



Windham Public Schools  
School Educational Specifications

## Windham STEAM High School

### Overview of School Model

#### Background

The Windham STEAM High School is expected to open in August of 2021 with a dual focus of STEM and Arts and Humanities education. The school program will consist of six college and career pathways. The three pathways within the STEM focus will be Early College Opportunity or ECO (a manufacturing pathway), Pre-Engineering and Health Occupations. The two Arts and Humanities pathways will include Education and Teaching, and Visual Arts and Music.

The Windham Public Schools were placed under the supervision of a Special Master assigned by the CT State Department of Education in 2011. At the time Windham High School was in year eight as a “School in Need of Improvement” under the Federal No Child Left Behind Act. The school suffered a dual achievement gap. Students eligible for Free or Reduced lunch (75%) and English Language Learners (27%) both performed well under the level of other students at the high school. Additionally, the four-year graduation rate, based on the 2010 cohort, was 62.8% with significantly lower rates for sub-groups of ELL ( 48.1%) ( 66.1% for non-ELL students) and students eligible for Free or Reduced Lunch ( 48.9%) (76.0% for non-eligible students).

The initial redesign of the high school involved a dual academy structure resulting in a STEM Academy and a Humanities and Arts Academy. The move to a STEAM approach is meant to refine this structure to create less of a division between the two sides by eliminating the academy structure while maintaining the dual focus of STEM and the Humanities and Arts. The newly designed structure will provide a chance for all students to pursue college and career pathways that lead to opportunities for the acquisition of early college credits as well as internship and job opportunities through partnerships with higher education institutions and business and industry partners.

The goals of the STEAM redesign are to lessen the division in the school between STEM and Humanities while continuing to improve student achievement closing the achievement gap through specific programming and supports. In addition the goal is to provide a strongly aligned curriculum designed to prepare all students for college and career, provide specific career orientation and opportunities, increase the four-year graduation rate, and attract Windham students who have been choosing other area options for high school as well as attracting students from adjoining towns and districts who may view the Windham STEAM High School as a viable high school option.

#### Description of School Type, Accreditation and Affiliation Model

The Windham STEAM High School will offer a rigorous college and career-focused curriculum embedded in the six career pathways. *The plan is to grow the school enrollment from its present 558 students to*

*approximately 800 students.* All ninth grade students will begin in the Freshmen Academy receiving core academic instruction while exploring the offered pathways. Students will begin to take pathway specific courses in grade 10 as well as engaging in job shadowing in their chosen career pathways. Eligible students will begin to access early college credits in grades 11 and 12. Students will also begin to make connections with industry partners competing for internships and future jobs.

The goal of the school is to continue full accreditation with the New England Association of School and Colleges (NEASC).

### **Scheduling Model**

Originally the academies utilized a five-period, trimester schedule. The school recently returned to a seven-period, semester schedule with four grade-reporting periods of approximately ten weeks each. The school will continue the seven period schedule as well as the semester breakdown.

### **Theme/Content/Focus**

The Windham STEAM High School will provide opportunities in five college/career pathways (See Appendix A). Three pathways will be STEM related including Early College Opportunity or ECO, PreEngineering and Health Occupations. Two pathways will be associated with Arts and Humanities including Education and Teaching, and Visual Arts and Music.

### ***Features of the STEAM Pathway Approach:***

- Core and Pathway-related courses that meet or exceed CT State graduation requirements
- Strong emphasis on inquiry-based instructional model that incorporates 21<sup>st</sup> century skills
- Pathway courses that lead to preparedness to pursue higher education and careers
- Integrated technology in all classrooms and learning experiences
- Required participation in co-curricular activities
- Access to partnerships in higher education and business and industry that provide opportunities for students to earn college credits while still in high school and secure internships and possible job offers
- Students graduating with significant accrual of college credits and cost savings for future college enrollment

### ***School Mission and Vision***

**Mission and Purpose**

The mission of the Windham STEAM High School is to provide a personalized educational experience to a diverse community that engages all students and provides a relevant and rigorous curriculum that meets or exceeds state and national standards and creates opportunities for students to attain a strong foundation in STEM or the Humanities and Arts and fosters confidence, empowerment, community involvement leading to students who are college and career ready.

**Vision**

Windham STEAM High School is a learning environment that creates thinkers, leaders and creators who are prepared to excel in a global society. The school community approaches learning as a collective experience fostering confidence, empowerment, respect and trust. Learning at WSHS Is driven by the following principles and expectations:

- High expectation for all students
- Creating and maintaining a College-Going Culture
- Collaboration with colleges and the business community
- The importance of work-ethic and work readiness skills
- Achievement of 21<sup>st</sup> century skills

- Positive school culture and climate
- Clearly defined performance expectations
- A culture of intervention and support
- Productive professional learning communities

**Potential Major School Partners**

**Higher Education Partners:**

Quinebaug Valley Community College (QVCC) ; Eastern CT State University (ECSU) ; University of Connecticut (UConn) ; University of New Haven ( UNH)

- Specific coursework and training especially in STEM content areas
- Professional Development
- Dual-credit courses
- Internships for University students
- Mentorships
- Assistance with curriculum development

**Business and Industry Partners :**

Windham Hospital ; CT Center for the Advancement of Technology ( CCAT) ; CT Science Center ; General Dynamics/Electric Boat ; Project LEAD ( Learning English Across the Disciplines) ; The Connecticut Humanities Council ; College Summit

- Provide job-shadowing opportunities
- Support Capstone Projects
- Provide internships
- Providing additional resources
- Career Mentoring
- Provide instructional supports, exhibits, materials and expertise

**Curriculum and Instruction**

**Pedagogical Models and Classroom Design**

WSHS will utilize a semester-based schedule with grade reporting each quarter and .5 credit earned in several courses at the semester. The instructional day will be divided into seven periods of 50 – 52 minutes each. Student engagement will be fostered and maintained through creative instructional planning that features a variety of student-centered learning activities including problem-solving, inquiry, themed projects, essential questions, content-area reading of complex text including close reading, vocabulary integration and word walls, primary source analysis, and authentic assessments.

