1	.5
Digital Media Production 2	.5
Advanced Digital Media Production	2.0
Radio & Podcast Production	1.0
Television Broadcasting	1.0
Photography 1	.5
Photography 2	.5
AP Photography Portfolio/2-D Design	1.0
Video Game & Simulation Design	.5
Interior Design & Housing	.5
Costume Design	.5
Technical Theatre 1	.5
Technical Theatre 2	.5
Woods Technology 1	1.0
Woods Technology 2	1.0
Building Industry Technologies – Core Plus Construction – NEW!	3.0
Computer Technology	.5
Metals Technology 1	.5
Metals Technology 2	.5
Welding Technology, Design & Fabrication	2.0
Automotive Technology 1	3.0
Automotive Technology 2	3.0

FAMILY & CONSUMER SCIENCES PATHWAY

	Credits
Teaching Academy 1	2.0
Teaching Academy 2	2.0
Bakery & Pastry 1	.5
Culinary Essentials 1	.5
Culinary Essentials 2	.5
Culinary Arts	3.0
Advanced Culinary Arts	3.0
Independent Living	.5
Child Development	.5
Interior Design	.5

HEALTH SCIENCES PATHWAY

	Credits
Anatomy & Physiology	1.0
Biotechnology	1.0
Introduction to Health Care	.5
Health Science Careers	3.0

STEM – SCIENCE, TECHNOLOGY, ENGINEERING AND MATH

	Credits
Introduction to Robotics	.5
Engineering Technology 1	.5
Engineering Technology 2	.5
Principles of Engineering	1.0
Special Topics in Engineering	1.0

LOCAL LABOR MARKET SNAPSHOT

Washington State ■ December 2020

Typical Credential Needed for Entry

- No formal educational credential
- High school diploma or equivalent
- Postsecondary nondegree award
- Associate's degree
- Bachelor's degree
- Apprenticeship
- Apprenticeship or <2yrs training ...
- Master's degree
- Doctoral or professional degree

Occupation Group

Chart categories (top to bottom):
- Computer and Mathematical
- Business and Financial Operations
- Healthcare Practitioners and Technical
- Construction and Extraction
- Education, Training, and Library
- Healthcare Support
- Architecture and Engineering
- Life, Physical, and Social Science
- Installation, Maintenance, and Repair
- Production
- Arts, Design, Entertainment, Sports, and Media
- Transportation and Material Moving

X-axis: 0K, 5K, 10K, 15K, 20K, 25K, 30K, 35K, 40K, 45K

Average annual total openings 2018-2023

Source: https://washingtonstem.org/labor-market/

Bellevue School District

Career & Technical Education Pathways

Arts, AV Technology & Communications
Architecture, Construction & Manufacturing
Business & Marketing *
Education and Training *
Environmental Horticulture
Family & Consumer Sciences
Health Sciences *
Hospitality & Tourism
Information & Technology *
STEM *
Transportation

*Programs that align to the Top 8 Annual Job Openings for WA

Top 11 Employability Skills

1. **Communication Skills**
2. **Leadership Skills**
3. **Teamwork Skills**
4. **Interpersonal Skills**
5. **Learning/Adaptability Skills**
6. **Self-management Skills**
7. **Organizational Skills**
8. **Computer Skills**
9. **Problem-solving Skills**
10. **Open-mindedness**
11. **Strong work ethic**

Source: https://www.indeed.com/career-advice/resumes-cover-letters/skills-employers-look-for

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Top 8 | WA Annual Job Openings

2018-2023

1. **Software Developers**
2. **Business Executives & Administrative Assistants**
3. **Registered Nurses**
4. **Marketing Specialists & Research Analysts**
5. **Human Resources Specialists**
6. **Computer Systems Specialists, Analysts, & Administrators**
7. **Teachers, Guidance Counselors**
8. **Medical Scientists**

Source: https://washingtonstem.org/labor-market/

WA State Largest Employers

(Headquartered in Washington)

		# of Employees
1.	**Amazon**	**600,000**
2.	**Starbucks**	**291,000**
3.	**Costco**	**245,000**
4.	**Microsoft**	**134,944**
5.	**Barrett Business Services**	**115,746**
6.	**Nordstrom**	**74,000**
7.	**T-Mobile**	**51,000**
8.	**The Hotel Group**	**35,330**
9.	**University of Washington**	**26,110**
10.	**Fortive**	**26,000**

https://www.zippia.com/advice/largest-companies-in-washington/

EXPLORE YOUR OPTIONS

With so many different career pathways, it is hard to know where to start exploring your options. The best career choice is one where your passions, interests, aptitudes, values, and personality match the type of work you do. To help you get started exploring YOUR options, answer the questions below to see what type of personality you have. Although everyone has traits in most areas, the one with the most 'Yes' responses, is your strongest personality type. Have fun exploring!!

DO YOU LIKE:
- Being spontaneous?
- Creating things?
- Using your imagination?
- Working by your own rules?
- Working on class projects you can do your way?

WOULD SOMEONE WHO KNOWS YOU WELL SAY:
- You are artistic?
- You beat to your own drum?
- You are open-minded?
- You are intuitive?
- You are independent?
- You are expressive?

YOU ARE ARTISTIC AND A "CREATOR"

EXPLORE THE FOLLOWING!
- Architect
- Graphic Designer
- Jeweler
- Journalist
- Attorney
- Photographer
- Fashion Designer
- Public Relations Specialist
- Archeologist
- Biochemist
- Floral Designer
- Artist
- Advertising Executive

DO YOU LIKE:
- Working with people?
- Working in a fast-paced environment?
- To be in charge?
- Being competitive?
- Socializing?

WOULD SOMEONE WHO KNOWS YOU WELL SAY:
- You are outgoing?
- You are optimistic?
- You adventurous?
- You are creative?
- You are a leader?
- You are confident?

6 **YOU ARE ENTERPRISING AND A "PERSUADER"**

EXPLORE THE FOLLOWING!
- Buyer or Purchaser
- Public Relations Specialist
- Arbitrator
- Physician
- Judge
- Accountant
- Business Manager
- Chef
- Detective
- Administrative Assistant
- Real Estate Agent
- Politician
- Registered Nurse

DO YOU LIKE:
- Working with people?
- Helping others?
- Working in a team?
- Doing things correctly and ethically?
- Socializing?

WOULD SOMEONE WHO KNOWS YOU WELL SAY:
- You are outgoing?
- You are a good friend?
- You have good communication skills?
- You are kind?
- You are a good team player?
- You are a good listener?

YOU ARE SOCIAL AND A "HELPER"

EXPLORE THE FOLLOWING!
- Lawyer
- Teacher
- Judge
- Credit Counselor
- Tour Guide
- Human Resource Manager
- Registered Nurse
- Therapist
- News Analyst
- Minister
- Dietician
- Social Worker
- Police Officer

DO YOU LIKE:
- Solving puzzles ?
- Building or fixing things?
- Working with tools or machinery?
- Working with your hands?
- Spending time outside?

WOULD SOMEONE WHO KNOWS YOU WELL SAY:
- You are practical?
- You are down to earth?
- You are persistent?
- You are highly independent?
- You are solution oriented?
- You are adventurous?

YOU ARE REALISTIC AND A "DOER"

EXPLORE THE FOLLOWING!
- Physician
- Hydrologist
- Chef
- Commercial Pilot
- Software Developer
- Scientist
- Carpenter
- Electrician
- Plumber
- Construction Manager
- Veterinarian Assistant
- Engineer
- Detective or Criminal Investigator

DO YOU LIKE:
- Working with data?
- Working with numbers?
- Solving puzzles?
- Making to-do lists?
- Things organized and tidy?

WOULD SOMEONE WHO KNOWS YOU WELL SAY:
- You are practical?
- You are reliable?
- You are logical?
- You are efficient?
- You are not a risk taker?
- You are respectful?

YOU ARE CONVENTIONAL AND AN "ORGANIZER"

EXPLORE THE FOLLOWING!
- Accountant
- Engineer
- Pharmacist
- Librarian
- Insurance Agent
- Sales Representative
- Statistician
- Paralegal
- Insurance Adjuster
- Human Resource Consultant
- Education Administrator
- Scientist
- Hospitality Manager

DO YOU LIKE:
- Solving problems?
- Working by yourself?
- Learning new things?
- A new challenge?
- Understanding how things work?

WOULD SOMEONE WHO KNOWS YOU WELL SAY:
- You are quiet or shy?
- You are independent?
- You are a deep thinker?
- You have original ideas?
- You are methodical?
- You are naturally curious?

YOU ARE INVESTIGATIVE AND A "THINKER"

EXPLORE THE FOLLOWING!
- Research Scientist
- Judge
- Forester
- Librarian
- Tool & Die Maker
- Surgeon
- Programmer
- Engineer
- College Professor
- Veterinarian
- Dental Technician
- Economist
- Financial Analyst

WHAT DOES YOUR FUTURE HOLD FOR YOU?

The Bellevue School District has 12 different career cluster areas for you to start investigating and planning your future. Career pathways and courses begin on page 16. Be the creator of your future world and start exploring your career pathway today!!

COLLEGE CREDIT

Many Bellevue School District CTE classes have dual credit agreements with local colleges. Students must earn a "B" in the course and pay a fee of $50 for the year. During the school year, students can earn as many college credits as they want for this fee. Upon graduation, students request their college transcript to be sent to the institute they will be attending. *In the 2019-2020 school year, BSD students earned 4,475 college credits through Pacific NW College Connections!* With the average cost of a college credit being $594, this could be a huge savings!!

COLLEGE CREDIT CLASSES – PACIFIC NW COLLEGE CREDIT

Course Title*	College	College Course Title	Credits
ACCOUNTING 1 and 2 *(Must take both classes to receive credit.)*	Bellevue College	ACCT 101: Practical Accounting 1 ACCT 135: Business Payroll Tax Accounting	8
ACCOUNTING 3 and 4 *(Must take both classes to receive credit.)*	Bellevue College	ACCT 225: Survey of Financial & Managerial Accounting	5
ADVANCED CULINARY ARTS	LW Tech Renton Tech	CART 115: Food Service Safety & Sanitation CULA 140: Management CUL 110 – Fundamentals 1 CUL 180 – Industry Communications & Human Relations	6 6
ADVANCED DIGITAL MEDIA PRODUCTION *(Both semesters)*	Bellevue College Shoreline CC	DMA 246: Video Fundamentals DMA 247: Video Implementation FILM 257: Video Production 2	10 5
ADVANCED MARKETING & ENTREPRENEURSHIP *(One year)*	Bellevue College	MKTG 299: Individual Studies in Marketing	5
AP COMPUTER SCIENCE *(One year)*	Bellevue College Edmonds CC	CS 210: Fundamentals of Computer Science 1 CIS 199: CIS Special Topics	5 5
AP COMPUTER SCIENCE PRINCIPLES *(One year)*	Bellevue College Edmonds CC	PROG 110: Introduction to Programming CIS 125: Network Workstation	5 5
AP PHOTOGRAPHY PORTFOLIO/2-D DESIGN	LW Tech	DSGN 128: Digital Photography	4
AUTOMOTIVE TECHNOLOGY 1 or 2 *(One year)*	LW Tech	AUTO 124: Maintenance Procedures AUTO 140: Brake Systems AUTO 144: Suspensions, Steering & Alignment AUTO 210: Engines, Cylinder Blocks & Cooling Systems	2 10 6 10
BIOTECHNOLOGY	Shoreline CC	BIOL 107: Biology & Society	5
BUILDING INDUSTRY TECHNOLOGIES - CORE PLUS CONSTRUCTION	Renton Tech	CONST 160: Materials, Methods and Equipment CONST 250: Project Safety and Accident Prevention	3 4
BUSINESS LAW	Bellevue College	BUS&201: Business Law	5
CHILD DEVELOPMENT	Bellevue College LW Tech	EDUC&115: Child Development EDUC&115: Child Development	5 5
CISCO NETWORKING ACADEMY--CCNA	Bellevue College Edmonds CC	NSCOM 201: Cisco Networking I NSCOM 202: Cisco Networking II NSCOM 203: Cisco Networking III NSCOM 204: Cisco Networking IV CIS 171: Cisco Networking I CIS 172: Cisco Networking II CIS 173: Cisco Networking III CIS 174: Cisco Networking IV	20 20
CISCO – ADVANCED CYBERSECURITY	Bellevue College Edmonds CC	ISIT 305: Network Security/*Firewall (Students must earn the BC credit for CCNA in order to qualify for this credit)* CIS 268: Cisco CCNA Security	5 5
CODING IN PYTHON 1 & 2 (High school only) *(Must take both classes to receive credit.)*	Bellevue College Edmonds CC	PROG 108: Introduction to Scripting CIS 100: CIS Fundamentals	5 5

Program	College	Course	Credits
CODING IN PYTHON 3 & 4 *(Must take both classes to receive credit.)*	Bellevue College	PROG 120: Object Oriented Programming Concepts	5
COMPUTER GRAPHICS 1 or 2	Bellevue College LW Tech	DMA 103: Digital 2D Design DSGN 121: Vector Illustration 1 w/ Illustrator DSGN 122: Image Editing 1 w/ Photoshop	5 8
COMPUTER TECHNOLOGY	Bellevue College LW Tech Edmonds CC	IT 101: Introduction to Information Technology BTE 120: Business Computer Management CIS 100: CIS Fundamentals	5 5 5
CULINARY ARTS	Renton Tech LW Tech	CUL 103 – Knife Skills CUL 105 – Culinary Foundations CUL 114 – Salad Bar CUL 118 – Breakfast Cookery CUL 119 – Bakery Basics CART 110: Introduction to Culinary & Baking Arts	15 10
DIGITAL MEDIA PRODUCTION 1 or 2	Bellevue College Shoreline CC	DMA 246: Video Fundamentals FILM 256: Video Production 1	5 5
ENGINEERING TECHNOLOGY 1 & 2 *(Must take both classes to receive credit)*	LW Tech	ENGR& 100: College Success in Engineering	3
ENTREPRENEURSHIP	Bellevue College	BUS 250: Entrepreneurship	5
HEALTH SCIENCE CAREERS	Bellevue College LW Tech	NAC 106: Nursing Assistant Foundations NAC 107: Basic Technical Skills NAC 108: Nursing Assistant Clinical Practicum AHE 110: Medical Terminology AHE 120: Safety for Healthcare AHE 130: Human Systems IFAD 162: First Aid/CPR for Health Care Providers IFAD 216: HIV/AIDS training NURS 107: Nursing Assistant Theory NURS 108: Nursing Assistant Lab NURS 109: Nursing Assistant Practicum	22 13
IB BUSINESS AND MANAGEMENT	Bellevue College Shoreline CC	MKTG 131: Principles of Professional Selling BUS 120: Principles of Marketing	5 5
INTERIOR DESIGN AND HOUSING	Bellevue College	INDES 140: Intro to Interior Design	5
INTRODUCTION TO HEALTH CARE	Bellevue College	AHE 100: Intro to Healthcare	5
INTRODUCTION TO HORTICULTURE	LW Tech	HORT 299: Horticulture Independent Studies	2
INTRODUCTION TO MARKETING	Shoreline CC Bellevue College	BUS 120: Principles of Marketing MKTG 131: Principles of Professional Selling	5 5
NURSERY & GREENHOUSE OPERATIONS *(Year)*	LW Tech	HORT 299: Horticulture Independent Studies	6
PERSONAL FINANCE	Bellevue College	BUS 102: Personal Money Management BUS 103: Personal Savings BUS 104: Personal Credit BUS 105: Personal Taxes BUS 108: Personal Investment	5
PHOTOGRAPHY 1 or 2	LW Tech	DSGN 128: Digital Photography	4
RETAIL MANAGEMENT—STUDENT STORE	Bellevue College	MKTG 299: Individual Studies in Marketing	5
TEACHING ACADEMY 1 or 2 *(One year)*	Cascadia CC Bellevue College	EDUC 102: Field Experience in Education EDUC&205: Introduction to Education	5 5
TECHNICAL THEATER 1 and/or 2 *(One year)*	Shoreline CC	DRAMA 207: Theater Production 1 DRAMA 208: Theater Production 2 DRAMA 209: Theater Production 3	6
TELEVISION BROADCASTING *(Year-long)*	Bellevue College Shoreline CC	DMA 246: Video Fundamentals FILM 257: Video Production 2	5 5
VIDEO GAME & SIMULATION DESIGN	Bellevue College	DMA 106: Animation & Game Design Fundamentals	**5**
WELDING TECHNOLOGY, DESIGN AND FABRICATION	LW Tech	WELD 101: Oxy/Acetylene Cutting & Welding	6

Students should check with individual teachers about the dual college credit offered in their class.

**Students must register with PNWCC the year they take the class; credits cannot be awarded retroactively.

For more information regarding Pacific NW College Connections college credit:
        Tanya Rettinger, Pacific NW College Credit Director: tanya@PNWCollegeCredit.org
        Amy West, Program Specialist: amy@PNWCollegeCredit.org
        Email: info@PNWcollegecredit.org
        Website: www.PNWCollegeCredit.org

COLLEGE CREDIT CLASSES – OTHER			
Course Title*	**College**	**College Course Title**	**Credits**
ANATOMY AND PHYSIOLOGY *(One year)*	Bellevue College in the High School	BIOL 108: Human Biology	6
CULINARY ARTS and ADVANCED CULINARY ARTS (2 years)	Culinary Institute of America	Food Safety (ServSafe) Mathematics (challenge test required)	1.5 1.5

For more information regarding other college credit:
        Contact the teacher of each class.

INDUSTRY AND PATHWAY CERTIFICATIONS

Many Career & Technical Education classes offer students the opportunity to earn Industry Recognized Certifications. These certifications demonstrate the skills and abilities established by industry and may be accepted as a validated credential for workplace entry or advancement. Certifications help build student resumes for post-secondary education or employment and give them a jump start on entering the job market. Students should check with their individual teacher about these opportunities.

CERTIFICATION	CLASS
ACP – Adobe Certified Professional Illustrator, InDesign, Photoshop, Premiere Pro, After Effects	Computer Graphics 1 & 2 Photography 1 & 2 AP Photography Portfolio/2-D Design Digital Media Production 1 & 2 Advanced Digital Media Production Television Broadcasting
NATEF - ASE – National Institute for Automotive Service Excellence 8 Exams **SP2 – Safety and Pollution Prevention Certification** **CDX Curriculum Completion Certification** **ATB Certificate of Completion**	Automotive Technology 1 & 2
CCNA — Cisco Certified Network Associate	Cisco Networking Academy CCNA
CCNP (3 exams) – Cisco Certified Network Professional	Advanced Cisco – CCNP
CCSP – Cisco Certified Security Professional	Advanced Cisco -- Cybersecurity
NSA CNSS 4011 – National Security Agency & Committee on National Security	Advanced Cisco -- Cybersecurity
CNA – Certified Nursing Assistant	Health Science Careers
CPR/AED for Professional Rescuers	Health Science Careers
American Red Cross Adult First Aid/CPR/AED	Introduction to Health Care Building Industry Technologies - Core Plus Construction Welding Technology, Design, & Fabrication
Food Handler's Permit	Culinary Essentials 1 Culinary Arts Retail Management—Student Store Bakery & Pastry 1
MOS – Microsoft Office Specialist Word, Word Expert, Excel, Excel Expert, Outlook, Power Point, Access	Digital Communications & Technology Advanced Digital Communications & Technology Accounting 3 & 4
PCEP – Certified Entry-Level Python Programmer Certification The Python Institute	Coding in Python 2
PCAP – Certified Associate in Python Programming Certification The Python Institute	Coding in Python 4
OSHA 10-Hour Construction Industry	Building Industry Technologies - Core Plus Construction Welding Technology, Design, & Fabrication
ParaPro – Paraprofessional Certification	Teaching Academy 1 & 2
ServSafe Food Manager Certification	Advanced Culinary Arts
CRO – Certified Radio Operators The Society of Broadcast Engineers	Radio and Podcast Production
CSWA -- Certified SOLIDWORKS Associate CSWA-EDU Academic Certification CSWA-AM Additive Manufacturing Certification	Engineering Technology 1 & 2
Core Plus Student Certificate -- Construction	Building Industry Technologies - Core Plus Construction
UCU -- Unity Certified User	Mobile Game Development
BASF Plant Science Certification	Nursery & Greenhouse Operations
Principles of Floral Design Certification – Benz School of Floral Design	Floral Design 1 & 2
IATSE Skills Assessment – International Alliance of Theatrical Stage Employees (Local 15)	Technical Theater 1 & 2

CAREER & TECHNICAL STUDENT PROFESSIONAL AND LEADERSHIP ORGANIZATIONS*

Student leadership organizations are an integral part of extended learning in CTE classrooms. Students are encouraged to participate in their organization's activities such as academic and industry competition, community service, and leadership conferences. These learning opportunities provide professional and leadership experiences to build resumes and college applications making students more competitive. Interacting with and learning from industry professionals provides insight into a variety of careers and enables students to start building their career network while still in high school. These organizations also provide many post-secondary scholarships.

National Career & Technical Student Organizations

DECA **Business & Marketing Pathways**	FFA **Environmental Horticulture Pathway**
DECA prepares emerging leaders and entrepreneurs for careers in marketing, finance, hospitality and management. www.deca.org	Future Farmers of America makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education. www.ffa.org
SkillsUSA **All Pathways**	**TSA** **STEM Pathway**
SkillsUSA empowers its members to become world-class workers and leaders. SkillsUSA improves the quality of our nation's future skilled workforce through the development of framework skills that include personal, workplace and technical skills grounded in academics. www.skillsusa.org	TSA -- Technology Student Association, enhances personal development, leadership, and career opportunities in STEM, whereby members apply and integrate these concepts through extracurricular activities, competition, and related programs. www.tsaweb.org
FCCLA **Human Services Pathway**	**HOSA** **Health Sciences Pathway**
FCCLA-Family, Career & Community Leaders of Tomorrow, focuses on the multiple roles of the family member, wage earner and community leaders developing skills for life through character development, creative and critical thinking, interpersonal communication, practical knowledge, and career preparation. fcclainc.org	HOSA -- Future Health Professionals, empowers students to become leaders in the global health community through education, collaboration, and experience. www.hosa.org

*Examples of Other CTE Leadership Organizations***

Cisco Project Club **Information Technology Pathway**	Teaching Academy Club **Education & Training Pathway**
FIRST Robotics **STEM Pathway**	Technology Club **STEM Pathway**
CTE Leadership Club **All Pathways**	Photography Club **Arts, AV Tech. & Communications Pathway**
ProStart **Hospitality & Tourism Pathway**	National Tech Honor Society **Information Technology Pathway**
Video Production Club **Arts, AV Tech. & Communications Pathway**	Washington State Thespians **Arts, AV Tech. & Communications Pathway**

*Not all CTSOs and clubs are available in every school.
**Not a complete list of all CTE leadership clubs and organizations.

CAREER AND TECHNICAL EDUCATION – Courses by Career Cluster

MIDDLE SCHOOL

Technology Education
- Media Technology
- Video Production 1 and 2
- CS Discoveries
- CS101 - Coding in Python 1
- CS102 - Coding in Python 2

STEM
- Applied Engineering
- Design and Production
- Robotics
- Flight and Space

HIGH SCHOOL

Agricultural Education
Introduction to Horticulture +
Nursery & Greenhouse Operations #+
Environmental Sustainability
Floral Design 1
Floral Design 2
Agriculture Worksite Learning

Architecture/Construction/Manufacturing
Metals Technology 1
Metals Technology 2
Welding Technology, Design & Fabrication #+
Woods Technology 1
Woods Technology 2
Building Industry Technologies - Core Plus
   Construction *+
Construction Trades Worksite Learning

Arts, AV Technology & Communication
Radio & Podcast Production #
Television Broadcasting+
Digital Media Production 1 +
Digital Media Production 2 +
Advanced Digital Media Production #+
Photography 1 +
Photography 2 +
AP Photography Portfolio/2-D Design +
Technical Theatre 1 +
Technical Theatre 2 +
Costume Design
Communication Technologies Worksite
   Learning
Communications & Journalism Worksite
   Learning

Business, Management & Administration
Accounting 1
Accounting 2 +
Accounting 3
Accounting 4 +
Personal Finance +
Business Law +
Entrepreneurship +
Economics
AP Micro/AP Macro Economics +
IB Business & Management SL +
IB Business & Management HL +
Business & Marketing Worksite Learning

Education & Training
Teaching Academy 1 #+
Teaching Academy 2 #+
Education Worksite Learning

Health Sciences
Introduction to Health Care +
Health Science Careers *+
Anatomy & Physiology +
Biotechnology +
Health Sciences Worksite Learning

Hospitality & Tourism
Culinary Arts *+
Advanced Culinary Arts *+
Personal Culinary Worksite Learning

Human Services
Bakery and Pastry 1
Child Development +
Culinary Essentials 1
Culinary Essentials 2
Independent Living
Interior Design & Housing +
Family & Consumer Science Worksite
   Learning

Information Technology
Cisco Networking Academy CCNA *+
Advanced Cisco – CCNP *+
Advanced Cisco – Cybersecurity +
Computer Technology +
Computer Graphics 1 +
Computer Graphics 2 +
CS201 - Coding in Python 1
CS202 - Coding in Python 2 +
CS203 – Coding in Python 3
CS204 – Coding in Python 4
Mobile Game Development
Video Game & Simulation Design +
AP Computer Science Principles +
AP Computer Science +
Special Topics in Computer Science
Computer & Information Technologies
   Worksite Learning

Marketing, Sales, and Service
Introduction to Marketing +
Advanced Marketing & Entrepreneurship +
Retail Management – Student Store +
Business & Marketing Worksite Learning

**Science, Technology, Engineering and Math
   (STEM)**
Introduction to Robotics
Engineering Technology 1
Engineering Technology 2+
Special Topics in Engineering
Engineering Worksite Learning

Transportation
Automotive Technology 1 *+
Automotive Technology 2 *+
Transportation Worksite Learning

POST-SECONDARY OPTIONS
- Colleges & Universities: 4-year degrees, Master's, Ph.D.
- 2-year Colleges, Technical Colleges, & Industry-specific Schools: 2 & 4-year degrees, Certificate programs, Pre-apprenticeship programs
- Apprenticeships
- Internships
- Military

 # Designates a 2-hour Satellite Program course
* Designates a 3-hour WANIC Skills Center course
+ Designates College Credit course

SYMBOLS AND EXPLANATIONS FOR CAREER AND TECHNICAL (CTE) PROGRAMS

BSD Satellite Programs are programs that focus on a specific career pathway and can lead towards immediate employability or students can continue their education at a local technical college, community college, or university. These high-level, in-depth, 2-hour classes offer students hands-on learning in industry-like environments. These programs are offered at specific high schools within Bellevue School District but are open to all students within the district. These courses provide college credit and industry certifications.

Satellite Programs: Nursery & Greenhouse Operations; Welding Technology, Design & Fabrication; Advanced Digital Media Production; Teaching Academy 1 & 2

WANIC Skill Centers are programs that focus on a specific career pathway and can lead towards immediate employability or students can continue their education at a local technical college, community college, or university. These courses are *three periods* in length during the school day. These programs are offered at specific high schools within Bellevue School District but are available for all students within the district and outside of the district. These courses provide college credit.

Skill Center Programs: Culinary Arts, Advanced Culinary Arts, CISCO Networking Academy, Advanced CISCO – CCNP, Automotive Technology 1, Automotive Technology 2, Health Science Careers, and Building Industry Technologies-Core Pus Construction.

Pacific NW College Credit means that this course will provide college credit to Bellevue College, Cascadia Community College, Shoreline Community College, Edmonds Community College, Renton Community College or Lake Washington Institute of Technology depending on the course and the articulation agreement. Students pay a one-time fee of $50.00 for the opportunity to earn as many credits as they can during the school year. Students must maintain a "B" average in the class to earn the credits.

College Credit indicates college credit is available at other higher education institutions other than those associated with Pacific NW College Credit schools. Students should check with the teacher of these classes for more information about how to earn these credits, obtain a transcript and credit fees, if any.

Microsoft Imagine Academy provides training and professional industry certification in many of the Microsoft products including Word, Excel, Access, Outlook and PowerPoint, as well as advanced topics including programming, Web development, networks, and database development. MSIA is a partnership between, Microsoft, CCI Learning, and Washington OSPI.

AGRICULTURE EDUCATION

Agriculture, Food & Natural Resources

**College Credits Available:
2 – 12**

**Potential College Tuition Savings:
$215 - $1,291**

Do you enjoy working outdoors? Are you interested in protecting the environment? Do you have a green thumb? Then horticulture, the art, technology, business and science of plants, may be for you! Per the U.S Department of Agriculture, agriculture and related industries account for $400+ billion in the U.S. GDP, employing 2.8% of the national workforce, and exporting $139.6 billion in goods. This diverse career cluster includes many pathways such as agribusiness, environmental service systems, natural resource systems, plant systems, nursery/greenhouse operations and much more. These careers require time-management and organization skills, interpersonal skills, adaptability, and tech-savviness. Check out the horticulture classes at the Interlake High School Horticulture Center!

Resources for more information: Careers for Green Thumbs
Environmental Science.org
Careertech.org
Washington State OSPI
LandscapeIndustryCareers.org
Seedyourfuture.org

CLASSES OFFERING PROFESSIONAL CERTIFICATIONS*	
Principles of Floral Design Certification Benz School of Floral Design Principles	Floral Design 1 Floral Design 2
BASF Plant Science Certification	Nursery & Greenhouse Operations

SAMPLE PROFESSIONAL ORGANIZATIONS & LEADERSHIP CLUBS*

FFA (Future Farmers of America): www.ffa.org

Interlake Horticulture Plant Sales

2016 – 2026 OCCUPATIONAL GROWTH FOR WASHINGTON STATE**

Occupation	Growth Rate	Entry Degree
Nursery & Greenhouse Manager	8%	HS Diploma
Agricultural Inspector	12%	Bachelor's
Soil & Water Conservationist	8%	Bachelor's
Landscape Specialist	28%	HS Diploma
Aquaculture Manager	8%	HS Diploma
Agricultural Engineer	9%	Bachelor's
Soil & Plant Scientist	10%	Bachelor's

*May vary by school and/or program. Check with the teacher for specific details.   **www.careeronestop.org
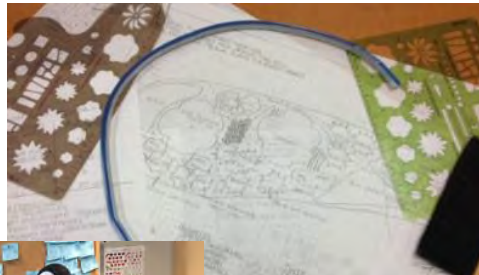
HORTICULTURE CAREER PATHWAY EXAMPLES

MIDDLE SCHOOL COURSES THAT SUPPORT THIS PATHWAY

Media Technology
Applied Engineering
Design and Production

NURSERY MANAGER / ENTREPRENEUR	FLORIST
Floral Design 1 & 2 Introduction to Horticulture Environmental Sustainability Nursery and Greenhouse Operations Introduction to Marketing Entrepreneurship	Introduction to Marketing Floral Design 1 & 2 Introduction to Horticulture Environmental Sustainability Nursery and Greenhouse Operations

Sample Entrepreneur in the Horticulture Industry 4-Year Plan
(Middle School courses that support this 4-year plan are indicated in the chart below.)

PERIOD	1	2	3	4	5	6	7
GRADE	LANGUAGE ARTS	SOCIAL STUDIES	SCIENCE	MATH	ELECTIVE	ELECTIVE	ELECTIVE
6	x	x	x	x	Physical Education		Media Technology
7	x	x	x	x	Physical Education	Health	Applied Engineering
8	x	x	x	x	Physical Education		Design and Production
9	x	x	x	x	World Language	Introduction to Horticulture	Entrepreneurship
10	x	x	x	x	Physical Education / Health	Floral Design 1 & 2	Intro to Horticulture
11	x	x	x	x	Physical Education	Environmental Sustainability	Intro to Marketing
12	x	x		x	Fine Arts	Nursery and Greenhouse Operations	

SAMPLE PATHWAY COLLEGE CREDITS

Bellevue College = 10 college credits
Entrepreneurship – BUS 250 = 5 credits
Introduction to Marketing – MKTG 131 = 5 credits

LWIT = 8 college credits
Introduction to Horticulture – HORT 299 = 2 credits
Nursery and Greenhouse Operations – HORT 299 = 6 credits (Yearlong)

See the College Credit table for more information and available credits.

POST SECONDARY

HORTICULTURE COLLEGE CREDIT

Lake Washington Institute of Technology
Introduction to Horticulture -- HORT 299 = 2 credits
Nursery and Greenhouse Operations – HORT 299 = 6 credits

PROFESSIONAL CERTIFICATIONS

BASF Plant Science Certification

Benz School of Floral Design
• Principles of Floral Design Certificate

TECHNICAL OR ASSOCIATE DEGREES

Lake Washington Technical Institute
• Environmental Horticulture, AAS
• Environmental Horticulture, Certificate of Proficiency

Edmonds Community College
Associates – Technical Arts:
• Horticulture – Landscape Design
• Horticulture - Ornamental Horticulture
• Horticulture – Sustainable Landscape Management
Certificates:
• Landscape Horticulture
• Nursery Growers
• Urban Agriculture Production

SAMPLE OCCUPATIONS

Agriculture Engineering
Arborist
Biological Scientists
Botany
Landscape Design
Seed Grower
Conservation Scientist
Crop Scientist
Environmental and Geoscientists
Greenskeeper
Horticulture Scientist
Nursery Manager
Ornamental Horticulture
Soil and Plant Scientist
Plus many more......

Updated December 2021

Agricultural Education Courses

(All Agriculture classes are located at Interlake High School.)

INTRODUCTION TO HORTICULTURE
Other Info: Students can earn 2 college credits

This class is designed for students interested in the environment and the green industry. Through classroom learning, students will propagate and maintain plants for small-scale gardens and other urban spaces. Students will learn the fundamentals of plant growth; explore greenhouse growing, pruning, plant propagation and identification. Take an active stance on environmental change and contribute to improving it. Gain leadership and career skills through hands-on, individual and group projects. Learn about the business and career aspects of the horticulture industry by growing, planning, publicizing and staffing two yearly plant sales.

NURSERY AND GREENHOUSE OPERATIONS
Prerequisite: (Interlake High School students--Introduction to Horticulture, Floral Design, or teacher permission)
Other Info: 1.0 CTE and 1.0 Lab Science credit available; Students can earn 6 college credits; Available to all BSD students

Students can begin or continue their study of horticulture and the green industry through extensive industry related experience. Students will maintain and operate state-of-the-art greenhouses as they extend their knowledge of the horticulture industry, plant production and sales through the student-run yearly plants sales. Students will develop the sales from the ground up by selecting plants, propagating, planning and managing the sales. Classes take extensive horticultural field trips, use community resources and develop projects that take an in-depth look at the horticulture industry. Students participate in maintaining the school arboretum and partner with the community to improve green spaces. Through hands-on learning, students will gain entry-level job skills and possible opportunities for summer work. Students will be prepared for further study in Environmental Science, Urban Forestry, Ecology, Green Environments, Horticulture and Landscape Architecture.

ENVIRONMENTAL SUSTAINABILITY
Other Info: CTE or Lab Science Credit

Students in Environmental Sustainability will investigate the complex relationships of the environment and learn how these connections are utilized in the growing field of Sustainable Agricultural. Through lab science and discussions on the implications of modern agriculture, students will explore the importance of sustainability in global ecological systems. Students will spend time learning about the interactions of plants and animals in the environment, and then apply this information to design sustainable agricultural systems. Global climate change has a direct impact on agricultural systems. Without a shift in how food is grown the impacts can be devastating. This course asks students how careers in Agriculture and Horticulture can be improved through sustainable practices.

FLORAL DESIGN 1
Other Info: CTE or Fine Arts credit

Express your artistic ability while experiencing the world of floriculture. This course includes theory, a blend of floral design, floral handling and retail marketing. Students will create arrangements for staff and students to purchase year-round in the floral shop. Topics studied will include floral identification, flower processing, principles and elements of art, developing customer estimates and designing a floral industry business. Students will experience the growing trends in floriculture from slow flowers to contemporary design while gaining entry-level experience in floral design.