Teachers will create theme connections within their classrooms. Learning objectives, agendas, essential questions, and word walls will be on display throughout the classroom. Students will be encouraged to demonstrate their knowledge through exhibitions and presentations.

Classrooms will be equipped with hi-speed internet connectivity and the necessary instructional technology to engage in inquiry-based learning activities. Each classroom will have adequate wall space with a traditional white board as well as a digital overhead projector, wireless connectivity, an interactive SmartBoard and a laser printer.

WSHS will initiate a One-to-One technology program. Each student will be required to have a laptop/notebook. Students will be required to have the laptop/notebook each day and in each class. Teachers will utilize a learning management system such as Google Classroom, Schoology, Moodle or Edmodo to manage assignments and communicate with students regarding assignment initiation, resources, collection and feedback.

Classroom furniture will be conducive to flexible grouping and project work as well as individual and whole-group instruction. Tables and chairs will be able to be pieced together to create varying sizes and shapes. Ample locked storage space will be provided to store books and supplies. Each teacher will have a locked desk with storage drawers for files and supplies, a desk chair and computer. There will be one extra chair at the teacher desk for conferencing with students.

There will be three science labs; one physics/chemistry; one biology lab; one multi-purpose lab. The physics/chemistry lab will be equipped with gas, Bunsen burners, a hood, a store of commonly used chemicals and glassware and an adequate budget for the purchased of digital measurement and analysis equipment.

The Biology lab will have access to water, digital microscopes, living specimens, an aquarium, terrarium, digital scales, and glassware. The multi-purpose lab should have water, glassware and additional items being identified by the High School Science Dept.

Labs will be large enough for 28 – 30 students to work comfortably. Each student will have a minimum of 8-10 square feet of available work space. The labs will have adequate locked storage for lab supplies and portable equipment

There will also be additional labs for pre-engineering, ECO and Robotics. The details for these labs is still forthcoming from the WHS staff.

## **Research Bases and Model Sites**

### **Research Bases**

In order to ensure that all students are prepared to attend college or further education upon graduation from WSHS the overall school program will be aligned with the seven research-based principles identified by Dr. David Conley ( 2010) in *College and Career Ready*. The seven principles are :

1. Create and Maintain a college-going culture
2. Create a core academic aligned with and leading to college readiness by the end of grade 12
3. Teach key self-management skills and academic behaviors and expect students to use them
4. Make college real by helping students manage the complexity of preparing for and applying to post-secondary education
5. Create assignments and grading policies that more closely approximate college expectations each successive year of high school
6. Make senior year meaningful and appropriately challenging
7. Build partnerships with and connections to post-secondary programs and institutions

### **Existing School Models**

P-Tech 9-14 Model

The New American High Schools

The Talent Development Model

Middle College High School Model

The Independent High School Model

### **Model Sites**

University High School of Science and Engineering – Hartford, CT ( HPS)

Greater Hartford Academy of Math and Science – Hartford, CT ( CREC)

Hartford Magnet Trinity College Academy – Hartford, CT (HPS)

Co-op Arts and Humanities High School - New Haven, CT ( NHPS)

Woodstock Academy - Woodstock, CT

The Talent Development High School - Baltimore, Md

Fenway Middle College High School – Boston, Ma

Pathways in Technology Early College High School – Brooklyn, NY

Great Path Academy( Middle College High School) – Manchester Community College ( HPS)

Quinebaug Middle College High School – Quinebaug Community College - Danielson

CT Technical High Schools (*Windham Tech – Willimantic; Ellis Tech –Danielson; Norwich Tech – Norwich; Cheney Tech – Manchester*)

### **Career Pathway Programs**

See Appendix A

## **Student Enrollment**

### **School Size and Configuration**

The present enrollment of Windham High School is 556 students. The plan is to grow the enrollment of Windham STEAM High School *to approximately 800 students*. Some of the additional 242 students would be gathered through the retention of students who are choosing to leave the district to attend high school in other districts. Additional students would be gathered by recruiting students from surrounding towns who may find WSHS as an attractive alternative to their normal choice of high school.

All grade nine students would be enrolled in the Freshmen Academy. With approximately 200 students enrolled in the Freshmen Academy, enrollment in any one of the six pathways would initially be capped at 150 students in grades 10-12.

## **Intervention Programs**

### **Special Education**

Presently Windham Public Schools has the highest percentage of learners with special needs (16.4%) in its DRG. The percentage of students receiving special education services at the high school is 20%. The district provides a full range of special education services at the High School including pre-vocational classes as well as targeted services for medically fragile students and students with Autism. The majority of students with special needs are serviced through a co-teaching model in regular education classes.

The high school employs 6.5 special education teachers providing instructional and case management services for students with special needs. In addition two social workers and one school psychologist provide services for students with individualized education plans and assist with the implementation of functional behavior analysis and the creation of behavior intervention plans.

The special education department will require dedicated office space for each of its full-time teachers to provide privacy in working with students and student files. The department will also require a secure file area as well as a conference room for PPT meetings that can comfortably hold as many as ten people.

The department will also require a minimum of two dedicated classrooms to provide pre-vocational instruction and work with medically-fragile students.

### **English Language Learners**

Presently Windham Public Schools has the highest percentage of English Language Learners (27%) in its DRG. The percentage of students receiving ELL services at the high school is 27% The district provides a full range of ELL services at the High School including English Language Development courses delivered at four levels ranging from New Arrivals to Advanced. Students are also serviced through co-teaching in regular content classes. The school has three ESOL teachers. The school recently added a bilingual science teacher for new arrivals and targeted science classes. The school also has three ELL tutors for regular classes and an additional ELL tutor for the ECO program.

The ELL department will require an office space for coordination of programs and maintenance of materials and records. In addition the department will require availability of classroom space to provide ELD instruction.