FLORAL DESIGN 2
Other Info: CTE or Fine Arts credit

Enhance your basic skills acquired in Floral Design 1! You will expand your familiarity and execution of the principles, practices and techniques utilized in the floral design industry. Projects include creating large scale arrangements without the use of floral foam and designing a complete wedding suite. In Floral Design 2, you will manage and run the Interlake floral shop, as well as spend time job shadowing a professional in the floral industry. You will enhance and refine your skills, further your knowledge, and gain industry experience preparing you for employment or further education in the floral and horticulture industry.

AGRICULTURE WORKSITE LEARNING
Prerequisite: Enrollment in or completion of a one-semester Agriculture class

Students who have had one semester of a CTE class in the Agriculture career pathway, and who are currently employed in a paid position with a local employer in this industry, are eligible to enroll in worksite learning. (No home-based businesses may be used for this credit.) Students can earn .5 credits for 180 hours of paid work or 1.0 credits for 360 hours of paid employment, which is the maximum allowable credit. Required paperwork must be signed off by a parent and the employer and submitted on time to earn credit. This includes monthly calendars verifying the number of hours worked and an employer evaluation completed over the course of the work experience. Each high school has a Work Site Learning Coordinator that will assist students throughout the school year.

ARCHITECTURE, MANUFACTURING & CONSTRUCTION

Architecture, construction, and manufacturing jobs are all about, "I built that!" Do you aspire to design, plan, build or maintain structures? Are you interested in how things come together or the quality of materials and workmanship? Do you like teamwork, problem-solving, and planning? Jobs in construction and manufacturing are about creativity, using your hands and your mind to produce and problem-solve, and project management. This high-demand, $1.365 trillion industry is expected to grow on average 7% by 2030 with a growing demand in green construction. (*www.bls.gov*) If you are ready to embrace the journey from "job" to "craft," start with these classes at Interlake and Sammamish High Schools!

College Credits Available: 13

Potential College Tuition Savings: $1,398

Resources for more information:
Careers in Welding
Career School Now
GoWelding.org
WA Labor & Industries: Apprenticeships
Washington Women in Trades
The Balance --Construction
careeronestop.org –green careers

CLASSES OFFERING PROFESSIONAL CERTIFICATIONS*	
OSHA 10	Welding Technology, Design, & Fabrication Building Industries Technologies – Core Plus Construction
Core Plus Student Certification	Building Industries Technologies – Core Plus Construction
American Red Cross Adult First Aid/CPR/AED	Welding Technology, Design, & Fabrication Building Industries Technologies – Core Plus Construction

SAMPLE PROFESSIONAL ORGANIZATIONS & LEADERSHIP CLUBS*

Skills USA:
www.skillsusa.org

2016 – 2026 OCCUPATIONAL GROWTH FOR WASHINGTON STATE**

Occupation	Growth Rate	Entry Degree
Construction Worker	19%	HS Diploma
Carpenter	18%	HS Diploma
Sheet Metal Worker	18%	HS Diploma
Welder	8%	HS Diploma
Construction Manager	20%	Bachelor's
Civil Engineer	5%	Bachelor's
Architectural Drafter	7%	Associate's
Building Inspector	10%	HS Diploma

*May vary by school and/or program. Check with the teacher for specific details.   **www.careeronestop.org
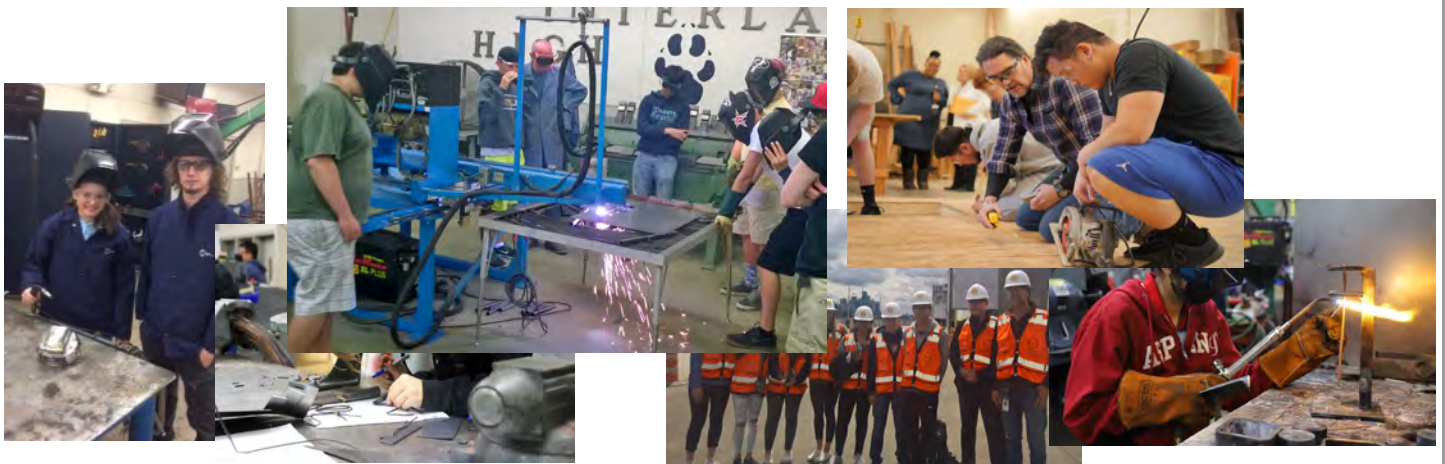
CONSTRUCTION & WELDING CAREER PATHWAY EXAMPLES

MIDDLE SCHOOL COURSES THAT SUPPORT THIS PATHWAY	ENTRY LEVEL TRADES	WELDING FABRICATION	BUILDING INDUSTRY TECHNOLOGIES
Applied Engineering Design and Production Robotics Flight and Space	Woods Technology 1 & 2 Metals Technology 1 & 2 Building Industry Technologies – Core Plus Construction **OR** Welding Technology, Design & Fabrication	Woods Technology 1 & 2 Metals Technology 1 & 2 Welding Technology, Design & Fabrication 2-Hours	Accounting 1 & 2 Business Law Metals Technology 1 & 2 Woods Technology 1 & 2 Building Industry Technologies – Core Plus Construction

Sample Building Industry Technologies/Trades 4-Year Plan
(Middle School courses that support this 4-year plan are indicated in the chart below.)

PERIOD	1	2	3	4	5	6	7
GRADE	LANGUAGE ARTS	SOCIAL STUDIES	SCIENCE	MATH	ELECTIVE	ELECTIVE	ELECTIVE
6	x	x	x	x	Physical Education		Applied Engineering
7	x	x	x	x	Physical Education	Health	Design and Production
8	x	x	x	x	Physical Education	Robotics	Flight and Space
9	x	x	x	x	World Language	Accounting 1 / 2	Business Law
10	x	x	x	x	Physical Education	Health	Metals Technology 1 & 2
11	x	x	x	x	Physical Education	Woods Technology 1	Woods Technology 2
12	x	x		x	Building Industry Technologies - Core Plus Construction		

SAMPLE PATHWAY COLLEGE CREDITS

Bellevue College = 13 college credits
Accounting 1 & 2 – ACCT 101, ACCT 135 = 8 cr.
Business Law – BUS&201 = 5 credits

Renton Technical College = 7 college credits
Building Industry Technologies - Core Plus Construction -- CONST 160 = 3 credits & CONST 250 = 4 credits

See the College Credit table for more information and available credits.

POST SECONDARY

ARCHITECTURE, MANUFACTURING & CONSTRUCTION COLLEGE CREDIT COURSES

Lake Washington Institute of Technology
Welding Technology, Design and Fabrication – WELD 101 = 7 credits

Renton Technical College
Building Industry Technologies - Core Plus Construction -- CONST 160 = 3 credits. & CONST 250 = 4 credits

PROFESSIONAL CERTIFICATIONS

OSHA 10

American Red Cross Adult First Aid/CPR/AED

WABO - Washington Association of Building Officials Welders Certificate

AWS – American Welding Society Certified Welder

TECHNICAL OR ASSOCIATE DEGREES

Lake Washington Institute of Technology
- Welding Technology, AAS
- Aerospace/Manufacturing Gas Tungsten Arc Welding, Certificate of Proficiency
- Welding Introduction, Certificate of Proficiency
- Welding Technology, Certificate of Proficiency

Bellingham Technical College
Central Washington University
Clark College
Edmonds Community College
Renton Technical College
Shoreline Community College
University of Washington
Washington State University
For more information: Construction Management Programs or Welding Schools

SAMPLE OCCUPATIONS

Contractor/Business Owner
Building Inspector
Foreman
Woodworking Artist
1st Line Supervisor
Architect
Civil Engineer
Journeyman/woman Carpenter
Journeyman/woman Electrician
Journeyman/woman Plumber
Journeyman/woman Welder
Aviation Welding Technician
Plumber, Pipefitter, or Steamfitter
Structural Metal Worker
Welding Engineer
Manufacturing Engineer
Plus many more…

Updated December 2021

WELDING TECHNOLOGY

METALS TECHNOLOGY 1
Location: Interlake
Other Info: CTE or Fine Art credit
Students will learn how to use the tools, equipment and processes in metal machining, welding and fabrication. The student will learn basic metal working and develop attitudes and habits necessary for working safely and effectively in this environment. Students will also have the opportunity to explore and investigate career and occupational options. Metal sculpting is an important component of this course.

METALS TECHNOLOGY 2
Location: Interlake
Other Info: CTE or Fine Art credit
The Metals Technology II student will build on skills they have developed by successfully completing the Metals Technology 1 class. Students will refine welding and metal machining skills. Welding processes will include, but are not limited to, Oxygen-Acetylene welding (OAW) and Metal-Inert Gas welding (MIG). Both ferrous and nonferrous metals such as brass, copper, aluminum and silicone bronze will be used for required machining and metal art sculpturing projects. Students will have the opportunity for individualized, extended learning projects as approved by the instructor.

WELDING TECHNOLOGY, DESIGN AND FABRICATION
Location: Interlake -- Available to all BSD students
Other Info: Students can earn 7 college credits
Students will design, layout and fabricate projects using processes and procedures found in the metal-working industry. The individual and group projects are modeled after industrial welding operations and are worked on in a large, well-equipped classroom laboratory. Students receive instruction, practice and gain experience with oxy/acetylene welding (OAW) and cutting; wire-feed welding (MIG); shielded metal arc welding (SMAW); tungsten inert gas welding (TIG); and plasma metal cutting. Metal sculpting and individualized projects are an important component of this course.

BUILDING TECHNOLOGY

WOODS TECHNOLOGY 1
Location: Interlake, Sammamish
In Woods Technology 1, students will have the opportunity to engage both their hands and their minds through learning the art of woodworking. Throughout the semester students will make tangible projects that can be taken home while becoming skilled in operating woodworking tools and shop machinery safely. Additionally, the skills learned in Woods Technology 1 will serve as a solid foundation and an invaluable skillset to be used in Woods Technology 2 and Building Industry Technologies - Core Plus Construction.

WOODS TECHNOLOGY 2
Location: Interlake, Sammamish
Building on the knowledge and foundation from the previous semester, students in Wood Technology 2 will apply learned techniques and further develop their skills working on individual projects seen in custom woodworking that may include furniture, reading and using blueprints, using industry-quality joinery techniques, and more. Students will use 3D modeling software to prototype and refine 3-dimensional models for individual projects which will include working with a variety of wood types. Using the shops' new cutting-edge laser students will be able to produce a wide range of designs in a variety of materials. Students will also develop leadership and work-place skills by working cooperatively with peers on projects and working cooperatively as a class.

BUILDING INDUSTRY TECHNOLOGIES--CORE PLUS CONSTRUCTION
Location: Interlake
Other Info: 1.0 Math Credit (3rd year), 1.0 Lab Science credit, 1.0 CTE credit available; Students can earn 7 college credits
Are you interested in the building industry and learning about the field of construction? Core Plus Construction is a new and unique opportunity to learn about this growing industry, explore different fields, and prepare for your future options while earning Math and CTE credits. This 3-hour course offers students the opportunity to work with industry experts who will periodically be a part of the classroom instruction providing professional knowledge and first-hand experience. In this class, students will be introduced to the use of different materials and methods, fasteners and adhesives used on job sites, learn to safely operate the various industry tools, and learn jobsite safety and OSHA requirements. Participants will learn how to design and carry out hands-on skills in practices such as rigging, lifting and safely moving a load utilizing principles of mechanical advantage. Students will also learn how to read, understand and interpret basic plan sets and engineering drawings. Class members will learn and

utilize applied academic concepts such as math and physics, how they apply to a well-designed project, key concepts in plumbing and electrical, along with energy utilization and energy efficiencies. CORE-Plus Construction participants will learn about a variety of organizational and operational approaches, including estimating project costs, planning and scheduling of projects. These experiences will provide students the necessary skills to find employment in the field locally or continue their path at a post-secondary institution. Build your future---join today!

CONSTRUCTION WORKSITE LEARNING

Prerequisite: Enrollment in or completion of a one-semester Welding Technology or Building Technology class

Students who have had one semester of a CTE class in the Construction career pathway, and who are currently employed in a paid position with a local employer in this industry, are eligible to enroll in worksite learning. (No home-based businesses may be used for this credit.) Students can earn .5 credits for 180 hours of paid work or 1.0 credits for 360 hours of paid employment, which is the maximum allowable credit. Required paperwork must be signed off by a parent and the employer and submitted on time to earn credit. This includes monthly calendars verifying the number of hours worked and an employer evaluation completed over the course of the work experience. Each high school has a Work Site Learning Coordinator that will assist students throughout the school year.

ARTS, AV TECHNOLOGY & COMMUNICATION

Do you like applying your artistic side to solving problems? Do you see yourself designing, producing, performing, writing or publishing? Then a career in Arts, AV Technology or Communications may be for you! BSD offers 4 content areas in this career cluster:

Radio, Television & Media Productions – with 1,767 TV stations and 15,500+ radio stations in the U.S., there are many jobs in this field. *(FCC, Dec. 2017)*

Graphic Design & Production – if you have a passion for digital design and like working for yourself and/or out of your home, graphic design is the perfect career.

Photography – Washington State is 3rd for job growth in the photography field. *(LeartoBecome.org)*

Technical Theater/Performing Arts – openings in the theater, tv, & motion picture industries are expected to rise 12% by 2026 *(Occupational Outlook Handbook)*

Resources for more information: Communications-Major.com
MyPlan.com
Edward R. Murrow College of Communication
Study.com
Photography Degrees
Learn How to Become
College Board
Vault.com

College Credits Available:
3 -23

Potential College Tuition Savings:
$323 – $2,475

CLASSES OFFERING PROFESSIONAL CERTIFICATIONS*	
ACP – Adobe Certified Professional	Computer Graphics 1 & 2 Sammamish Print Studio Photography 1 & 2 Digital Media Production 1 & 2 Advanced Digital Media Production Television Broadcasting
Certified Radio Operator - CRO	Radio &Podcast Production

SAMPLE PROFESSIONAL ORGANIZATIONS & LEADERSHIP CLUBS*

TSA (Technology Student Association):
www.washingtontsa.org

SkillsUSA:
www.skillsusa.org

WA State Thespians

Multimedia, Film, Video, & Photography Clubs

2016 – 2026 OCCUPATIONAL GROWTH FOR WASHINGTON STATE**

Occupation	Growth Rate	Entry Degree
Sound Engineer	31%	Certificate
Audio/Video Technicians	21%	Certificate
Camera Operators	4%	Bachelor's
Film & Video Editors	28%	Bachelor's
Graphic Designer	23%	Bachelor's
Commercial & Industrial Designers	9%	Bachelor's
Set & Exhibit Designers	10%	Bachelor's
Directors—Stage, Film, TV & Radio	20%	Bachelor's

*May vary by school and/or program. Check with the teacher for specific details.   **www.careeronestop.org

ARTS, AV TECHNOLOGY & COMMUNICATION CAREER PATHWAY EXAMPLES

MIDDLE SCHOOL COURSES THAT SUPPORT PATHWAY

Media Technology
Video Production 1
Video Production 2

BROADCASTING/ COMMUNICATIONS	GRAPHIC DESIGN	MEDIA PRODUCTION	PHOTOGRAPHY	TECHNICAL THEATER
Digital Media Production 1 & 2 Photography 1 & 2 AP Photography/2-D Design Portfolio Radio and Podcast Production Television Broadcasting	Computer Graphics 1 Computer Graphics 2	Digital Media Production 1 Digital Media Production 2 Advanced Digital Media Production	Photography 1 Photography 2 AP Photography/2-D Design Portfolio	Technical Theater 1 Technical Theater 2 Costume Design

Sample Broadcasting /Communications 4-Year Plan

(Middle School courses that support this 4-year plan are indicated in the chart below.)

GRADE	PERIOD 1 LANGUA GE ARTS	2 SOCIAL STUDIES	3 SCIENCE	4 MATH	5 ELECTIVE	6 ELECTIVE	7 ELECTIVE
6	x	x	x	x	Physical Education		Media Technology
7	x	x	x	x	Physical Education	Health	Video Production 1
8	x	x	x	x	Physical Education		Video Production 2
9	x	x	x	x	World Language	Photography 1	Photography 2
10	x	x	x	x	Physical Education	Health	AP Photography/2-D Design Portfolio
11	x	x	x	x	Physical Education	Digital Media Production 1	Digital Media Production 2
12	x	x		x	Fine Arts	Television Broadcasting	Radio & Podcast Production

SAMPLE PATHWAY COLLEGE CREDITS

Bellevue College
Digital Media Production 1 or 2; OR Television Broadcasting; OR Advanced Media Production – DMA 246, DMA 247 = 10 credits

LWIT
Photography 1 or 2; OR AP Photography Portfolio/2-D Design – DSGN 128 = 4 cr.

SCC
Digital Media Production 1 or 2 – FILM 256 = 5 credits

See the College Credit table for more information and available credits.