### **Support Services**

**Social Work**

The school presently has two full-time social workers. School social workers address the socio-emotional needs of students that potentially impact relationships and learning. School social workers often work in groups with students with identified needs such as anger, attendance, and family issues. One of the social workers at the high school works intensively with the Young Parents Program providing services and direction mostly to young women who have children while enrolled at the High School. It is important that social workers have private office space to meet individually with students and a private meeting area to meet with groups of six – eight students.

**School Psychologist**

The High School has one full-time School Psychologist who primarily conducts educational assessments for students who have been referred for special needs services and those students who are already identified who require tri-annual assessments. The School Psychologist requires a large enough office to have a personal work area as well as storage for assessment materials and records. The office also requires a separate table large enough to conduct testing with students or a separate room with a table to conduct the testing.

### **School Nurse**

The School Nurse is responsible for maintaining health records for all students and ensuring that all students have met the medical and health requirement for enrollment. The School Nurse is the frontline intervention for standards medical issues and health emergencies involving students. The school nurse communicates illness and other health concerns to parents and the administration.

The school nurse needs a multi-room suite that allows for the following:

- Office space that allows for a desk and office chair, a side chair for consultations, a copier, fax machine and fire-proof filing cabinets for ample storage of medical records
- A room for two-three beds curtained off for students who are ill and need to rest for a period of time
- A private examination room
- A private dedicated bathroom
- Storage space for medical supplies and equipment ( a minimum of two wheel chairs)

### **School-based Health Clinic**

This comprehensive program provides in-depth health and mental health assessments through our APRN and LCSW or LMFT who work with affiliation to Windham Hospital and are available in each of the health centers. These services may include routine check-ups, sports, school and job physicals; treatment and follow-up of minor illnesses and injuries; immunizations; weight control; treatment of skin conditions; health education; reproductive health and the diagnosis/treatment of sexually transmitted diseases (ages 12 and over); lab tests; individual, group and family counseling; and drug and alcohol abuse prevention. Referrals for complex health or mental health problems are made to private practitioners or community agencies.

The SBHC will have a clerical intake area with desk space for a medical assistant. In addition, the program needs an examination room and secure space for records storage. The SBHC staff also needs private office space for the Licensed Clinical Social Worker large enough to meet privately with individuals and small groups.

### **School Counseling and Career Services**

Besides the Supervisor of School Counseling, the School Counseling Dept. will consist of three School Counselors, one of whom will be dedicated to Career Counseling\* and the operation of the Career Center.

The Supervisor and all three counselors will have separate and private office space to provide confidential meetings with students and parents. The public outer office will have space for the secretary and office equipment as well as college materials necessitating several book shelves and two tables with four chairs each.

The School Counseling suite should also have a conference room with space and furniture to seat up to eight to ten people for parent meetings.

The Career Center should have adequate book shelves for print materials and a minimum of four computers for students use.

The School Counseling area should also have an adequate and secure records storage space with fireproof filing cabinets.

### **Counseling Center Suite**

- Suite is distinctly separate from the main office and other departments for the purpose of creating a quiet therapeutic counseling area. It is important to minimize noise and traffic.
- Although the suite is distinctly separate from the main office, logistically it would be ideal to have the suite located in relative proximity to the main office and health center as the counseling center staff need to efficiently collaborate with these two areas.
- Secretary space and waiting area for students and parents upon entering the suite.
- Individual offices for social workers, psychologists, and school counselors within the suite.
- Common room large enough for counseling groups and meetings. Common room to have round tables. Round tables support better communication.
- The color of the secretarial/waiting area, individual offices, and common room walls to be light, soothing colors which create a sense of calmness and relaxation. Colors should be coordinated, but subdued.
- Lighting matters. Soft lighting can be comforting, bright lights can energize. It is best to have the ability to adjust the lights as needed depending upon the student. Natural light is best. Design the secretarial/waiting area, individual offices, and common room to incorporate natural light. It is therapeutically best that each room have windows and/or skylights. Windows that are eye level and look out onto calming, natural views - instead of busy sidewalks/roads which create distractions. Natural light elevates mood and reduces distressful emotions.
- File room for storing confidential student information.
- Shared storage room for counseling supplies.
- Sound proofing throughout all areas/walls of the counseling suite for maintaining confidentiality and providing noise reduction.
- White noise sound machines for each individual counseling office and common room for supporting confidentiality and noise reduction.
- Copy/FAX/Scan machine for only counseling center staff for confidential materials.

\*New Position

**Governance Structure**

### **School Leadership**

The WSHS administrative team will consist of a **Principal** and **two Assistant Principals**. The administrative team will be responsible for the supervision of all certified and non-certified staff at the high school. Certified staff will be evaluated by a school administrator. The Principal will lead the development and implementation of the school mission and vision. The administrative team will ensure a safe school climate and the delivery of effective instruction. The administrative team will also ensure that all students achieve the learning expectations of the school. Construction of the school schedule will be conducted by an Assistant Principal.

A **Supervisor of School Counseling** will oversee the delivery of school counseling services at WSHS and supervise the school counseling department. That supervision will include ensuring that all students in grades 6-12 have a success plan and are working toward the completion of the plan. The Supervisor will provide the necessary support for the success of all college and career pathways. The Supervisor will also be responsible for the development of the Course of Studies.

**Program Leaders** will lead each of the various academic departments ensuring the implementation of curriculum, effective operation of professional learning communities/data teams and the implementation all assessments including MAPS and Benchmarks. The Special Education and ELL program leaders will ensure required instructional supports and interventions are in place and being utilized.

A **Pathways Coordinator\*** will be the liaison between the school and all higher education and business and industry partners. The coordinator will ensure that all of the necessary components of an effective pathway experience are in place and available to students and faculty including opportunities for job shadowing, internships, mentoring, externships, potential job placements, and required and available college courses. The coordinator will also be responsible for communications and public relations.

\*New Position

### **School Governance Council**

It is the policy of the Windham Public Schools to endorse and support parent, staff, student, and community involvement in school governance. It is the intent that every Windham school will have a School Governance Council that enables parents, school staff, students and community members to work collaboratively with school administration to facilitate quality educational plans that support student achievement. The School Governance Council will make recommendations to the school Principal on items such as budget development, hiring, recruitment and retention strategies, school procedures and school programs.

By CT statute the Council will consist of parents (7), teachers (5), and community members (2). The Principal or his designee will serve in an ex officio role. Two students will be chosen to serve as nonvoting members. The council will meet a minimum of once per month and minutes will be posted on the school website.

### **Parent Leadership Development**

The Family Liaison, under the direction of the Director of Family and Community Relations and the Principal, will develop a process for family engagement at the school. Using Joyce Epstein's "Six Pillars of Family Engagement" and Latino culturally-relevant research, the Family Liaison will engage parents through regular communication, parent activities, parent education, and open hours for coffee and conversation. The Family Liaison will create a consistent network of parents that will support the programs and needs of the school community. The Family Liaison will require office space as a small Family Resource Center with a minimum of three computer stations, book cases for print resources and a small conference table for meetings.

The Parent Advisory Committee (PAC) welcomes parents, teachers and students. Their role includes participation in school events, representation on the governance council, and collaboration with community members for school activities that support student learning.

The Windham Parent Network's mission is to support, educate, and involve parents as active participants in improving the quality of life for children in Windham. The network aims to address the

needs of area families while engaging parents in the work. The foundation of the network is the belief that parents have the power to make Windham a dynamic and family-friendly community.

### **Student Leadership**

The WSHS will have a Student Council with a least three representatives from each grade level class and one representative from each of the six college and career pathways for each seventy-five students or additional portion thereof enrolled in the pathway. There will be a faculty advisor. The Student Council will be responsible for organizing student events that unify the members of the school community, overseeing and leading school clubs, and surveying and gathering information from students that inform the Council's work. The Council will also engage students in community service projects.

WSHS will also feature Student Led Conferences providing students with the opportunity to take charge of the own success plans. Students will have a more active role in assessing their own learning and take responsibility for self-reflection connected to their learning goals. Students will lead the conference process presenting evidence and data related to their progress and next steps in their personal learning journey.

### **Classroom and Lab Spaces**

## Math

All math classrooms will have:

- computer station/center for student use
- Graphing calculator projection
- Adequate power outlets for all technology
- Space and furniture to ensure flexible grouping
- Adequate manipulatives
- Promethean Boards (not Smart Boards), located near doors.
- Large white boards (entire wall).
- Computer software licenses for each room e.g. Kuta, Nearpod, Clickers, etc.
- ELMO/Document camera/graphing calculator projector
- Laptop/chrome book for each student
- Bulletin board(s)
- Storage space/cabinet/shelving
- Screens on windows to prevent bugs & birds from entering • Nearby intervention room with a tutor

## Science

All science labs/classrooms will have:

- Computer measurement tools
- Eye-wash/safety shower station with floor drains
- Fume hoods
- Lab stations separate from lecture area.
- Rectangular continuous lab tables with high stools without backs
- Lab benches with gas jets
- Plenty of electrical outlets at the lab station and around the room
- Drying and washing stations for glassware and other lab equipment
- Refrigerator for supplies
- Lab prep area with goggles, gloves and aprons
- Chemical storeroom between labs
- Mobile Teacher Demo table
- Locked cabinets under lab benches
- Plenty of cabinet space in each classroom for the NGSS supplies and storage for other lab supplies
- Side counters with plenty of electrical outlets
- Microscope cabinets for Biology and Environmental Science classrooms
- Light- reducing blinds
- Natural lighting
- Smart Boards installed above counter levels

- Laptop cart and an Elmo Projector in each Science classroom
- Computer measurement tools, including probes in each classroom
- Marine Biology classroom with tanks and related equipment
- Greenhouse in courtyard
- Biotech lab and related equipment
- Screens in every window if no air-conditioning
- At least 2 other sinks in the front of the room, besides at the washing station
- Consult each Science teacher as to the desired set up of the lecture and lab area, as it may vary with the labs needs for each subject/course ( one example, see attached)

### **ECO and Pre-Engineering**

This area will have separate classroom and project areas as well as conference space for student meetings.

These areas will share two 3-D printers as well as a computer lab with CAD software.

### **Visual Arts**

There will be a Graphic Arts area with individual Mac stations loaded with the Adobe Suite

The Clay classroom will have steel work benches with wood tops and stools. The room will also have a Pug mill/extruder.

The Drawing/Painting room will have six four-station art tables with tilts and storage. The room will have sufficient display cases to display student work. The sculpture room will also have adequate display

cases. Both rooms will have adequate plumbing and traps equipped to deal with paints and other materials

The jewelry room will have adequate storage space for materials, tools and student work in progress. The room will also have adequate space for display of student work.

**Visual Arts and Music- wish list for W.H.S. renovation**

**Gallery space within the school where students and the public can view student work**

Location should be near the front of the building for optimum visibility and access for the public Walls and walkers system for “hangable” work

Locking showcases for small sculptures and jewelry

Pedestals for display

Benches for gallery talk seating

**Within the building-** showcases for displaying student work

**Location of classrooms: Art Classes should be near each other and Music classes should be near each other in and near the auditorium (and cafeteria)**

**Art Office:**

Offices for 3-4 full time Art teachers, or 1 large shared office space.