POST SECONDARY

ARTS, AV TECHNOLOGY & COMMUNICATIONS COLLEGE CREDIT COURSES

Bellevue College
Computer Graphics 1 or 2 – DMA 103 = 5 credits
Digital Media Production 1 AND 2 , OR Advanced Digital Media Production – DMA 246, DMA 247 = 10 credits
Digital Media Production 1 OR 2 Year -long -- DMA 246 = 5 credits
Television Broadcasting – DMA 246 = 5 credits

Lake Washington Institute of Technology
Computer Graphics 1 or 2 – DSGN 121, DSGN 122 = 8 credits
Photography 1 or 2; OR AP Photography Portfolio/2-D Design – DSGN 128 = 4 credits

Shoreline Community College
Digital Media Production 1 or 2; OR Advanced Digital Media Production -- FILM 256 = 5 credits
Technical Theater 1 AND/OR 2 (one year) -- DRAMA 207, 208, 209 = 6 credits
Television Broadcasting – FILM 257 = 5 credits

AP Exam
AP Photography Portfolio/2-D Design

PROFESSIONAL CERTIFICATIONS

Adobe Certified Professional:
- Photoshop
- Illustrator
- Premier Pro
- InDesign

CRO – Certified Radio Operators

TECHNICAL OR ASSOCIATE DEGREES

Bellevue College:
- Associate of Arts Degree - Digital Media Arts
- Advanced Video Production Certificate

Lake Washington Technical Institute:
- Digital Audio/Video Editing Certificate
- Digital Publishing Certificate
- Graphic Design Certificate
- Photography Certificate
- Video & Motion Graphics Certificate
- Digital Design, AAS-T

North Seattle College:
- AAS - Communication, Business, Media

Shoreline Community College
- Associate of Arts Degree – Drama & Theater

SAMPLE OCCUPATIONS

Broadcast & Sound Engineer
Radio/ Video Equipment Technician
Photographer
Announcer/Broadcaster
Radio Engineer
Camera Operator
Producer/Director
Editor
Digital Media Specialist
Communications Director
Graphic Designer
Photojournalist
Entrepreneur/Business Owner
Industrial Designer
Stage Manager
Performing Arts Administrator
Plus, many more….

Arts, AV Technology & Communications Courses

RADIO AND PODCAST PRODUCTION
Location: Bellevue

Radio Broadcasting covers the ins and outs of working in a real radio station. Students learn how to run a radio station as they participate in the operation and management of KASB 89.9 FM, broadcasting from Bellevue High School. Students learn the art of audio recording, mixing and editing. The class is hands on, providing experience on professional audio equipment. This class prepares you for advanced college courses and/or work in the industry.

TELEVISION BROADCASTING
Location: Bellevue

This class produces the morning bulletin WakeUP! using a professional news studio. Students produce and broadcast a weekly school newscast. The course also covers on-screen and vocal presentation. The class is hands on, providing experience on professional audio and studio video equipment and prepares you for advanced college courses and/or for work in the industry.

DIGITAL MEDIA PRODUCTION 1
Other Info: CTE or Fine Art credit (varies by school)

Are you ready for the world of Video Production? The Digital Media Production 1 course is an exciting introduction into the world of video editing, filming, script writing and studio production. Students learn the various ins and outs of the media industry. Commercial television and film production are all included. Using state-of-the-art equipment, students will learn to produce commercials, public service announcements, music videos, and news stories. In addition, students will learn the production process, including concept brainstorming, storyboarding, filming, and video editing. Students may obtain their Adobe Certification in the Adobe CC products such as Premiere Pro and After Effects.

DIGITAL MEDIA PRODUCTION 2
Other Info: CTE or Fine Art credit (varies by school)

Take the next step into the exciting world of multi-media with cutting edge technology making movies and recording audio. DMP 2 students will work individually and on teams producing video projects such as mini-documentaries and short films to enter in film festivals, and other projects for student activities, sports, special community events, and non-profit organizations. Additionally, students will write and produce a short movie, animated video or music recording. Students may obtain their Adobe Certification in the Adobe CC products such as Premiere Pro and After Effects.

ADVANCED DIGITAL MEDIA PRODUCTION
Location: Newport - Available to all BSD students
Other Info: 1.0 CTE credit and 1.0 Fine Art credit available

Are you interested in learning about television production, making movies, and professional videos? Media Production covers professional video and film production. Students work in a modern video and film post-production facility with industry standard equipment. Students get hands on experience planning, writing, directing, shooting, editing and producing videos. Students will have access to digital cameras, DSLRs, audio & lighting equipment. Students will produce films that will be entered in area film festivals. Students explore career opportunities through field trips to local studios. Students will get to interact with industry professionals through classroom visits and film festival seminars/career days. This class prepares students for advanced college courses and/or work in the industry. Students will also take part in producing a student produced bi-weekly morning announcement program. Students are able to obtain their Adobe Certification in the Adobe CC products such as Premiere Pro and After Effects.

COMPUTER GRAPHICS 1
Location: Bellevue, Interlake, Sammamish
Other Info: CTE or Fine Art credit

Students work with the software most commonly found in the graphic arts industry learning the major aspects of graphic design including design principles, product and packaging design, branding, and other aspects of effective design. This course will focus on electronic image manipulation, page layout, and web design. The Adobe software used in this class meets current industry standards. Students are able to obtain their Adobe Certified Professional certification in Photoshop. Introduction to graphics and/or familiarity with computer operation is recommended.

COMPUTER GRAPHICS 2
Location: Bellevue, Interlake, Sammamish
Other Info: CTE or Fine Art credit

In Computer Graphics 2, students take a deeper dive into graphic design principles and practices by creating commercial design products. Students further their skill development from Computer Graphics 1 using the Adobe industry standard design programs Illustrator and InDesign. Students will learn 3D modeling and printing using current software such as Fusion 360 and Ultimaker 3D printers. Students are able to obtain their Adobe Certified Professional certification in Adobe Illustrator and InDesign.

PHOTOGRAPHY 1

Other Info: CTE or Fine Art credit

Students learn to capture and compose images with a camera and to develop compositional skills with a photographic eye. Students will also learn the history and development of photographic technology while exploring its importance in journalism, advertising, fine art, and commercial applications for possible career choices. The emphasis will be on digital photography. Postproduction including Photoshop will also be a major focus of the class.

PHOTOGRAPHY 2

Other Info: CTE or Fine Art credit

Under guidance of the instructor the advanced student of photography will extend and refine the skills and techniques introduced in Photography, including creating and manipulating digital images in Photoshop. Advanced photography students will develop their portfolio in breadth (variety of photographic approaches) or concentration (theme for a body of work) as part of this class. Portfolio development is applicable for the student's future AP 2-D Design Portfolio.

AP PHOTOGRAPHY PORTFOLIO/2-D DESIGN

Other Info: CTE or Fine Art credit

In this two-semester course, AP Photography students will work on a 2-D Design Portfolio as defined by the Advanced Placement Studio Art criteria. The 2D Design Portfolio includes (but is not limited to): graphic design, typography, digital imaging, collage & photography. Students will continue their advanced exploration of photography, including camera work and digital editing.

TECHNICAL THEATRE 1

Students will concentrate on the major areas of theatre technology, production and performance. Students will learn how to research and design sets and scenery, design lights and sound and learn about the roles of Stage Manager, Production Manager and House Manager. Students will learn about all areas of technical theatre and specialize in one or two areas. Some afternoon and evening work is required in addition to in-class production work. Behind the scenes stage experience will be acquired through the production of 2-3 shows during the year. Students who complete the course can pass an operations test with the district and can become employed by the district to work in the Performing Arts Centers.

TECHNICAL THEATRE 2

Location: Newport, Sammamish
Prerequisite: Technical Theater 1
Other Info: CTE or Fine Art credit; May be repeated for credit

Students will concentrate on the major areas of theatre technology and production. Students will explore advanced set design and construction techniques, the creative process involved in translating a script into a visual design, and the essentials of developing costumes, props, lighting and sound designs. All students will acquire behind-the-scenes stage experience through the production of 2-3 shows during the year. Students who complete the course can pass an operations test with the district and can become in employed by the district to work in the Performing Arts Centers.

COSTUME DESIGN

Location: Sammamish

Costume Design is a course that prepares individuals to design, select, or build costumes for characters in Sammamish High School's theatre productions. Costumers will serve as part of a production team. This course includes instruction in costume design, script analysis, period styles, history of costume, stage hair and makeup, drawing and sketching, cost estimation and budget compliance, and sewing construction.

COMMUNICATIONS TECHNOLOGY WORKSITE LEARNING
COMMUNICATIONS & JOURNALISM WORKSITE LEARNING

Prerequisite: Enrollment in or completion of a one-semester Arts, Av Technology & Communications class

Students who have had one semester of a CTE class in the Arts, AV Technology & Communications career pathway, and who are currently employed in a paid position with a local employer in this industry, are eligible to enroll in worksite learning. (No home-based businesses may be used for this credit.) Students can earn .5 credits for 180 hours of paid work or 1.0 credits for 360 hours of paid employment, which is the maximum allowable credit. Required paperwork must be signed off by a parent and the employer and submitted on time to earn credit. This includes monthly calendars verifying the number of hours worked and an employer evaluation completed over the course of the work experience. Each high school has a Work Site Learning Coordinator that will assist students throughout the school year.

BUSINESS, MANAGEMENT & MARKETING

Business Management, Administration and Marketing classes prepare students for diverse post-secondary education, training, and careers in all industries. Undergraduate degrees in business are still the #1 major at 19% of all degrees earned. *(nces.ed.gov)* Business education prepares you to pursue not just your interests in a specific career, but helps you advance both in salary and position. The skills you learn can be applied in any job, in any field!

BSD offers 16 business, marketing and management classes including AP and IB. If you have ever thought about owning your own business, supervising others, or being in a management position, find out what makes industry and our economy tick. Sign up for a business class today!!

Resources for more information: Learning About Business
Niche
MyCollegeGuide.com
Thoughtco.com
Poets & Quants for Undergrads

College Credits Available:
3 -- 76

Potential College Tuition Savings:
$323 – $8,177

CLASSES OFFERING PROFESSIONAL CERTIFICATIONS*	
MOS – Microsoft Office Specialist & Microsoft Office Expert	Digital Communications & Technology Advanced Digital Communications & Technology
Food Handler's Permit	Retail Management— Student Store

SAMPLE PROFESSIONAL ORGANIZATIONS & LEADERSHIP CLUBS*

DECA: www.wadeca.org
www.deca.org

Soup4Simpson

Washington Business Week

2016 – 2026 OCCUPATIONAL GROWTH FOR WASHINGTON STATE**

Occupation	Growth Rate	Entry Degree
Accountants	18%	Bachelor's
Marketing Analysts & Specialists	41%	Bachelor's
Sales Engineers	28%	Bachelor's
Office Managers	13%	HS Diploma
Advertising & Promotion Managers	24%	Bachelor's
Economists	21%	Master's
Human Resource Specialists	23%	Bachelor's
Property Managers	15%	HS Diploma

*May vary by school and/or program. Check with the teacher for specific details.   **www.careeronestop.org

BUSINESS AND MARKETING CAREER PATHWAY EXAMPLES

MIDDLE SCHOOL COURSES THAT SUPPORT THIS PATHWAY	ACCOUNTING	BUSINESS	MARKETING	IB BUSINESS
CS Discoveries CS101 – Coding in Python 1 CS102 – Coding in Python 2	Accounting 1 Accounting 2 Accounting 3 Accounting 4	Entrepreneurship Personal Finance Business Law Economics or AP Micro/Macro Economics	Introduction to Marketing Advanced Marketing & Entrepreneurship Retail Management – Student Store	IB Business and Management SL IB Business and Management HL

Sample Business Pathway 4-Year Plan
(Middle School courses that support this 4-year plan are indicated in the chart below.)

PERIOD	1	2	3	4	5	6	7
GRADE	LANGUAGE ARTS	SOCIAL STUDIES	SCIENCE	MATH	ELECTIVE	ELECTIVE	ELECTIVE
6	x	x	x	x	Physical Education		CS Discoveries
7	x	x	x	x	Physical Education	Health	CS101 – Coding in Python
8	x	x	x	x	Physical Education		CS102 – Coding in Python
9	x	x	x	x	World Language	Accounting 1	Accounting 2
10	x	x	x	x	Physical Education	Accounting 3	Accounting 4
11	x	x	x	x	Physical Education	Entrepreneurship	Personal Finance
12	x	x		x	Fine Arts	Business Law	Economics or AP Economics

SAMPLE PATHWAY COLLEGE CREDITS

Bellevue College = 28 college credits
Accounting 1 & 2 – ACCT 101, ACCT 135 = 8 cr.
Accounting 3 & 4 – ACCT 225 = 5 credits
Business Law – BUS&201 = 5 credits
Entrepreneurship – BUS 250 = 5 credits
Personal Finance – BUS 102, 103, 104, 105, 108 = 5 credits

See the College Credit table for more information and available credits.

BUSINESS & MARKETING COLLEGE CREDIT COURSES

Bellevue College
Accounting 1 & 2 – ACCT 101 & ACCT 135 = 8 credits
Accounting 3 & 4 – ACCT 225 = 5 credits
Adv. Marketing & Entrepreneurship – MKTG 299 = 5 credits
Business Law – BUS&201 = 5 credits
Entrepreneurship – BUS 250 = 5 credits
IB Business & Management – MKTG 131 = 5 credits
Intro. to Marketing – MKTG 131 = 5 credits
Personal Finance – BUS102, 103, 104, 105, 108 = 5 credits
Retail Management – MKTG 299 = 5 credits

Shoreline Community College
IB Business & Management – BUS 120 = 5 credits
Introduction to Marketing – MKTG 131 = 5 credits

AP Exam -- AP Microeconomics/Macroeconomics

PROFESSIONAL CERTIFICATIONS

Food Handler's Permit

Microsoft Office Specialist:
- Excel
- Word
- PowerPoint
- Outlook

TECHNICAL OR ASSOCIATE DEGREES

Bellevue College:
- Bachelor of Applied Science Degree in Applied Accounting
- Associate in Business
- Marketing Management

Bellevue College Certificate of Achievement:
- Accounting Assistant
- Accounting Information Systems
- Accounting Preparation
- Administrative Assistant
- Bookkeeping
- Plus, more…

Lake Washington Technical Institute
- Accounting
- Business Technology
- Human Resource Management

SAMPLE OCCUPATIONS

Entrepreneur
Accounting Clerk
Bookkeeper
Corporate Accountant
Forensic Accountant
Accounting Director
Accounting Supervisor
Internal/External Auditor
Financial Analyst
Strategic Program Planning Advisor
Chief Accounting Officer
Controller
Director of Financial Operations
Marketing Manager
Promotions Manager
Sales and Advertising Manager
Web Marketing Manager
Plus, many more…

POST SECONDARY

Business, Administration & Marketing Courses

ACCOUNTING 1

Other Info: College credit can be earned after completing Accounting 2

Students will be introduced to one of the fastest-growing professions in the United States, which includes a formal system of financial-record management for proprietorships and partnerships. Students will also study accounting vocabulary, the relationship between accounting and business, and the accounting cycle for service business organized as proprietorship. QuickBooks accounting software will be used to enter transactions and create financial reports. A business simulation is used at the end of the semester to aid students in synthesizing and applying their learning.

ACCOUNTING 2

In Accounting 2, students will gain experience dealing with specialized accounting applications: special journals, petty cash system, taxes, depreciation, managerial decisions, and interest. Corporate accounting will be introduced. Students will use QuickBooks to complete many accounting problems. They will manually calculate a payroll problem and utilize a computer program to verify the result. Computerized business simulations are used to provide practical experience in handling retail business records. (Students must complete Accounting 1 and 2 to earn college credit with a "B" or better.)

ACCOUNTING 3

Other Info: College credit can be earned after completing Accounting 4
Location: Bellevue, Newport

This course will provide the student with more experience in dealing with advanced problems and procedures in accounting, extensively utilizing the computer. The student will extend the skills learned in Accounting 1 and 2, then continue to gain experience in partnership and departmentalized accounting. A problem-solving approach will be used for unique applications. Intensive investigation of career opportunities will be offered. Automated business simulations will be used to provide practical experience handling corporate records. If time allows, students have the opportunity to take the Microsoft Excel Core and Expert exam.

ACCOUNTING 4

Location: Bellevue, Newport

The principal focus for this course will be on corporate accounting, cost accounting, accounting for uncollectible accounts, depreciation, prepaid and accrued items, budgetary planning and control, and automated accounting applications. The student will analyze and prepare financial statements as a resource for management decisions. If time allows, students have the opportunity to take the Microsoft Excel Core and Expert exam. (Students must complete Accounting 3 and 4 to earn college credit with a "B" or better.)

ENTREPRENEURSHIP

Location: Sammamish, Interlake, Bellevue

This course is for anyone who is considering owning and operating their own business. Owning your own business can be risky but also very rewarding. This course will include all aspects of beginning a business, funding, operating, managing and marketing. The course is project based where students will produce a viable and executable business plan. If you want to "live the American dream--and be your own boss," Entrepreneurship is for you.

PERSONAL FINANCE

This class teaches students to manage their personal finances in the context of current economic conditions. Students will increase their financial and economic literacy while learning about vital topics such as preparing for the job market, the economy, taxes and tax forms, consumer rights and responsibilities, budgeting, banking, insurance, credit and credit cards, and investing. This class will help prepare students for financial decisions in college and beyond.

ECONOMICS

Other Info: CTE or social studies credit

Students will study the laws of supply and demand and why people and societies make economic choices. Students will examine macroeconomic and microeconomic principles in order to understand the fundamentals of the American and global economic systems. Students will examine components of the American economy such as price, competition, business and banking institutions. The course will also examine issues related to the economy such as employment and labor issues, the role of the government in the economy and selected topics on global economics.

AP MICROECONOMICS/AP MACRO ECONOMICS

Location: Sammamish, Bellevue

Students will build on their basic understanding of economic principles by investigating crucial social issues that are the basis of both microeconomics and macroeconomics. This will involve developing an understanding of the economic choices made by individual households and firms as they seek to maximize their well-being. It will also entail assessing the measurement of the performance of the American economy, evaluating potential policy tools such as taxes, government spending and interest rates, and understanding the role of the US in the global economy.

BUSINESS LAW

Location: Bellevue, Newport

Business Law is geared toward learning to live in our legal environment. This course will also benefit students considering careers in business, law, or management. Topics included in this class: legal liability, rights, the judicial system, careers in law, contracts, warranties, consumer protection, landlord-tenant relations, personal injuries, and criminal procedure. Students may have the opportunity to participate in a mock trial competition.