**Clay room:**

- Room to accommodate 20 or more people
- smart board
- couple of student computers
- 1 teacher computer
- mold making section/ storage for molds
- slip storage
- slip mixer
- extruder
- 6-8 (Brendt) wheels grouped together wired with plugs from ceiling
- wired so they can be used simultaneously
- adjustable shelves to store student work
- \*pug mill\* to recycle clay
- natural sunny light (lots of windows)
- hand building area
- glazing area
- storage for glazes
- storage for clay at least 40 boxes of 20lbs each
- storage for clay tools (8-10 drawers?)
- 2 adequate sinks for handling clay,
- 2 wedging tables

- appropriate dust ventilation
- display cabinet
- shelves for reference books
- denim aprons and storage for them
- shelving for paper, pencils, scissors etc.
- 2 large carts
- damp closets
- filing cabinets
- steel work benches with wood tops and stools
- adequate plumbing and traps equipped to deal with clay, paints and other materials
- sufficient display cases to display student work

**Kiln room:**

- 2 high fire electric kilns
- 1 raku kiln
- 1 bailey gas reduction kiln
- 1 salt/ soda kiln
- stilts and shelves for kilns
- appropriate ventilation
- shelving and storage for drying & cooling projects

**Sculpture room:**

- Room to accommodate 20 or more people
- smart board
- couple of student computers
- 1 teacher computer
- couple of student computers/ 1 teacher computer
- storage for supplies
- adjustable shelves for storage of student projects
- 2 sinks adequate for handing paint, plaster, stone dust etc.
- display area
- storage for sculpture tools
- spray booth with ventilation
- space and plugs for use of power tools (drills, Dremels, etc.)
- appropriate ventilation
- storage for paint
- space and storage for printmaking supplies
- space and storage for mosaic supplies
- heavy duty tables for chiseling, hammering and using power tools on with attached vises
- shelves for reference books
- denim aprons and storage for them
- shelving for paper, pencils, scissors etc.
- 1 large cart

- goggles and sanitizing storage
- paper cutter station
- filing cabinet
- sufficient display cases to display student work
- Display boards for hanging up informational posters, rubrics, etc.

**Graphic Arts room:**

- Room should accommodate 18-24 students
- Individual Mac stations loaded with the Adobe Suite

**Jewelry –**

- Room to accommodate 20 or more people
- smart board
- couple of student computers
- 1 teacher computer
- Adequate locking storage space for materials, tools and student work in progress
- Adequate locking space for display of student work
- Heavy tables for forging, creating work with attached vises
- multi- level stools
- Some tables for sawing with a jeweler’s saw (High top and low stool)
- Soldering table area with a non-combustible top- room for 6 or more students to solder at a time/18 student to view demos
- Polishing area with 6 polishing stations with dust collection systems (away from the soldering area)
- goggles and sanitizing storage
- space and plugs for use of power tools (drills, Dremels, flex shafts, etc. )
- appropriate ventilation for both soldering and polishing
- storage for cylinders of acetylene
- Good lighting
- Multiple electrical pugs at a convenient height every 4 foot
- Display boards for hanging up informational posters, rubrics, etc.
- Sufficient display cases to display student work

**Drawing and Painting Room** - ideally for 24-30 people at a time

- Cupboards with removable Masonite panels
- Shelving for books, paper and paint storage
- Adjustable shelving for 3-D artworks Storage space for each kid (100-120) - cupboards with individual tote trays...
- Unit with individual *or vertical shelves* for larger drawings 22 x 28
- Direct lighting options and zoned lighting options that can be used when needed.
- Windows for natural lighting
- Functioning window blinds
- Require four outlets per box every six feet or less along the perimeter. Island worktables need power as well

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- Special fire-retardant cabinet or storage space for flammables such as paint thinner
  - Counter top with full length bulletin/tack boards above-white or neutral color
  - Smartboard system on another wall Vented spray booth
  - Nearby hallway display surfaces provide a convenient way to share work with other students, teachers, and visitors to the school.
  - drying racks
  - six four-station art tables with tilts and storage
  - a few lockable spaces for "teacher only" access for materials and equipment that may be too hazardous or valuable to use without supervision or special instruction.
  - Sinks that are in a peninsula with plenty of room for people around them and for traffic flow. Never locate sinks in a corner where they create congestion. Space sinks as far apart from each other as possible so more people can get at them. At least two sinks with two separate drain systems in every room. When one clogs, the other should work.
  - A door that goes directly outdoors from the art room allows extra opportunities, Door to office/store room

- Whole area should be open but perhaps divided by furnishings for wet versus dry media. One side should accommodate tables for drawing while the other should be for standing or seated easels as well as a *raised platform* in the middle or front for displays, still life or models.
- 6-12 computer stations for research UNLESS design classes are to be implemented then 24 Adobe illustrator or Photoshop equipped stations in a separate classroom along with usb chargeable digital cameras for each student
- Display boards for hanging up informational posters, rubrics, etc. • Sufficient display cases to display student work

### **Music**

The music technology course will have:

- Individual computer stations with MIDI Keyboards and Mixcraft software.
- Display boards for hanging up informational posters, rubrics, etc.
- Sufficient display cases to display student work
- couple of student computers
- 1 teacher computer
- Rehearsal spaces will be large enough to handle at least 50 students and contain a riser system that will allow all students to be organized safely.
- Secure storage space to accommodate large and medium-sized instruments
- Adequate number of large, adjustable music stands
- Rehearsal recording system that can record rehearsals for playback and critique
- Portable SmartBoard for display
- Band room with tiered seating, enough storage to hold all of the band instruments, and shelving for the music library.
- Orchestra/chorus room (carpeted) with tiered seating, enough storage to hold all of the orchestra instruments, and shelving for the music library.
- Dedicated room containing a modern piano lab for piano classes - doubles as music tech lab w/ music workstations including MIDI controllers, headphones, and a master control station for the teacher w/ headphones.
- Offices for 2 full time music teachers or 1 large shared office space.
- Minimum of four (4) dedicated practice rooms for all students to share.

### **World Languages**

Presently the high school only offers Spanish language studies. The high school is exploring teaching Mandarin Chinese using a distance learning approach. The High School would also like to explore reintroducing German language studies as well. Besides the CT State Graduation Requirements which call for a minimum of two credits in World Language, there are also World Language requirements for the International Baccalaureate Diploma Program.