IB BUSINESS AND MANAGEMENT SL

Location: Interlake

This business and management course aims to help students understand the implications of business activity in a global market. Students gain an international perspective of business and appreciation of cultural diversity through topics like business organization and environments, accounts and finance, international marketing, human resources management, growth and operations management. The course encourages the appreciation of ethical concerns and issues of social responsibility in the global business environment.

IB BUSINESS AND MANAGEMENT HL

Location: Interlake

This advanced business and management class allows for student to gain depth of knowledge in business skills. Students will study business organization and environments, accounts and finance, human resources, business operations, marketing and business strategy. Advanced students will also benefit from management and leadership training as well as a primary research-based project.

INTRODUCTION TO MARKETING

Location: Bellevue, Newport, Sammamish

Students will be introduced to business practices with an emphasis on day-to-day operations. Topics include business concepts, psychology and sociology of marketing and promotion, human relations, sales and advertising. DECA is the national association for business and marketing students. As a member of DECA students will have the opportunity to attend conferences, compete and travel. Through DECA students may earn scholarships and gain state and national recognition.

ADVANCED MARKETING & ENTREPRENEURSHIP

Location: Bellevue, Newport, Sammamish

This class provides a more in-depth study of topics introduced in the Marketing and Business class. New topics are introduced including basic economics; business and marketing research; operations and human relations. DECA is a major part of this class and projects developed will be used in DECA competitions.

RETAIL MANAGEMENT – STUDENT STORE

Prerequisite: Introduction to Marketing; No prerequisite at Interlake

Students will learn how to run a small business by operating the student store. Students will take the role of employees and managers and will be responsible for all aspects of store operation, including staffing, supervision, store maintenance, cash register and money handling procedures, customer service, purchasing, and inventory management and accounting. DECA is a part of this class and skills developed can be used in DECA competition.

BUSINESS & MARKETING WORKSITE LEARNING

Prerequisite: Enrollment in or completion of a one-semester Business & Marketing class

Students who have had one semester of a CTE class in the Business and Marketing career pathway, and who are currently employed in a paid position with a local employer in this industry, are eligible to enroll in worksite learning. (No home-based businesses may be used for this credit.) Students can earn .5 credits for 180 hours of paid work or 1.0 credits for 360 hours of paid employment, which is the maximum allowable credit. Required paperwork must be signed off by a parent and the employer and submitted on time to earn credit. This includes monthly calendars verifying the number of hours worked and an employer evaluation completed over the course of the work experience. Each high school has a Work Site Learning Coordinator that will assist students throughout the school year.

HEALTH SCIENCES

College Credits Available:
5 - 28

Potential College Tuition Savings:
$538 – $3,013

Healthcare occupations are expected to grow 18% by 2026 with 2.3 million new jobs, more than any other occupational group. (www.bls.gov) The workplace in this pathway varies from medical offices to laboratories to even cruise ships. Often thought of as just nursing, this pathway includes biotechnology research, pharmaceutical and medicines manufacturing, forensic science technicians, therapeutic services, transcriptionists, doctors, health administrators, and so much more. Pass your industry certification in biotechnology and work as a lab assistant. Train as a Nursing Assistant in an internship and sit for your Certified Nursing Assistant Certification exam. Since the CNA is required in all nursing programs, getting it in high school will save you time and money in college. Begin your journey into the broad pathway of healthcare today!

Resources for more information: Washington Life Science
Life Science Washington
ExploreHealthCareers.org
HealthCarePathway.com

CLASSES OFFERING PROFESSIONAL CERTIFICATIONS*	
Certified Nursing Assistant Certificate	Health Science Careers
CPR/AED for Professional Rescuers	Health Science Careers
American Red Cross Adult First Aid/CPR/AED	Introduction to Health Care

May vary by school and/or program. Check with the teacher for specific details.

SAMPLE PROFESSIONAL ORGANIZATIONS & LEADERSHIP CLUBS*

HOSA – Future Health Professionals:
www.hosa.org

2016 – 2026 OCCUPATIONAL GROWTH FOR WASHINGTON STATE**

Occupation	Growth Rate	Entry Degree
Certified Nursing Assistant	15%	Certificate
Surgical Assistant	20%	Certificate
Registered Nurse	21%	Bachelor's
Respiratory Therapist	34%	Associate's
Licensed Practical Nurse	12%	Certificate
Nurse Practitioner	31%	Master's
Midwife	22%	Master's
Biological Technician	17%	Bachelor's
Medical Secretary	21%	HS Diploma
Healthcare Social Worker	17%	Master's

**www.careeronestop.org*

HEALTH SCIENCES CAREER PATHWAY EXAMPLES

MIDDLE SCHOOL COURSES THAT SUPPORT THIS PATHWAY	CERTIFIED NURSING ASSISTANT	HEALTH SCIENCE EXPLORATORY
CS Discoveries Coding in Python 1 Coding in Python 2	Introduction to Health Care Anatomy and Physiology Health Science Careers	Anatomy and Physiology Biotechnology Introduction to Health Care

Please review the Program of Study for Bellevue College: https://www.bellevuecollege.edu/ahe/programs/ which provides information regarding all foundation courses needed to enter any health career field.

Sample Certified Nursing Assistant 4-Year Plan
(Middle School courses that support this 4-year plan are indicated in the chart below.)

PERIOD	1	2	3	4	5	6	7
	LANGUAGE ARTS	SOCIAL STUDIES	SCIENCE	MATH		ELECTIVE	ELECTIVE
GRADE							
6	x	x	x	x	Physical Education	Optional Elective	CS Discoveries
7	x	x	x	x	Physical Education	Health	Coding in Python 1
8	x	x	x	x	Physical Education	Introduction to Health Care	Coding in Python 2
9	x	x	x	x	World Language		Elective
10	x	x	x	x	Physical Education	Health	Elective
11	x	x	x	x	Physical Education	Biotechnology	Anatomy & Physiology
12	x	x	x	x	Physical Education	Health Science Careers – WANIC – 3 Hour	

SAMPLE PATHWAY COLLEGE CREDIT

Bellevue College = 27 college credits
Health Science Careers – NAC 106, 107, 108, 110, 120, 130 = 22 credits
Intro to Health Care – AHE 100 = 5 credits

Bellevue College in the High School = 6 cr.
Anatomy & Physiology - BIOL 108 Human Biology

LWIT = 13 college credits
Health Science Careers – IFAD 162, IFAD 216, NURS 107, NURS 108, NURS 109 = 13 credits

Shoreline Community College = 5 credits
Biotechnology – BIOL 107 = 5 credits

See the College Credit table for more information and available credits.

POST SECONDARY

HEALTH SCIENCES COLLEGE CREDIT COURSES

Bellevue College
Introduction to Health Care – AHE 100 = 5 credits
Health Science Careers –NAC 106, 107, 108, 110, 120, 130 = 22 credits
Anatomy & Physiology - BIOL 108 Human Biology
Lake Washington Technical College
Health Science Careers – IFAD 162, 216, NURS 107, 108, 109 = 13 credits
Shoreline Community College
Biotechnology – BIOL 107 = 5 credits
Bellevue College in the High School
Anatomy & Physiology -- BIOL 108 Human Biology = 6 credits

PROFESSIONAL CERTIFICATIONS

CPR/AED for Professional Rescuers

American Red Cross Adult First Aid/CPR/AED

CNA – Certified Nursing Assistant

TECHNICAL OR ASSOCIATE DEGREES

Bellevue College:
- Medical Administrative Assistant
- Medical Billing and Coding Specialist
- Phlebotomy Technician
- Clinical Lab Assistant
- Medical Assistant – Certified

(Plus, many more programs.)

Lake Washington Technical Institute
- Medical Assisting, AAS
- Medical Assisting Office Administration, Certificate
- Medical Assisting, Certificate of Proficiency
- Associate in Pre-Nursing, DTA/MRP
- Nursing AAS-T Degree
- Occupational Therapy Assistant, AAS-T
- Physical Therapist Assistant, AAS

SAMPLE OCCUPATIONS

Certified Nursing Assistant
Charge Nurse Critical – Labor and Delivery
Clinical Coordinator, Recovery Services
Clinical Nurse Manager
Pediatric Nurse
Director of Nursing Services
Emergency Room Nurse
Health Facilities Surveyor
Home Health Nurse
Hospice Nurse
Intensive Care Nurse
Physician's Assistant
Biochemist
Bioinformatics
Biomedical Engineer
Plus many more…

Health Sciences Courses

INTRODUCTION TO HEALTH CARE
Location: Sammamish, Bellevue, Interlake, Newport
Interested in a career in the health care industry? If so, this course is for you! Study the history of health care and explore different careers. Become familiar with anatomy and physiology, disease processes and hand-on health care skills like handwashing and body mechanics. An introduction to vital signs and anatomy and physiology will also be included. You will also have the opportunity to receive an American Red Cross CPR and First Aid Card.

HEALTH SCIENCE CAREERS
Length/Credit: 1 year - three periods; 3.0 CTE Credits
Other Info: .5 Health, 1.0 Science Lab, and 1.5 CTE credit available
Other Info: Students completing coursework are eligible to take the Nursing Assistant Certified certification exam
Requirements: Students must pass a background check to participate in the required clinicals, provide records of childhood immunizations, have a TB Test completed, and hold a social security card for testing. A social security card is not required to participate in the class but is required in order to take the Certified Nursing Assistant exam which is a state exam.
Location: Sammamish - WANIC Skills Center (Available to all schools.)
This is a 3-period Skill Center class (3 high school credits). This intensive course of study introduces students to a variety of careers in the health care industry with emphasis on hands-on, patient-oriented skills training for those interested in becoming nurses, physicians, and other therapists. Learn about a variety of health care topics, procedures and careers in patient care, and earn certification in CPR/First Aid. Students complete clinical experience hours in healthcare facilities to meet Nursing Assistant Certified (NAC) requirements. At the end of the year, students who meet course requirements earning an "A" or "B" will qualify to take the NNAAP (National Nurse Aide Assessment Program) written examination & skills evaluation, offered at Sammamish High School. The rigor required for success in this class plus college credits earned allow students to immediately enter employment in the health care industry and/or to continue their post-secondary education. High School credits earned: CTE (1.5) Lab Science (1.0) Health (0.5). College Credit available. Program fees may apply. Financial assistance may be available for qualifying students. Compare this class description with Medical Careers to understand your options.

ANATOMY AND PHYSIOLOGY
Location: Bellevue, Sammamish
Other Info: CTE or Lab Science credit; Bellevue in the High School college credit available
In this introductory human anatomy and physiology course, students investigate the intricate machinery that makes the body work, relating the functional anatomy and physical geography of organs and organ systems to the physiological functions which they perform. Students will also explore the delicate web of interaction among body systems, the importance of maintaining homeostatic balance within this web, and the medical implications of disturbing this balance. Students may have the opportunity to participate in HOSA.

BIOTECHNOLOGY
Location: Newport, Bellevue, Sammamish
Prerequisites: Biology, Chemistry
Other Info: CTE or Lab Science credit
Biotechnology is a course designed to give students a comprehensive introduction to the scientific concepts and laboratory research techniques currently used in the field of biotechnology. Students attain knowledge about the field of biotechnology and deeper understanding of the biological concepts used. In addition, students develop the laboratory, critical thinking, and communication skills currently used in the biotechnology industry. Furthermore, students will explore and evaluate career opportunities in the field of biotechnology through extensive readings, laboratory experiments, class discussions, research projects, guest speakers, and workplace visits. The objectives covered in this course are both academic and technical in nature and are presented in a progressively rigorous manner.

HEALTH SCIENCES WORKSITE LEARNING
Prerequisite: Enrollment in or completion of a one-semester Health Science class
Students who have had one semester of a CTE class in the Health Sciences career pathway, and who are currently employed in a paid position with a local employer in this industry, are eligible to enroll in worksite learning. (No home-based businesses may be used for this credit.) Students can earn .5 credits for 180 hours of paid work or 1.0 credits for 360 hours of paid employment, which is the maximum allowable credit. Required paperwork must be signed off by a parent and the employer and submitted on time to earn credit. This includes monthly calendars verifying the number of hours worked and an employer evaluation completed over the course of the work experience. Each high school has a Work Site Learning Coordinator that will assist students throughout the school year.

HOSPITALITY & TOURISM

College Credits Available:
9 - 16

Potential College Tuition Savings:
$968 -- $1,993

If you have a passion for food, like a fast-paced environment, and have an excellent work ethic, then a culinary arts occupation may be the right choice for you. The largest employer in the U.S. is the restaurant industry and it is expected to grow faster than the national average by 2026. (www.bls.gov) This industry has a broad spectrum of career opportunities ranging from chef to bed & breakfast owner to nutritionist. If you love watching cooking shows and celebrate "I Love Food" day every September 9, check out these classes!

Resources for more information: Institute of Culinary Education
mycollegeguide.org
Washington Hospitality Association
Culinary Institute of America
National Restaurant Association
Gecko Hospitality
www.culinaryschools.org

CLASSES OFFERING PROFESSIONAL CERTIFICATIONS*	
Food Handler's Permit	Culinary Essentials Culinary Arts
ServSafe National Restaurant Association – Food Manager	Advanced Culinary Arts

SAMPLE PROFESSIONAL ORGANIZATIONS & LEADERSHIP CLUBS*

Newport Knives

ProStart

Cooking for the Homeless

2016 – 2026 OCCUPATIONAL GROWTH FOR WASHINGTON STATE**

Occupation	Growth Rate	Entry Degree
Head Chef	25%	HS Diploma
Restaurant Manager	25%	HS Diploma
Line Cook	28%	Hs Diploma
Nutritionist	19%	Bachelor's
Food Scientist	7%	Bachelor's
Food Quality Analyst	13%	Associate's
Event Planner	18%	Bachelor's
Hospitality Manager	17%	HS Diploma

May vary by school and/or program. Check with the teacher for specific details.   **www.careeronestop.org*

ProStart
National Restaurant Association
Educational Foundation

HOSPITALITY CAREER PATHWAY EXAMPLES

MIDDLE SCHOOL COURSES THAT SUPPORT THIS PATHWAY	CHEF	CULINARY CATERER/EVENT PLANNER
CS Discoveries Media Technology	Culinary Essentials 1 Culinary Essentials 2 Bakery & Pastry 1 Culinary Arts Advanced Culinary Arts	Accounting 1 & 2 Entrepreneurship Business Law Culinary Essentials 1 Bakery & Pastry Culinary Arts Advanced Culinary Arts

Sample Culinary Caterer/Event Planner 4-Year Plan
(Optional middle school courses that could support this 4-year plan are indicated in the chart below.)

PERIOD	1 LANGUAGE ARTS	2 SOCIAL STUDIES	3 SCIENCE	4 MATH	5 ELECTIVE	6 ELECTIVE	7 ELECTIVE	8
6	x	x	x	x	Physical Education	ELECTIVE	CS Discoveries	
7	x	x	x	x	Physical Education	Health	Media Technology	
8	x	x	x	x	Physical Education			
9	x	x	x	x	World Language	Accounting 1	Entrepreneurship	
10	x	x	x	x	Physical Education / Health	Culinary Essentials 1	Culinary Essentials 2 and/or Bakery & Pastry 1	
11	x	x	x	x	Physical Education	Culinary Arts		
12	x	x	x	x	Fine Arts	Advanced Culinary Arts		

POST SECONDARY

HOSPITALITY COLLEGE CREDIT COURSES

Lake Washington Technical College
Culinary Arts -- CART 110 = 10 credits
Advanced Culinary Arts – CART 115, CULA 130 = 6 credits

Renton Technical College
Culinary Arts – CUL 103, 105, 114, 118, 119 = 15 credits
Advanced Culinary Arts – CUL 110, 180 = 6 credits

Culinary Institute of America
Culinary Arts AND Advanced Culinary Arts – Food Safety = 1.5 credits; Mathematics (test required) = 1.5 credits

PROFESSIONAL CERTIFICATIONS

Food Handler's Permit

ServSafe
• Food Manager, National Restaurant Association

SAMPLE PATHWAY COLLEGE CREDITS

LWIT
Culinary Arts – CART 110 = 10 credits
Advanced Culinary Arts – CART 115, CULA 130 = 6 cr.

Renton Technical College
Culinary Arts – CULA 103, 105, 114, 118, 119, = 15 credits
Advanced Culinary Arts – CUL 110, 180 = 6 cr.

Bellevue College
Accounting 1 & 2 – ACCT 101, 135 = 8 credits
Entrepreneurship – BUS 250 = 5 credits
Business Law – BUS&201 = 5 credits

Culinary Institute of America
Culinary Arts AND Advanced Culinary Arts – Food Safety = 1.5 credits; Mathematics (test required) = 1.5 credits

See the College Credit table for more information and available credits.

TECHNICAL OR ASSOCIATE DEGREES

Lake Washington Technical Institute
• Culinary Arts, AAS
• Culinary Arts, Certificate of Proficiency
• Baking Arts

Renton Technical College
• Culinary Arts, AAS, Cert. of Completion
• Professional Baking, AAS, Cert. of Completion

Culinary Institute of America, Hyde Park NY
• Bachelor's in Food Business Management
• Bachelor's in Applied Food Studies
• Bachelor's in Culinary Science
• Associate Degree in Culinary Arts
• Associate Degree in Baking & Pastry Arts

SAMPLE OCCUPATIONS

Executive Chef
Sous Chef
Food Writer/Blogger
Personal Chef
Pastry Chef
Dietician/Nutritionist
Caterer
Restaurant Manager
Food Science
Food and Beverage Director
Culinary Instructor
Event Planner
Hospitality Management
Small Business Owner
Plus many more…

Updated December 2021

Hospitality & Tourism Courses

(Hospitality & Tourism classes are all located at Newport High School.)

CULINARY ARTS

Length/Credit: 1 year - 3 periods; 3.0 CTE credits
Other Info: Students may earn 9 college credits

This is a 3-period Skill Center class (3 high school credits) Culinary Arts is a comprehensive, career focused introduction to the fundamentals of culinary arts and the professional kitchen in a commercial kitchen classroom. Students will learn French cooking techniques, culinary terminology, knife skills, aesthetics of food presentation, baking and pastry techniques, and explore a wide variety of foods and cuisines. In addition, students will have the opportunity to practice safety and sanitation procedures, restaurant management, customer relations, team and leadership skills, and catering and table service. There are also industry related field trips to observe professionals and explore career possibilities. Students who successfully complete Year 1 may be eligible to apply for Year 2. High School credits earned: CTE (3.0). College Credit available. Program fees may apply. Financial assistance may be available for qualifying students. NOTE: Block schedules affect actual class times daily.

ADVANCED CULINARY ARTS

Length/Credit: 1 year - 3 periods; 3.0 CTE credits
Other Info: Students may earn 9 college credits; Culinary Institute of America college credit available
Prerequisite: Culinary Arts

This is a 3-period Skill Center class (3 high school credits). Students in Advanced Culinary Arts have the opportunity to expand and refine their culinary expertise. Students are prepared with broad and transferable planning, management, communication, and advanced food production skills for employment and post-secondary education. Prerequisite: Culinary Arts High School credits earned: CTE (3.0) Program fees may apply. Financial assistance may be available for qualifying students. NOTE: Block schedules affect actual class times daily.

PERSONAL CULINARY WORKSITE LEARNING

Prerequisite: Enrollment in or completion of a one-semester Hospitality & Tourism class
Students who have had one semester of a CTE class in the Hospitality & Tourism career pathway, and who are currently employed in a paid position with a local employer in this industry, are eligible to enroll in worksite learning. (No home-based businesses may be used for this credit.) Students can earn .5 credits for 180 hours of paid work or 1.0 credits for 360 hours of paid employment, which is the maximum allowable credit. Required paperwork must be signed off by a parent and the employer and submitted on time to earn credit. This includes monthly calendars verifying the number of hours worked and an employer evaluation completed over the course of the work experience. Each high school has a Work Site Learning Coordinator that will assist students throughout the school year.

HUMAN SERVICES & EDUCATION

This career cluster focuses on our communities, including the health and well-being of individuals and families. This is a broad field ranging from personal care aides to teachers to consumer credit counselors. Workers in this field have a desire to help others, like to collaborate, possess excellent communication skills, and enjoy working with people. There is no such thing as a typical day in this field, but multi-tasking is the norm. This career pathway is expected to grow by 12% in general by 2030, with teaching positions growing by 16% making it one of the fastest growing clusters in Washington State. *(www.careeronestop.org))*

Washington State is short 3,500 fully certified teachers annually. (*Learning Policy Institute, 2017*) The Teaching Academy gets you into an actual classroom working with students and assisting teachers through a daily internship experience. Jump start your career in education now with this fun and engaging program or check out another Human Services course to discover your passion!

Resources for more information: Public Health Career Guide
National Organization for Human Services
Learn.org
HumanServices Edu.org
teacher.org
thecornerstoneforteachers.com
collegexpress.com
National Association for the Education of Young
   Children

College Credits Available:
5 - 21

Potential College Tuition Savings:
$538 -- $2,259

CLASSES OFFERING PROFESSIONAL CERTIFICATIONS*	
Food Handler's Permit	Culinary Essentials
ParaPro – Paraprofessional Exam	Teaching Academy

SAMPLE PROFESSIONAL ORGANIZATIONS & LEADERSHIP CLUBS*

FCCLA: Family, Career & Community Leaders of America www.fcclainc.org

Cooking for the Homeless

Soup4Simpson

ECL Homework Club

Somerset Tutor Club

2016 – 2026 OCCUPATIONAL GROWTH FOR WASHINGTON STATE**

Occupation	Growth Rate	Entry Degree
Teacher	19%	Bachelor's
Teacher Assistant	18%	HS Diploma
Principal	20%	Master's
Childcare Worker	14%	HS Diploma
Social Worker	10%	Bachelor's
Community Coordinator	15%	HS Diploma
Interior Designer	9 %	Bachelor's
Consumer Credit Counselor	17%	Bachelor's

*May vary by school and/or program. Check with the teacher for specific details.   **www.careeronestop.org*

HUMAN SERVICES & EDUCATION CAREER PATHWAY EXAMPLES

MIDDLE SCHOOL COURSES THAT SUPPORT THESE PATHWAYS	PARA EDUCATOR OR TEACHER	INTERIOR DESIGNER/ENTREPRENEUR	PRE-SCHOOL ENTREPRENEUR/DAY CARE
CS Discoveries Media Technology Video Production 1 CS 101 - Coding in Python 1	Independent Living Culinary Essentials 1 Child Development Teaching Academy 1 Teaching Academy 2	Accounting 1 & 2 Entrepreneurship Business Law Interior Design & Housing	Accounting 1 Accounting 2 Entrepreneurship Introduction to Marketing Child Development Teaching Academy 1

Sample Para-Educator or Teacher 4-Year Plan
(Middle School courses that support this 4-year plan are indicated in the chart below.)

PERIOD	1 LANGUAGE ARTS	2 SOCIAL STUDIES	3 SCIENCE	4 MATH	5 ELECTIVE	6 ELECTIVE	7 ELECTIVE
GRADE							
6	x	x	x	x	Physical Education		CS Discoveries
7	x	x	x	x	Physical Education	Health	Media Technology
8	x	x	x	x	Physical Education	Video Production 1	Coding in Python 1
9	x	x	x	x	World Language	Independent Living	Culinary Essentials 1
10	x	x	x	x	Physical Education	Health	Child Development
11	x	x	x	x	Physical Education	Teaching Academy 1	
12	x	x		x	Fine Arts	Teaching Academy 2	

SAMPLE PATHWAY COLLEGE CREDITS

Bellevue College = 10 college credits
Child Development - EDUC& 115 = 5 credits
Teaching Academy 1 – EDUC& 205 = 5 credits

Cascadia Community College = 5 college credits
Teaching Academy 1 – EDUC 102 = 5 credits

Lake Washington Technical College = 5 college credits
Child Development – EDUC& 115 = 5 credits

See the College Credit table for more information and available credits.

HUMAN SERVICES & EDUCATION COLLEGE CREDIT COURSES

Bellevue College
Child Development -- EDUC& 115 = 5 credits
Interior Design & Housing – INDES 140 = 5 credits
Teaching Academy 1 – EDUC& 205 = 5 credits

Cascadia Community College
Teaching Academy 1 – EDUC 102 = 5 credits

PROFESSIONAL CERTIFICATIONS

ParaPro - Paraprofessional Certificate

TECHNICAL OR ASSOCIATE DEGREES

Bellevue College:
- Early Learning and Teacher Education
- AA Degree Early Childhood Education
- Associate in Applied Science –T Degree
- AAS, Social & Human Services

Bellevue College Certificates:
- Early Childhood Education Initial
- General Early Childhood Education
- Infant and Toddler Care
- Early Childhood Educ. State Certification

Lake Washington Technical Institute
- AAS, Early Childhood Education
- AAS, Interior Studies

SAMPLE OCCUPATIONS

Elementary Teacher
Secondary Teacher
Career Counselor
Education Specialist
Day Care Center Teacher
Consumer Credit Counselor
Small Business Owner
Preschool Director
Resource Development Coordinator
Social Worker
Life Skills Counselor
Special Education Coordinator
School Psychologist
Interior Designer
Plus many more

POST SECONDARY

Updated December 2021

FAMILY & CONSUMER SCIENCES

BAKERY AND PASTRY 1

Location: Bellevue, Newport

Prerequisite: Culinary Essentials 1

This course is an option following Culinary Essentials 1. This course allows culinary students a more rigorous and in-depth study of baking and pastry work. Areas of study include: Baking terminology, tool and equipment use, formula conversions, functions of ingredients, and methods used in creating quick breads, yeasted breads, pastries, cookies, and other desserts. The fundamentals of dough and basic decorating skills are covered. The appropriate use of technology and industry standard equipment is part of this course.

CHILD DEVELOPMENT

Location: Newport

A course that builds a functional understanding of the physical, emotional, and cognitive development of children from conception to adolescence. Students will study the science and research behind the concepts while also having fun learning practical applications. The class will also explore cross cultural and global perspectives. Careers in pediatrics and education will be explored.

CULINARY ESSENTIALS 1

Location: Bellevue, Newport

This class is an introduction to nutrition and food preparation. Students will learn about healthy food choices and demonstrate skills in fundamental food preparation methods. Units covered will include basic preparation techniques for breads, eggs, dairy, fruits, vegetables and meats. Students will learn to identify and use culinary tools and equipment, including knives, hand tools, and small appliances. Whether you are interested in culinary arts and healthy food choices for yourself or in pursuing a career in the food service industry, this course will provide you with the foundation.

CULINARY ESSENTIALS 2

Location: Bellevue

This course continues to develop a student's knowledge and skills in food preparation and service. After learning the basics in Culinary Essentials 1, it is time to explore the world of foods. Units covered will include more advanced preparation techniques for grains, stocks, sauces, soups, eggs, dairy, fruits, vegetables, meat, poultry, fish and pastries. Incorporating menu planning, nutritional analysis and some basic catering projects are also included. This course requires the student to acquire a Washington State Public Health Card. Continue your journey while developing your culinary skills.

INDEPENDENT LIVING

Location: Newport

Students gain essential life skills in this extremely important and fun course through a variety of learning experiences. Topics include personal finance; credit and consumerism; nutrition and basic cooking; clothing care and repair; basic home maintenance and easy repairs; resumes; careers and goal setting. Classroom activities assist the student in making informed decisions in all areas of everyday life now and in the future.

INTERIOR DESIGN AND HOUSING

Location: Newport

Students will use traditional methods and computer programs to create and analyze floor plans and interior schematics. Principles of design, colors and textures will be implemented to create design projects and sample boards with many practical applications. There will also be a focus on the behavioral, social, economic, functional and aesthetic aspects of housing, interiors and furnishings. Careers in architecture and design will be explored. Five college credits available for course completion.

FAMILY & CONSUMER SCIENCE WORKSITE LEARNING

Prerequisite: Enrollment in or completion of a one-semester Family & Consumer Science class

Students who have had one semester of a CTE class in the Family & Consumer Science career pathway, and who are currently employed in a paid position with a local employer in this industry, are eligible to enroll in worksite learning. (No home-based businesses may be used for this credit.) Students can earn .5 credits for 180 hours of paid work or 1.0 credits for 360 hours of paid employment, which is the maximum allowable credit. Required paperwork must be signed off by a parent and the employer and submitted on time to earn credit. This includes monthly calendars verifying the number of hours worked and an employer evaluation completed over the course of the work experience. Each high school has a Work Site Learning Coordinator that will assist students throughout the school year.

EDUCATION & TRAINING

(Education and Training classes are all located at Newport High School; Available to all BSD students)

TEACHING ACADEMY 1

Explore and experience the educational system from teaching to administration. In addition to instruction and seminars at the high school, students will intern with a mentor teacher at a preschool, elementary, middle, or high school of their choice. Throughout the year, students participate in the inner workings of the classroom, school and district. They will gain knowledge and experience in teamwork, time management, communication, leadership, and current issues in the school system. This course is a must for students interested in a professional career in education.

TEACHING ACADEMY 2

Students will continue to increase their knowledge about teaching and learning through daily internship experiences. Students will work closely with the Teaching Academy instructor and mentor teacher to complete independent assignments and projects.

EDUCATION WORKSITE LEARNING

Prerequisite: Enrollment in or completion of a one-semester Education & Training class

Students who have had one semester of a CTE class in the Education & Training career pathway, and who are currently employed in a paid position with a local employer in this industry, are eligible to enroll in worksite learning. (No home-based businesses may be used for this credit.) Students can earn .5 credits for 180 hours of paid work or 1.0 credits for 360 hours of paid employment, which is the maximum allowable credit. Required paperwork must be signed off by a parent and the employer and submitted on time to earn credit. This includes monthly calendars verifying the number of hours worked and an employer evaluation completed over the course of the work experience. Each high school has a Work Site Learning Coordinator that will assist students throughout the school year.

INFORMATION TECHNOLOGY

Information technology is embedded in every industry and accounts for $1 trillion in U.S. revenue! *(www.acteonline.org)* This career cluster is so much more than software programs, coding, and hardware. Job opportunities could be in cybersecurity, virtual reality, technology support, education, programming, publishing, game design, and more. No matter what career interests you in this field, there are important universal skills and qualities you will need. These include proven communication skills, organization, the ability to follow and implement a plan, problem-solving skills, strong analytical skills, and an ability to focus for long periods of time. *(www.straightline.com)* Explore this high demand, high wage industry by signing up for one of the 12 classes BSD offers in this pathway.

College Credits Available:
5 - 70

Potential College Tuition Savings:
$538 -- $7,541

Resources for more information: Monster
Information Technology Career Guide-
International Water Institute
U.S. Bureau of Labor & Statistics
www.computerscienceonline.org
https://www.learnhowtobecome.org

CLASSES OFFERING PROFESSIONAL CERTIFICATIONS*

Certification	Class
CCNA – Cisco Certified Network Associate	Cisco Networking Academy
CCNP – Cisco Certified Network Professional	Advanced Cisco – CCNP
CCSP – Cisco Certified Security Professional	Advanced Cisco – Cybersecurity
NSA CNSS 4011 – National Security Agency	Advanced Cisco – Cybersecurity
PCEP – Python Certified Entry-Level Programmer	CS201 & 202 – Coding in Python 1 & 2
PCAP – Python Certified Associate in Programming	CS203 & 204 – Coding in Python 3 & 4
Unity Certified User	Mobile Game Development

SAMPLE PROFESSIONAL ORGANIZATIONS & LEADERSHIP CLUBS*

DECA: www.deca.org

TSA (Technology Student Association):
www.washingtontsa.org

Cisco KnightRiders

Coding Club

Tech Project Club

Video Gaming Club

MIT Launch

2016 – 2026 OCCUPATIONAL GROWTH FOR WASHINGTON STATE**

Occupation	Growth Rate	Entry Degree
Information Security Analyst--Cybersecurity	33%	Bachelor's
Computer Network Architect	22%	Bachelor's
Software Developer	34%	Bachelor's
Web Developer	50%	Associate's
Computer Programmer	12%	Bachelor's
Computer Operator	25%	HS Diploma
Support Specialist	35%	HS Diploma
Systems Analyst	33%	Bachelor's
Health Informatics	15%	Bachelor's
Data Scientist	31%	Bachelor's

*May vary by school and/or program. Check with the teacher for specific details.   **www.careeronestop.org
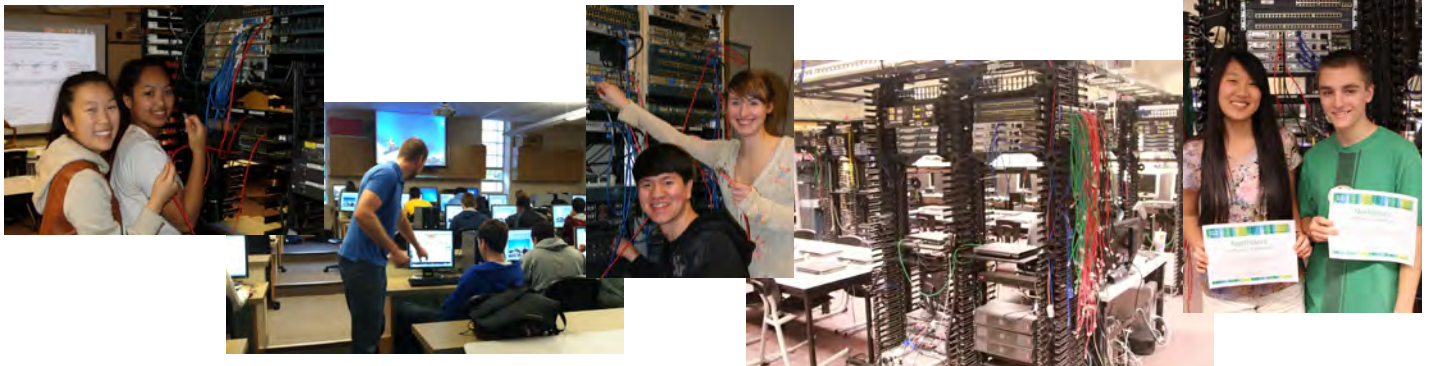
INFORMATION TECHNOLOGY/CICSO NETWORKING PATHWAY EXAMPLES

MIDDLE SCHOOL COURSES THAT SUPPORT THIS PATHWAY	CISCO NETWORKING & CYBER SECURITY	COMPUTER SCIENCE	VIDEO GAME/ANIMATION DIGIPEN
CS Discoveries CS101 – Coding in Python 1 CS102 – Coding in Python 2	AP Computer Science Principles AP Computer Science CISCO Networking Academy - CCNA Advanced CISCO - CCNP Advanced CISCO - Cybersecurity	CS 101/201 - Coding in Python 1 CS 102/202 - Coding in Python 2 CS 203 & CS 204 - Coding in Python 3 & 4 AP Computer Science Principles AP Computer Science Special Topics in Computer Science	Coding in Python 1, 2, 3, 4 Photography 1 Video Game & Simulation Design Mobile Game Development DigiPen Video Game Programming DigiPen Animation DigiPen Music & Sound Design

Sample CISCO Networking & Cyber Security 4-Year Plan
(Middle School courses that support this 4-year plan are indicated in the chart below.)

PERIOD	1 LANGUAGE ARTS	2 SOCIAL STUDIES	3 SCIENCE	4 MATH	5	6	7	8
GRADE					ELECTIVE	ELECTIVE	ELECTIVE	
6	x	x	x	x	Physical Education			
7	x	x	x	x	Physical Education	Health	CS Discoveries	
8	x	x	x	x	Physical Education	Coding in Python 1	Coding in Python 2	
9	x	x	x	x	World Language	Coding in Python 3	AP Computer Science Principles	
10	x	x	x	x	Physical Education	Coding in Python 4	AP Computer Science	
11	x	x	x	x	Health	Cisco Networking Academy - CCNA		
12	x	x		x	Advanced Cisco Cybersecurity	Advanced Cisco CCNP		

SAMPLE PATHWAY COLLEGE CREDIT

Bellevue College = 40 credits
Cisco Networking Academy CCNA -- NSCOM 201, 202, 203, 204 = 20 credits
Advanced Cisco Cybersecurity – ISIT 305 = 5 credits
Coding in Python 1 & 2 (HS Only) -- PROG 108 = 5 credits
Coding in Python 3 & 4 -- PROG 120 = 5 credits
AP Computer Science Principles – PROG 110 = 5 credits
AP Computer Science -- CS 210 = 5 credits
Edmonds College = 26 credits
Cisco Networking Academy – CIS 171, 172, 173, 174 = 20 credits
Advanced Cisco Cybersecurity – CIS 268 = 5 credits
See the College Credit table for more information and available credits.