### **Physical Education and Athletics**

**Athletic Facilities**

Windham High School presently offers a full assortment of boys and girls interscholastic sports. The school competes in the Eastern CT Conference (ECC- Small Division). The school will continue to provide sports programs as a member of the ECC and the CT Interscholastic Athletic Conference (CIAC). All of the

athletic facilities are in need of upgrade and repair. That work includes:

- Replace the main gym floor
- Replace the gym bleachers including an electronic operation system
- Replace gym floor in auxiliary gym
- Renovate and expand bathroom facilities adjacent to the main gym
- Create additional indoor storage space for bulky athletic equipment such as wrestling, gymnastics and track mats as well as other track equipment.
- Designate an area for P.E. equipment
- Complete renovation of all five locker rooms and shower areas including new lockers and replacement of plumbing system
- Complete upgrade of P.E. and Varsity coach's offices including sinks toilets and showers
- Upgrade the weight room to meet the current needs of the physical education programs and athletic programs
- Replace the filter system and deck of the pool
- Replace the pool cover
- Provide sprinkler systems and backstops for both the softball and baseball fields
- Install one small section of bleachers at the baseball and softball fields
- Replace the bleachers at the football field
- Replace fencing around football and track complex
- Replace shot put and discus competition areas including safety cages
- Install a sprinkler and drainage system for the football field
- Replace the bleachers, press box, scoreboard, field lights and goal posts at the football field
- Renovate or replace outdoor athletic storage and restroom areas
- Replace or resurface the tennis courts and replace fencing
- Multi-purpose room suitable for gymnastics, wrestling, dance, indoor track events and PE classes
- New divider curtains in main gym and auxiliary gym
- Addition of PE classrooms/Athletic team meeting rooms
- Fitness facility with state-of-the-art equipment
- High Ropes Course
- Climbing wall / rappel tower
- Fitness assessment lab: VO2 Max Machine / Bod Pod BMI indicator
- Projectors
- Smart Tv
- Wifi
- Sound system (Bluetooth capable) in gymnasiums / fitness rooms
- Public Facilities ADA Compliant
- ADA Compliant Access and Egress with power openers.
- Create space for outdoor sports / Athletic equipment.
- Solid doors on gymnasium. Porthole window on one or two doors.
- Doors that do not have handles on exterior. Eliminates doors to be tied / chained from exterior. This is a security advisement.
- Interior of doors to be padded if located near ends of the basketball court.
- Weight room updated with mirrors, smart TV's,

- Locker rooms to have keyed motion sensor lighting. Optional individual changing rooms that have locks.

- Industrial washing machines and dryers for Physical Education use.
- Health room with sinks, adjustable lighting, smart TV, Skeleton, lung, heart, brain models.
- PE Office: book shelves, printer, with an area for department meetings / conferences.

### **Office Spaces**

Provide adequate office space for the Athletic Director including a small meeting area, a fax/copier/scanner, laser printer and file cabinets for storage of records.

Provide shared office space and furniture for in-season coaches.

### **Instructional Technology**

The Windham Public Schools will institute a 1:1 laptop/notebook initiative to ensure that all WPS students have access to the technology and resources for 21<sup>st</sup> century learning. Each Windham STEAM High School student and teacher will have a laptop/notebook to use both at home and in the classroom.

This will require that the High School building be equipped with the necessary band width, and wireless hotspots to handle the increased volume of digital traffic required to provide this level of access. A dedicated area will be required for a technology depot to deal with the inevitable repair needs that will accompany the use of the laptops/notebooks.

The school will investigate the acquisition and management of a learning management system such as Google Classroom, Schoology, Edmodo or Moodle. Both teachers and students will be trained to effectively utilize the chosen management system to maximize learning.

In addition, all science labs will be equipped with the necessary computers and digital tools used in scientific measurement and analysis.

### **Homework Expectations and Grading**

Homework will be assigned and required for successful completion of course work. The expectation is that homework will contribute to the preparation of students as independent learners who know how to study and organize time and work.

It is also the expectation that periodically a “Flipped Classroom” model will be employed engaging students in homework that sets the context and structure for future classwork and study. It is also expected that the homework will be purposeful and will promote learning by:

- Reinforcing and extending classroom learning of new skills and concepts
- Promoting reflection and revision of work
- Applying knowledge to new situations and problems
- Engage students in research to extend knowledge
- Engage students in project-based learning

Teachers will be expected to provide feedback and possible grading and credit on all homework assignments. Teachers and students are encouraged to utilize school-to-home technology and/or learning management systems to assign and review work and provide targeted feedback and revision if necessary.

Students will receive grades and credit based on the completion and quality of the work. Although timely completion of work is important, and a crucial work skill, it will not be the only aspect of the work that will be assessed. Students will not be allowed to accept no credit and avoid the completion of work. Students will be required to complete all major assignments even if they receive a lesser grade for late work.

### **Assessment Design and Standardized Testing**

The Windham Public Schools has designed and initiated a series of assessments that allow for accurate and effective assessment and progress monitoring of student learning at all levels. Clear curriculum objectives and standards have been established in English/Language Arts and Math K-12. Objectives and standards are presently being established in Science and Social Studies as well. Curriculum maps in all core academic areas have been established and district-level MAPS assessments are given for each instructional unit in each grade level K-5 and each core course 6-12.

Additionally Benchmark assessments aligned with the Common Core Standards in ELA and Math are being given K-12 three times yearly ( Fall, Winter, Spring) to monitor growth in these critical areas.

At the High School students are presently taking the SAT in grade 11 which is being considered by the CT Dept. of Education as the metric for assessing school and student performance.

### **Capstone Projects**

All seniors at Windham STEAM High School will be required to complete a Capstone Project prior to graduation. As outlined by the CT State Dept. of Education, the Capstone experience is designed to prepare high school students for life-long learning and productive citizenship in the 21<sup>st</sup> century by exhibiting the skills associated with self-direction, planning, information literacy and communication.

All students will develop the 21<sup>st</sup> century skills associated with the Capstone Projects in all learning experiences at Windham STEAM High School. Students will continually be provided opportunities to be self-directed and engage in planning, research, project-based learning, communication, collaboration and authentic assessment.

Capstone projects will be associated with the each senior's chosen career pathway incorporating the skills, knowledge and experiences associated with their pathway study.