TECHNICAL OR ASSOCIATE DEGREES

Bellevue College:
- Bachelor of Applied Science Degree in Information Systems and Technology:
  o Application Development
  o Business Intelligence
  o Systems Administration
  o Information Security

Lake Washington Institute of Technology
- Computer Security & Network Technician
- Associate in Technology, DTA/MRP
- Information Technology Applications Development, AAS-T

Certificate of Prof. or Completion
- C++ Software Design Engineer
- C++/C# Programmer

SAMPLE OCCUPATIONS

Software Developer
Programmers
Architects
Software Engineers
Systems Analysts
Systems Engineers
Cybersecurity
Systems Programmers
Systems Administrator
Network Administrator
Network Engineer
Storage – SAN Administrators
Technical Consultants
Network Director
Plus many more......

PROFESSIONAL CERTIFICATIONS

Cisco Certified Network Associate
CCNA Exam
Cisco Certified Cloud Security Professional
CCNP Exam (3 exams)
Cisco Certified Network Professionals
CCSP Exam
NSA CNSS 4011 National Security Agency Certification
PCEP – Python Certified Entry-Level Programmer
PCAP – Python Certified Associate in Programming

INFORMATION TECHNOLOGY COLLEGE CREDIT COURSES

Bellevue College
Cisco Networking Academy -- NSCOM 201, 202, 203, 204 = 20 credits
Advanced Cisco Cybersecurity – ISIT 305 = 5 credits
Coding in Python 1 & 2 (HS Only) -- PROG 108 = 5 credits
Coding in Python 3 & 4 -- PROG 120 = 5 credits
AP Computer Science Principles – PROG 110 = 5 credits
AP Computer Science -- CS 210 = 5 credits
Video Game & Simulation Design – DMA 106 = 5 credits
Edmonds College
Cisco Networking Academy -- CIS171, 172, 173, 174 = 20 cr.
Advanced Cisco Cybersecurity – CIS 268= 5 credits
AP Computer Science – CIS 199 = 5 credits
AP Computer Science Principles – CIS 125 = 5 credits
Coding in Python 1 & 2 (HS Only) – CIS 100 = 5 credits

POST SECONDARY

Information Technology Courses

CISCO ACADEMY

(All CISCO courses are located at Newport High School.)

CISCO NETWORKING ACADEMY CCNA

Length/Credit: 1 year - 3 periods; 3.0 CTE credits; 20 college credits
Prerequisite: Basic understanding of computer operation
Other Info: Students take the CISCO Certified Network Associate (CCNA) exam at course completion. Instructors are CISCO certified.
This is a 3-period Skill Center class (3 high school credits). Discover how to design, build, manage, and troubleshoot corporate enterprise networks. Learn mitigation of security threats, cybersecurity threat management, and advanced troubleshooting skills with a major emphasis on hands-on learning. Python is introduced for scripting and configuration. Each day half the class time is spent working in a state-of-the-art networking lab. Students take the Cisco Certified Networking Associate (CCNA) exam at the completion of the course. Students who successfully complete CCNA may be eligible to apply for CCNP. High School credits earned: CTE (3.0). College Credit available. Program fees may apply. Financial assistance may be available for qualifying students. NOTE: Block schedules affect class times daily.

ADVANCED CISCO – CCNP

Length/Credit: 1 year - 3 periods; 3.0 CTE credits; 18 college credits
Prerequisite: Successful completion of CISCO Networking Academy Course
Other Info:Students take the CISCO Certified Network Professional (CCNP) exam at course completion. Instructors are CISCO certified
This is a 3-period Skill Center class (3 high school credits). This advanced curriculum trains students to install, configure, and operate local and wide area networks using protocols and technologies such as TCP/IP, OSPF, EIGRP, BGP, AAA, IPv6, MPLS, STP, DSL, VTP, Gigabit, and 10 Gigabit Ethernet. This course makes extensive use of labs to focus on developing skills to build campus networks using multilayer switching technologies, creating and deploying a global intranet, and troubleshooting. Be prepared to take the Cisco Certified Networking Professional (CCNP) exams at the completion of the course. Aspects of cloud computing with Microsoft Azure and Amazon AWS are covered as well as Voice-over-IP (VoIP) and Cisco Unified Communication Manager topics. Students use VMWare and Microsoft virtualization product to build servers in virtual and cloud environments. Students also gain experience in setting up and configuring Microsoft Server products. College credits are available. Prerequisite: Successful completion of Cisco Networking Academy CCNA Course. High School credits earned: CTE (3.0). College Credit available. Program fees may apply. Financial assistance may be available for qualifying students. NOTE: Block schedules affect class times daily.

ADVANCED CISCO – CYBERSECURITY

Length/Credit: 1 semester (may be repeated); 0.5 - 1.0 CTE credit
Prerequisite: CISCO Networking Academy or CCNA certification
Other Info: Instructors are CISCO Certified; 5 300-level college credits available.
There has never been a greater need for professionals trained in cybersecurity. In today's world everything is a target - from servers, computers, phones and routers to refrigerators and light bulbs. This course is designed to prepare students for certification in this field. Students learn how to select appropriate hardware and software to provide protection against known security threats. They perform advanced installation, configuration, monitoring, and troubleshooting of CISCO IOS routers and ASA firewalls as well as generic network and server equipment. Intrusion detection and intrusion prevention features of Adaptive Security Appliances (ASA firewalls), switches and routers are discussed. Students learn how to set up site-to-site VPNs between CISCO and non- CISCO devices as well as remote access VPNs between CISCO devices and clients. Encryption algorithms such as AES, IPSEC, 3DES and MD5 are discussed and implemented. This course prepares students for the following industry standard exams: Implementing CISCO IOS Network Security (IINS); Implementing CISCO Secure Access Solutions (SISAS); Implementing CISCO Edge Network Security Solutions (SENSS); Implementing CISCO Secure Mobility Solutions (SIMOS); and Implementing CISCO Threat Control Solutions (SITCS). Completion of these exams earns a student the CISCO Certified Security Professional certification.

COMPUTER SCIENCE

CS 201 - CODING IN PYTHON 1
Other Info: College credit can be earned after completing high school Python 2

This computer science course uses Python, a professional programming language widely used in the software industry. Python is an excellent first programming language for students new to line-based coding in that it provides simpler syntax and semantics and higher code readability than other programming languages (such as Java and C++). This minimizes complexity and allows students to focus on core computer science concepts, problem-solving, design and programming. Students learn fundamental computer science concepts such as data statements, expressions, variables, values & errors, control structures conditionals, while loops, indentation & function call, drawing coordinate system, colors, animation, key & mouse input, lists, for each loops, for-in-range loops, sprite-based graphics, sprites, program structure, collision detection, functions definition, parameters & arguments, return values & types.

CS202 - CODING IN PYTHON 2
Prerequisite: High school Python 1 <u>or</u> middle school Python 1 & 2
Other Info: College credit can be earned after completing high school Python 2

Students learn to make professional-looking visual programs and games with sprite-based graphics, sounds, and animation.
 Coding in Python 2 will introduce students to the key coding techniques of functions, dictionaries, multidimensional lists, and sprite-based graphics, as well as expanding their knowledge of loops, lists, conditionals, libraries, and input by using them all in exciting new contexts. Students will have access to professional-quality characters, backgrounds, animations and sounds to create their programs. After learning how to create and manipulate these sprites in Python, students will use proper product development processes to make more advanced and impressive programming projects than in previous Python courses. The new concepts introduced will include Functions, Parameters and Arguments, Return Values, Dictionaries, Two-Dimensional Lists, Sprites, Sprite sheet Animation, Collision, JSON, Product Development Lifecycle, and Kanban Board.

CS203 - CODING IN PYTHON 3
Prerequisite: High school Python 2
Other Info: College credit can be earned after completing Python 4
Location: Bellevue, Interlake, Newport, Sammamish

This course continues the in-depth journey with coding in Python from CS202. During the course, students will master fundamental coding concepts such as file systems, information storage and retrieval, and error handling. Students will also gain proficiency with advanced topics including user-defined modules, data as values, data as references, and graphical user interfaces. In addition, students will learn the product development cycle of user testing, iteration, and automated testing that is ubiquitous in the software industry. Throughout the course, students will continuously demonstrate their knowledge through both traditional assessments and real-world coding projects, growing their professional portfolio.

CS204 - CODING IN PYTHON 4
Prerequisite: High school Python 3
Location: Bellevue, Interlake, Newport, Sammamish
Other Info: College credit can be earned after completing Python 4

This course completes the in-depth journey with coding in Python from CS203. During the course, students will master object-oriented programming concepts through the use of classes and domain-driven design. Students will also explore several different possible future paths for study and careers in computer science including web development, data science, and cybersecurity. In addition, students will research the effects of technology on society and investigate how to build software with a goal of solving social problems. Throughout the course, students will continuously demonstrate their knowledge through traditional assessments and expand their professional project portfolio with a capstone coding project. Upon completion, students will be prepared to step into a variety of coding fields as an entry-level Python programmer.

MOBILE GAME DEVELOPMENT
Location: Bellevue, Sammamish

Mobile Game Development provides students the opportunity to learn the basic skills necessary to develop and deploy mobile applications. The course builds on the Unity platform to enable students to design games for the most popular mobile game engine, build touch screen-based user interfaces, and extend those designs for both virtual and augmented reality. C# scripts will be written in Microsoft Visual Studio Code, and so some coding experience is recommended. Students will design, build, and deploy their own 2D and 3D games for Android and iOS devices in this project-based course.

VIDEO GAME AND SIMULATION DESIGN
Location: Bellevue, Newport

In this project-based course, students will learn the fundamentals and theory of game and simulation design. Students will plan and design a series of animated games and simulations. The fundamentals of working with sprites, backgrounds, animation objects, game logic and scripting will be covered. This course provides fundamentals that will prepare students for greater success in WANIC's DigiPen Video Game Programming course.

CCOMPUTER TECHNOLOGY

Location: Newport

While learning basic computer maintenance and simple management of operating systems in this exploratory class, students will investigate various computer topics based on individual knowledge and interest. These topics may include computer hardware and software, simple networking, graphics, HTML, computer programming, management of computers and Information Technology career areas. After taking this class, students will be better prepared to take classes such as Web Publishing, CISCO, Coding in Python 1, Video Game and Simulation, and AP Computer Science.

AP COMPUTER SCIENCE PRINCIPLES

Other info: CTE or Math credit

Be a part of this fun and engaging class. This course signals a change in direction for AP courses, as its primary emphasis builds on the students' own backgrounds and strengths and emphasizes the importance of collaboration. Students will be surprised by this class's innovative, flexible curriculum that uses the experiences, interests, and strengths of students to shape its path. The course develops computational thinking skills in the context of creative problem solving. The primary goal of the course is to introduce students to the foundational concepts of computer science and challenge them to explore how computing and technology can impact the world. In this course, students will learn about ways to analyze and study data, define and solve algorithms, how the internet works, and the global impact of computing. Rather than a deep dive into computer programming, this class takes a broader impact and overview look at the field of computer science. It will include content and influence from classes offered at Stanford and Harvard. Passing the AP exam includes a multiple-choice test and delivery of two in-class developed projects.

AP COMPUTER SCIENCE

Other info: CTE or Math credit

This class is designed for students who plan to pursue a career that relies on computer technology. No computer programming experience is necessary; however, completion of Introduction to Computer Science and a strong math background will help assure success. Students will be learning Java, a widely used programming language that is the current standard for AP Computer Science. Topics include program development cycle, program syntax, writing code techniques, variables, conditionals, iteration, methods, classes and recursion. Students will gain an in-depth knowledge of how computers execute programs. Since the software is free, students will also be able to work at home and/or use district provided equipment. Students will have the opportunity to write original programs in their area of interest such as a GUI, game programming, or data management.

SPECIAL TOPICS IN COMPUTER SCIENCE

While AP Computer Science focuses on control issues (loops, conditionals, methods, parameter passing, etc.), Special Topics in Computer Science focuses on data issues. Topics include ADTs (abstract data types), stacks, queues, linked lists, binary trees, hashing, recursion, interfaces, inheritance and encapsulation. The course also introduces the notion of complexity and performance tradeoffs in examining classic algorithms such as sorting and searching and classic data structures such as lists, sets and maps. The course will include a mixture of data structure implementation as well as using off-the-shelf components from the Java Collections Framework and Microsoft Visual Studio C#.

COMPUTER & INFORMATION TECHNOLOGIES WORKSITE LEARNING

Prerequisite: Enrollment in or completion of a one-semester Information Technology class

Students who have had one semester of a CTE class in the Information Technology career pathway, and who are currently employed in a paid position with a local employer in this industry, are eligible to enroll in worksite learning. (No home-based businesses may be used for this credit.) Students can earn .5 credits for 180 hours of paid work or 1.0 credits for 360 hours of paid employment, which is the maximum allowable credit. Required paperwork must be signed off by a parent and the employer and submitted on time to earn credit. This includes monthly calendars verifying the number of hours worked and an employer evaluation completed over the course of the work experience. Each high school has a Work Site Learning Coordinator that will assist students throughout the school year.

STEM -- Engineering

Engineers are needed in almost every industry. Civil engineers, mechanical engineers, and industrial engineers are the fastest growing engineering occupations making up 59% of the job growth in this field. (www.bls.gov) As an engineer, the size of what you work on ranges from nanoscale to aircraft carrier size. The choices are endless! Engineers have good math skills, love solving problems, have an interest in how things work, have good teamwork and communication skills, and are interested in new technological developments. *(targetcareers.co.uk)* Check out this fun field by signing up for a class!

Resources for more information: onedayonejob.com
DISCOVERe
the balance
allaboutcareers.com
EducatingEngineers.com
engineerGirl

College Credits Available:
3

Potential College Tuition Savings:
$323

CLASSES OFFERING PROFESSIONAL CERTIFICATIONS*	
CSWA - EDU – Certified SOLIDWORKS Associate	Engineering Technology 1 & 2
CSWA – AM -- Certified SOLIDWORKS Associate Additive Manufacturing	Principles of Engineering

SAMPLE PROFESSIONAL ORGANIZATIONS & LEADERSHIP CLUBS*

TSA (Technology Student Association):
www.washingtontsa.org

FIRST Robotics

Rocketry Club

Coding Club

2016 – 2026 OCCUPATIONAL GROWTH FOR WASHINGTON STATE**

Occupation	Growth Rate	Entry Degree
Nanotechnology Engineering Technician	6%	Associate's
Electromechanical Engineering Technician	6%	Associate's
Civil Engineer	5%	Bachelor's
Environmental Engineer	8%	Bachelor's
Fire Prevention & Protection Engineer	23%	Bachelor's
Product Safety Engineer	23%	Bachelor's

*May vary by school and/or program. Check with the teacher for specific details.   ***www.careeronestop.org*

STEM/ENGINEERING CAREER PATHWAY EXAMPLES

ENGINEERING

MIDDLE SCHOOL COURSES THAT SUPPORT THIS PATHWAY	ENGINEERING
Applied Engineering CS Discoveries Design and Production Robotics Flight and Space	Coding in Python 1 & 2 Coding in Python 3 & 4 Introduction to Robotics Engineering Technology 1 Engineering Technology 2 Special Topics in Engineering

Sample Exploratory Engineering 4-Year Plan
(Middle School courses that support this 4-year plan are indicated in the chart below.)

PERIOD	1	2	3	4	5	6	7
GRADE	LANGUAGE ARTS	SOCIAL STUDIES	SCIENCE	MATH	ELECTIVE	ELECTIVE	ELECTIVE
6	X	X	X	X	Physical Education	CS Discoveries	Applied Engineering
7	X	X	X	X	Physical Education	Health	Design and Production
8	X	X	X	X	Physical Education	Robotics	Flight and Space
9	X	X	X	X	World Language		Coding in Python 1 & 2
10	X	X	X	X	Physical Educatoin	Health	Coding in Python 3 & 4
11	X	X		X	Physical Education	Engineering Technology 1	Engineering Technology 2
12	X	X		X	Fine Arts	Introduction to Robotics	Special Topics in Engineering

SAMPLE PATHWAY COLLEGE CREDITS

Bellevue College
Coding in Python 1 & 2 (HS Only) -- PROG 108 = 5 credits
Coding in Python 3 & 4 -- PROG 120 = 5 credits

LWIT
Engineering Technology 1 & 2 – ENGR& 100 = 3 credits

Edmonds Community College
CS201 Coding in Python 1 & CS202 Coding in Python 2 – CIS 100 = 5 credits

See the College Credit table for more information and available credits.

POST SECONDARY

STEM COLLEGE CREDIT COURSES

Lake Washington Institute of Technology
Engineering Technology 1 and 2 - ENGR& 100 = 3 credits

PROFESSIONAL CERTIFICATIONS

CSWA – Certified SOLIDWORKS Associate
CSWA-EDU – Academic Certification
CSWA-AM – Additive Manufacturing Certification

TECHNICAL OR ASSOCIATE DEGREES

Bellevue College:
- Associate in Science Track II: Physics, Atmospheric Science and Engineering
- Associate in Science Track II: MRP Civil and Mechanical Engineering
- Associate in Science Track II: MRP Electrical and Computer Engineering
- Associate in Science Track II: MRP Chemical and Bioengineering

Lake Washington Technical Institute
- Engineering Technology, AAS-T

SAMPLE OCCUPATIONS

Engineering Technician
Material Planner
Piping Designer
Electrical Designer
NDT Technician
Aerospace Engineer
Agricultural Engineer
Chemical Engineer
Civil Engineer
Drafting and Design Engineer
Electrical Engineer
Environmental Engineer
Geological Engineer
Marine Engineer
Medical Engineer
Naval Architect
Plus many more….