## **Teacher Capacity**

### **Training and Professional Development**

A number of areas for training and professional development will need to be addressed to assist and support teachers and staff at Windham STEAM High School in their efforts to effectively deliver instruction and assessment that will prepare students for success in their career/college pathways as well as work and study in the 21<sup>st</sup> century. The list includes but is not limited to:

- Data-Driven Decision Making
- Creation and use of Formative Assessments
- Professional Learning Communities
- Learning Management Systems

- Information Literacy Skills
- Utilizing Instructional Technology
- Literacy Skills for Complex Text

### **Professional Learning Communities and Data Teams**

Teachers will work collaboratively to review instructional practices and effectiveness through the lens of student achievement data and student work artifacts. Professional Learning Communities will design and implement formative assessments to provide crucial data for designing and adjusting instruction. PLC members will engage in an action research model to investigate best practices. Members will identify personal and PLC learning needs and design professional learning experiences that meet the needs of each professional and the PLC. The CT Learning Forward Standards clearly indicate the need and effectiveness of this approach for effective professional learning and improved student learning outcomes.

## **Additional Positions**

The Windham STEAM High School will require additional positions to incorporate the career/college pathways and 21<sup>st</sup> century instruction and learning:

- *Pathways Coordinator* – Acts as liaison between the school and all higher education and business and industry partners. The coordinator will ensure that all of the necessary components of an effective pathway experience are in place and available to students and faculty including opportunities for job shadowing, internships, mentoring, externships, potential job placements, and required and available college courses. The coordinator will also be responsible for communications and public relations
- *Career Counselor* – Operate the Career Center and teach four sections of Pathways Exploration each semester
- *Instructional Technology Specialist* – Work with teaching staff to identify technology tools that best meet the needs of the curriculum and student learning. The specialist will assist in the design of instruction using the technology and do training when appropriate.
- *Library Media Specialist* - Will provide increased instructional opportunities in Information Literacy to all students and needed assistance with increased research activities

### **Co-Curricular Programs**

The new Windham STEAM High School will continue the tradition of strong and successful programs in both the Performing and Visual Arts. Public performance and display of art are natural and expected outcomes for students in these programs. In addition, there will be a specific career pathway to allow students to examine and work toward careers in the arts. These thriving programs will require performance and show space to display their talents and work.

The school auditorium will be renovated to provide a venue for performance that includes digital lighting and state-of-the-art sound capabilities. The venue will also be equipped to provide digital presentation to large groups with state-of-the-art projection and sound capability.

The area outside the auditorium as well as other public gathering areas throughout the building will be equipped to provide secure display of visual arts products. This includes secured wall inset cases as well as floor cases.

In addition, the school will provide targeted academic intervention programs both after school and during the summer. After-school programs will be designed to coincide with the school dinner program. Both after-school programs and summer programs will be offered for academic intervention, and career pathway enrichment. Credit recovery will also occur during the summer.

### **School Culture and Climate**

The Windham STEAM High School will operate in an environment of respect, learning and professionalism. The school community will be focused on the achievement of school and personal goals. All members of the community will be expected to be problem-solvers focused on maximizing opportunities and learning from mistakes.

Students will be expected to exhibit appropriate and professional behavior. It will be understood that exhibiting professional behavior is a learning process. Students will learn to practice self-discipline through a Restorative Practices model. Behaviors will be dealt with through the lens of what has been extracted from the community by the behavior, what must be restored to the community, and how it will be restored through the consequences. Every effort will be made to keep students connected to the learning community while inappropriate behaviors are processed.

Attendance and punctuality will be emphasized at WSHS. Much of the learning activities and experiences will require the presence of students. Students will recognize that their absence from the learning environment will negatively impact their ability to acquire the skills and experience necessary for advancement in their career pathway affecting chances for internships and possible jobs. Attendance and punctuality will be stressed as essential work readiness habits.

A professional environment requires professional attire. Students will be required to wear a Pathway uniform designated by school staff. The choice of the Pathway uniform will be driven by the appropriateness and connection to the career area, affordable cost to parents, and some degree of choice on the part of Pathway students.

### **Out-of-District Enrollment**

The Windham STEAM High School will be designed to attract enrollment from neighboring communities increasing the overall school enrollment. Neighboring communities that may potentially consider allowing or promoting enrollment will be: Columbia, Franklin, Chaplin, Brooklyn, Hampton, Lebanon, Scotland, Sprague, Plainfield, Ashford, Canterbury, Sterling, and Eastford.

### **Library Media Services**

The role of the Library Media Center and the Library Media Specialist has changed dramatically in the last twenty years. With the advent of the digital age the process of delivering and accessing information has been permanently altered. The rapidly growing amount and nature of information in the digital age requires a new set of information literacy skills necessary for students to compete and achieve success in the 21<sup>st</sup> Century. Although traditional books and periodicals are still necessary and useful, digital forms of information allow for the overwhelming wave of new information that constantly enters the picture daily and will eventually make traditional print materials a less effective means of delivering and accessing information.

The new Library Media Center will be a space that is dominated by computers. In addition, the

availability of digital services offered will increase to provide students with digital structures that may not be available to them through a simple search of the web on their personal laptop. Students will be provided access to specific data bases, some connected directly to career pathways, and other tools needed to strengthen and deepen research. There will be less space dedicated to the print and nonprint collection and more space for students to access computers and work collaboratively. There will also be at least two separate instructional areas for library Media Specialists to conduct targeted lessons on Information Literacy skills to all students. Each of these areas will be set up in a digital classroom model with thirty computers around the perimeter of the room and a large conference table in the middle for group instruction.

### **Faculty/Staff Facilities**

Faculty and staff will have at least one room designed for personal use including the ability to store and prepare simple food and drink and eat lunch. The room will have a large refrigerator, sink, cabinets for storage and tables and chairs. The room should be able to handle as many as ten teachers or staff at one time.

Faculty and Staff should have access to dedicated faculty/ staff bathrooms on each floor.

### **Teacher Preparation Center**

The Teacher Preparation Center will have access to a large wireless networked laser printer and a high speed networked scanner/copier that will handle the necessary volume.