Engineering Courses

INTRODUCTION TO ROBOTICS

Location: Sammamish

This course is designed to provide students the opportunity to explore the basics of robotics and build skills necessary for success in STEM careers. Students will complete a variety of hands-on challenges that will require the design, construction and programming of robots, and learn the basics of robots including hardware, motors, controls, and sensors. Students will also be introduced to the basics of programming with ROBOTC. In addition, this course will provide opportunities for students to develop collaboration, problem-solving, and communication skills.

ENGINEERING TECHNOLOGY 1

Location: Sammamish

Prerequisite: Algebra 1 or equivalent

In Introduction to Engineering Design 1 (IED), students will learn to analyze problems and design potential solutions as scientists and engineers through a series of project-based units and activities. Using powerful 3-dimensional design and modeling software, students will create and model their own inventions and designs. The major focus of this course is to expose students to the design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards, and technical documentation.

ENGINEERING TECHNOLOGY 2

Location: Sammamish

Prerequisite: Engineering Technology 1

This is the second semester of the Engineering Technology class. Building upon the principles of the first semester course, students will continue to explore the fundamentals of the engineering design process and 3D modeling. They will explore reverse engineering and apply concepts covered in both semesters to a culminating engineering design project.

SPECIAL TOPICS IN ENGINEERING

Location: Sammamish

Prerequisite: Engineering Technology or teacher permission

Specialized Topics in Engineering allows students to apply the knowledge and skills learned in Principles of Engineering to complete large scale independent projects, as well as team engineering design projects. The course includes introduction to basic project management and engineering economic principles as part of student design projects. Students are responsible for defining the initial scope of their projects, the deliverables that will result, and the timeline for the proposed work. Projects culminate into formal written reports and presentations. Students will choose from different aspects of engineering including civil, mechanical, aerospace, biotech/biomedical, robotics, and more.

ENGINEERING WORKSITE LEARNING

Prerequisite: Enrollment in or completion of a one-semester Engineering class

Students who have had one semester of a CTE class in the STEM -- Engineering career pathway, and who are currently employed in a paid position with a local employer in this industry, are eligible to enroll in worksite learning. (No home-based businesses may be used for this credit.) Students can earn .5 credits for 180 hours of paid work or 1.0 credits for 360 hours of paid employment, which is the maximum allowable credit. Required paperwork must be signed off by a parent and the employer and submitted on time to earn credit. This includes monthly calendars verifying the number of hours worked and an employer evaluation completed over the course of the work experience. Each high school has a Work Site Learning Coordinator that will assist students throughout the school year.

TRANSPORTATION

Transportation, Distribution & Logistics

College Credits Available:
2 - 12

Potential College Tuition Savings:
$215 -- $1,291

Do you love cars and working with your hands? Do you like taking things apart to see how they work and putting them back together? In this competitive industry, every day is different using technology, tools and your problem-solving skills. Whether you are interested in mechanics, engineering, design, technology, or owning your own shop, this program, based in a state-of-the-art automotive shop, can jump start your career and post-secondary education. Have fun earning professional certifications proving your skills and participate in SkillsUSA competitions with students from across Washington State and the USA!

Resources for more information: carcareers.org
Study.com
National Institute for Automotive Service
EducatingEngineers.com
www.ase.com
www.dieselmechanicguide.com
nada.org

CLASSES OFFERING PROFESSIONAL CERTIFICATIONS*	
SP2 -- Safety & Pollution Prevention Certificate	Automotive Technology 1 Automotive Technology 2
ASE National Certification	Automotive Technology 1 Automotive Technology 2

SAMPLE PROFESSIONAL ORGANIZATIONS & LEADERSHIP CLUBS*

SkillsUSA:
https://www.skillsusa.org/

2016 – 2026 OCCUPATIONAL GROWTH FOR WASHINGTON STATE**

Occupation	Growth Rate	Entry Degree
Master Mechanics	15%	Certificate
Automotive Specialty Technicians	15%	Certificate
Diesel Engine Specialists	14%	HS Diploma
Automotive Engineers	10%	Bachelor's
Mobile Heavy Equipment Mechanic	8 %	HS Diploma
Product Safety Engineers	23%	Bachelor's
Product Designer	9 %	Bachelor's
Marine Architects	4 %	Bachelor's

*May vary by school and/or program. Check with the teacher for specific details.   **www.careeronestop.org

TRANSPORTATION CAREER PATHWAY EXAMPLES

MIDDLE SCHOOL COURSES THAT SUPPORT THIS PATHWAY

Applied Engineering
Design and Production
Robotics
CS Discoveries

AUTOMOTIVE MASTER MECHANIC
Coding in Python 1
Coding in Python 2
AP Computer Science Principles
Automotive Technology 1
Automotive Technology 2

ENTREPRENEUR/BUSINESS OWNER
Accounting 1
Accounting 2
Entrepreneurship
Business Law
Automotive Technology 1
Automotive Technology 2

SAMPLE PATHWAY COLLEGE CREDITS
Bellevue College = 10 college credits
Coding in Python 1 & 2 (HS Only) -- PROG 108 = 5 credits
AP Computer Science Principles – PROG 110 = 5 credits

LWIT = 12 college credits
Automotive Technology 1 OR 2 – AUTO 124, 140, 144, 210 = 28 credits

See the College Credit table for more information and available credits.

Sample Automotive Master Mechanic 4-Year Plan
(Middle School courses that support this 4-year plan are indicated in the chart below.)

GRADE / PERIOD	1 LANGUAGE ARTS	2 SOCIAL STUDIES	3 SCIENCE	4 MATH	5 ELECTIVE	6 ELECTIVE	7 ELECTIVE	8
6	x	x	x	x	Physical Education	CS Discoveries	Applied Engineering	
7	x	x	x	x	Physical Education	Health	Design and Production	
8	x	x	x	x	Physical Education		Robotics	
9	x	x	x	x	World Language	Coding in Python 1	Coding in Python 2	
10	x	x	x	x	Physical Education	Health	AP Computer Science Principles	
11	x	x	x	x	Physical Education	Automotive Technology 1	Automotive Technology 1	
12	x	x		x	Fine Arts	Automotive Technology 2	Automotive Technology 2	

POST SECONDARY

TRANSPORTATION COLLEGE CREDIT COURSES
Lake Washington Institute of Technology
Automotive Technology 1 or 2
AUTO 124 = 2 credits
AUTO 140 = 10 credits
AUTO 144 = 6 credits
AUTO 210 = 10 credits

PROFESSIONAL CERTIFICATIONS
Automotive Service Excellence (ASE)
Accreditation level: Automotive Service Technician 840 hours
For more information: www.ase.com
- Engine Repair
- Automotive Transmission & Transaxle
- Manual Transmission & Axels
- Steering & Suspension
- Brakes
- Electrical/Electronic Systems
- Heat & Air Conditioning
- Engine Performance
- MLR – Maintenance & Light Repair

SP2 -- Safety & Pollution Prevention Certificate

TECHNICAL OR ASSOCIATE DEGREES
Lake Washington Technical Institute
- Auto Collision Repair Technician
- Auto Repair Technician
- Diesel and Heavy Equipment Technician
- Electronics Technology
- Motorcycle, Marine & Power Equipment Service Technology
- Transportation and Logistics Management

Renton Technical College
Shoreline Community College
Green River Community College
Seattle College – South
Maritime Academy

SAMPLE OCCUPATIONS
Auto Technician
Auto Body/Collision Technician
Diesel Technician
Heavy Equipment Technician
Motorcycle Technician
Marine Technician
Automotive Master Mechanic
Entrepreneur/Business Owner
Automotive Engineer
Marine Engineer
Field Product Development Engineer
Warranty & Service Engineer
Insurance Claims Adjuster
Automotive Technical Writer
Mechanical Design
Automotive Management
Plus, many more…

Updated November 2021

Transportation Courses

AUTOMOTIVE TECHNOLOGY 1

Length/Credit: 1 year - 3 periods; 3.0 CTE credits
Location: Bellevue – WANIC Skills Center (Available to all schools)
Other Info: 2.0 CTE credit and 1.0 Lab Science credit available

This is a 3-period Skill Center class (3 high school credits). This STEM course provides the foundation for entry into the automotive industry as a technician, service writer/manager, or future engineer building cars. By the end of the first year, they will complete 4 of the 8 ASE content. This is a nationally certified program through the ASE Education Foundation. Students will take the ASE certification test at the beginning and end of the course to measure growth. Students will learn in a state-of-the art automotive shop and classroom. Leadership through Skills USA Auto Club is expected. Students will work on customer, shop owned and student scheduled vehicles. Students who successfully complete Year 1 may be eligible to apply for Year 2. High School credits earned: CTE (2.0) Lab Science (1.0) Program fees may apply. Financial assistance may be available for qualifying students. NOTE: Block schedules affect actual class times daily.

AUTOMOTIVE TECHNOLOGY 2

Length/Credit: 1 year - 3 periods; 3.0 CTE credits
Location: Bellevue – WANIC Skills Center (Available to all schools)
Other Info: 2.0 CTE credit and 1.0 Lab Science credit available

This is a 3-period Skill Center class (3 high school credits). At this advanced level of STEM training, students will focus on the intricacies of automotive professionalism. Successful completion of this class requires a high level of maturity, self-motivation, and a desire to succeed. This course has a strong STEM correlation with math, science and physics along with dexterity building and meter usage. Students can earn up to 15 college credits through Pacific NW College Credit and Lab Science Equivalency credits at Bellevue High School. Leadership opportunities are provided through Skills USA Auto Club and job shadowing at local shops/dealerships. Topics studied revolve around the 8 nationally recognized Automotive Service Excellence (ASE) content areas. Students will study 4 ASE topics each year. Students will also take the ASE Certification test at the beginning and end of the course to show growth. Students will work on customer, shop owned and student scheduled vehicles. High School credits earned: CTE (2.0) Lab Science (1.0) Program fees may apply. Financial assistance may be available for qualifying students. NOTE: Block schedules affect actual class times daily.

TRANSPORTATION WORKSITE LEARNING

Prerequisite: Enrollment in or completion of a one-semester Transportation class
Students who have had one semester of a CTE class in the Transportation career pathway, and who are currently employed in a paid position with a local employer in this industry, are eligible to enroll in worksite learning. (No home-based businesses may be used for this credit.) Students can earn .5 credits for 180 hours of paid work or 1.0 credits for 360 hours of paid employment, which is the maximum allowable credit. Required paperwork must be signed off by a parent and the employer and submitted on time to earn credit. This includes monthly calendars verifying the number of hours worked and an employer evaluation completed over the course of the work experience. Each high school has a Work Site Learning Coordinator that will assist students throughout the school year.

MIDDLE SCHOOL CLASSES

Middle school is the perfect time for students to start diving into technology and STEM curriculum. BSD offers several fun and exciting classes for students that feeds their curiosity, imagination and creativity while building important foundational skills. Students work with current technology solving real-world problems while learning to problem-solve, work as a team, communicate in a variety of ways, and understand how technology impacts every aspect of our lives. Our middle school technology and STEM classes introduce career path options while preparing our students for success in high school and beyond.

MIDDLE SCHOOL STEM

APPLIED ENGINEERING

This semester-long, hands-on, project-oriented class introduces STEM (Science, Technology, Engineering, and Math) principles, concepts and guidelines so that the students engage in current topics related to industry standards and practices. It will incorporate an understanding of materials, machines and equipment as an important strategy to solve problems. Students will engage in a variety of technology problems individually and in cooperative groups focusing on collaboration, problem solving and presenting to a group. Students will use a design cycle to solve problems and challenges using the current equipment and facilities available to them in each school. Students will learn how to utilize a clean room for design and a fabrication room for model/prototype development. Participation and completion of Applied Engineering prepares students to solve open-ended problems with an engineering mindset.

DESIGN AND PRODUCTION

This activity-oriented, cutting-edge program shows students how technology is used in engineering to solve everyday problems. Students will gain the skills they need to develop, produce, and use products and services. In this course, students will use the design process to solve problems and understand the influence that creative and innovative design has on our lives. Students use industry standard 3D modeling software to create a virtual image of their designs and produce a portfolio to display their creative solutions. Students will take their designs to the shop and build a product and or prototype and will begin to recognize the value of capturing and documenting their ideas. Students develop skills in problem solving, research, and design while learning strategies for design process documentation, collaboration, and presentation.

ROBOTICS

This activity-oriented, cutting-edge program shows students how technology is used in engineering to solve everyday problems. Robotics currently consists of two instructional units, Automation and Robotics, that motivate students to become creative innovators. Students will gain the skills they need to develop, produce, and build innovative products and prototypes through problem solving and working in collaborative groups. They will face a variety of challenges that help them apply mechanical principals and programming skills.

FLIGHT AND SPACE

Location: Chinook, Odle, Tyee
This semester-long, hands-on, project-oriented class introduces the exciting world of aerospace. Students explore the science and history behind aeronautics and use their knowledge to design, build, and test different projects throughout the semester. Simulation software will be used to design and test ideas prior to building and testing prototypes. Students develop skills in problem solving, research, and design while learning strategies for design process documentation, collaboration, and presentation.

MIDDLE SCHOOL TECHNOLOGY

MEDIA TECHNOLOGY

Location: Tyee, Tillicum, Chinook, Odle

This class is for students interested in exploring production techniques associated with graphic arts, web, photography, animation and videography. Media Technology students will explore aspects of image manipulation, non-linear video editing, graphic design, game design, and basic photography skills in incorporating technology for use with a variety of products and academic areas. The students will work individually and in groups to create a wide variety of projects demonstrating their achievements in understanding processes of the media used and creative techniques for future application in school, business or personal use.

VIDEO PRODUCTION 1

Location: Big Picture, Highland, Odle, Tyee, Tillicum, Chinook

This class introduces the basics of video production utilizing camcorders, video editing software and digital workflows. Students study video technologies, basic equipment operation, video composition, audio production and visual storytelling. Students learn and practice pre-production, production and post-production skills to produce videos. Students work in groups to create projects for a variety of purposes and audiences. The student will become aware of assorted multimedia tools that can be used to enhance future educational or work-related projects and presentations. Oral or written evaluations of work will be expected on a regular basis.

VIDEO PRODUCTION 2

Location: Highland, Odle, Tyee, Chinook, Tillicum

The students will work as a team to increase their communication, videography, editing, storytelling and computer skills for a variety of audiences and purposes. Students film an assortment of school events and topics to be shared with their school/community. Technical skills focus on advanced techniques with camera work, audio, lighting, digital workflows and storytelling techniques. Students practice 3 steps to making movies using pre-production, production and post-production skills. Students build on their foundation from Video Production 1 to tell visual stories, communicate and develop voice for school and community purposes.

COMPUTER SCIENCE DISCOVERIES

Location: Tyee, Tillicum, Chinook, Odle, Highland

Interested in computer science? If so, this introduction to computer science course will empower students to create authentic artifacts and engage with computer science as a medium for creativity, communication, problem solving, and fun. Students will learn how computers process information and apply a problem-solving model to help humans address problems and real-world scenarios. Students will learn the basics of HTML and CSS as they create their own website, and the basics of JavaScript as they create their own animations and interactive programs. This course is perfect for any beginner interested in computer science!

CS 101 - CODING IN PYTHON 1

This course is an introduction to computer science and coding in Python, a professional programming language widely used in the software industry. Python is an excellent first programming language for students new to line-based coding in that it provides simpler syntax and semantics and higher code readability than other programming languages (such as Java and C++). This minimizes complexity and allows students to focus on core computer science concepts, problem-solving, design and programming. Students learn fundamental computer science concepts including data- statements, expressions, variables, values & errors, control structures – conditionals, while loops, indentation & function call, drawing- coordinate system, colors, animation, key & mouse input, lists, for-each loops, for-in-range loops, sprite-based graphics- sprites, program structure, collision detection, functions - definition, parameters & arguments, return values & types.

CS 102 - CODING IN PYTHON 2

Students learn to make professional-looking visual programs and games with sprite-based graphics, sounds, and animation. Coding in Python 2 will introduce students to the key coding techniques of functions, dictionaries, multidimensional lists, and sprite-based graphics, as well as expanding their knowledge of loops, lists, conditionals, libraries, and input by using them all in exciting new contexts. Students will have access to professional-quality characters, backgrounds, animations and sounds to create their programs. After learning how to create and manipulate these sprites in Python, students will use proper product development processes to make more advanced and impressive programming projects than in previous Python courses. The new concepts introduced will include: Functions, Parameters and Arguments, Return Values, Dictionaries, Two-Dimensional Lists, Sprites, Sprite sheet Animation, Collision, JSON, Product Development Lifecycle, and Kanban Board.

CONTACT INFORMATION

For information about <u>career pathways and course offerings</u>, contact your school's College and Career Advisor:

Bellevue High School – Lisa Hansen hansenl@bsd405.org
Interlake High School – Jose Valdez valdezj@bsd405.org
Newport High School – Fabian Rios riosf@bsd405.org
Sammamish High School – Vanessa Lopez-Kopp lopezk@bsd405.org

For information about <u>college credit and college transcripts</u>:

Pacific NW College Credit website: PNWCollegeCredit.org
Email: info@pnwcollegecredit.org
Phone: 425.564.6158

For information about <u>WANIC classes and registration</u>:

Washington Network for Innovative Careers website: wanic.lwsd.org
Registration questions:
  Laurie Stegman, Career & Technical Education Coordinator
  425-456-4181
  stegmanl@bsd405.org

For more information and questions about <u>Career and Technical Education</u>:

Marilyn Henselman, Director of Career & Technical Education Programs
425-456-4186
henselmanm@bsd405.org

Grace Brady, Career & Technical Education Curriculum Developer
425-456-4188
bradyg@bsd405.org

WA NIC

PREPARATORY COLLEGE & CAREER EDUCATION
for
High School Students

APPLY at
WANIC.ORG
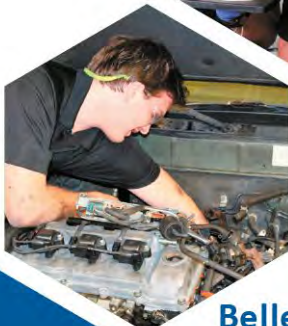
WANIC Skill Center

Northeast King County Skill Center serving students from these School Districts:

**Bellevue • Everett • Issaquah • Lake Washington
Mercer Island • Northshore • Riverview
Snoqualmie Valley**

Contact us wanic@lwsd.org 425.739.8400

WASHINGTON NETWORK FOR
INNOVATIVE CAREERS