### **Administrative Area(s)**

**Main Office**

The main office will be an inviting space which is highly visible to visitors as they enter the school. The reception area will easily and readily connect school staff with all visitors to provide an instant welcome to the school and area, and a comfortable waiting area designed to allow for normal main office traffic. The main office staff should have adequate equipment to fax, scan, copy and print. There will also be adequate storage space for files and supplies.

**Administrators' Offices**

Each school administrator will have an office that allows for comfortable work and meetings with up to three individuals at one time. This will require a table and four chairs. The office furniture should also allow for adequate space for reference books and materials and secure records storage. It is advisable that at least one administrator, if not all, have a view of the exterior of the building for security purposes.

**Clerical Personnel**

Clerical staff supporting administrators should have adequate space and furniture to organize work and provide secure storage of files. Clerical personnel will have cover from traffic but be readily accessible to visitors.

**Office Equipment in Administrator's Area**

Administrators, and the clerical staff that support them, will have access to networked scanning, faxing, copying and printing in color separate from the rest of the main office staff.

**Emergency Features**

**Door Locks**

All classroom and office door locks throughout the building will lock from the inside for quick reaction to lockdown procedures

**School-wide Public Announcements**

All phones in the building will be programmed to provide school-wide announcements to allow for any person in any part of the building to alert others to an emergency.

**Cameras and Digital DVR System**

Digital video cameras will be installed in all interior and exterior public areas to monitor activity. The cameras will be programmed into a DVR system that will allow the retrieval and storage of video for up to thirty days.

**Food Services**

The Food Services program for the Windham Public Schools works in concert with the central administration of the district although its operating budget is self-contained. The Food Services program operates several different meals programs including breakfast, lunch, and dinner as well as summer meals programs. The district program is supervised by the Director of Food Services. Each school program is facilitated by a manager, some have assistant managers and all have general workers.

The district program is expected to operate without being supplemented by funds from the general operating budget. The program receives federal reimbursement earmarked for students who are eligible for free or reduced-price meals. The Windham Public Schools are eligible and operate under the Universal Meals designation. The percentage of students who are eligible for free or reduced meals under the federal guidelines is high enough that all students are designated as eligible and receive federal reimbursement. Federal reimbursement partially covers the cost of each meal. The Food Services program must carefully manage the cost of supplies and labor as well as the number of meals served in order to balance the budget.

There has been growth overall in the number of meals served over the last two years. The most dramatic growth has been in the number breakfast meals served. Some schools have seen as much as 100% growth in the number of breakfast meals served over the last year.

The goals of the Food Services program is to update the program at the high school to provide a “smarter” lunchroom providing more convenience and appeal to the students highlighting healthier choices and building capacity in health and nutrition. The cafeteria will serve the increased population of the Windham TEAM High School by increasing the number of lunch waves from two to three. One wave would be primarily for staff and faculty and the other two would primarily be for students. The preschool students would be served meals in their classrooms as is currently the practice.

The meet the increase in demands and continue the improvements in the Food Services program the high school kitchen and dining areas will require renovation. The kitchen will require renovation of the preparation and cooking areas including new flooring, wall covering, plumbing and electrical updates. The dining areas will need new flooring, improved lighting and ceiling fixtures and improved, more comfortable seating designed for adults. The design of the server area must improve the efficiency of moving students through the lines in as quick a fashion as possible. Time is limited for lunch and providing as much time to eat lunch is essential for health and enjoyment. All renovations need to make the kitchen area current will all state and federal health and safety regulations.

### **Early Childhood Center**

See separate Educational Specifications document - Appendix H

### **Additional Space**

In addition to the Windham STEAM High School and Early Childhood Center, the Windham Public Schools Central Administrative offices will inhabit approximately 20,000 square feet of space along the Northwest corner of the building. This space will hold the offices of the Superintendent, Assistant Superintendents, program directors and supervisors, as well as human resources and the business offices.

PATHWAYS	POSSIBLE DEGREES	POSSIBLE PARTNERS	# COURSES	COURSES
Technology & Manufacturing	ECO	QVCC	3 courses in a manufacturing lab	Manufacturing Machinery - Bechwork Manufacturing Machinery - CNC I Manufacturing Processes and Lab
			3 courses in a computer lab	Blueprint Reading I & II Parametric Design
			6 courses in regular classrooms	Manufacturing Math II Intro to Lean Manufacturing Advanced Lean Manufacturing Intro to Lean Supply Chain Management Advanced Lean Supply Chain Management Principles of Quality Control
	Computer Programming	Tunxis	8 courses in a computer lab	Introduction to Computers Programming Logic & Design with Visual Basic Systems Analysis and Design Advanced Visual Basic Object-Oriented Programming Using C++ Object-Oriented Programming Using JAVA Web Design and Development I Directed Elective
Education, Arts & Humanities	Graphic and Communication Arts Certificate	TRCC	6 courses in a computer lab	Publication Design Advertising Design Digital Imaging Web Design Digital Photography Video Filmmaking
			3 courses in a regular classroom	Principles of Advertising Journalism Publications Practice
	Early Childhood Education Certificate	Tunxis	8 courses in regular classrooms	Introduction to Early Childhood Education Creative Experiences/Children Health, Safety and Nutrition Observation, Participation and Seminar Early Language and Literacy Development Children's Literature General Psychology Child Development
	Human Services Certificate	Tunxis	7 courses in regular classrooms	Introduction to Human Services Human Services Skills and Methods General Psychology I Principles of Sociology Social Problems 2 Electives

PATHWAYS	POSSIBLE DEGREES	POSSIBLE PARTNERS	# COURSES	COURSES
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Allied Health	Dental Assistant Certificate	MCC	5 courses with lab sessions	Infection Control in Dentistry Dental Radiography I Chairside Dental Assisting Dental Materials Dental Radiography II
			5 courses in regular classrooms	Oral Health Promotion Human Biology General Psychology I Oral Anatomy and Pathophysiology Dental Practice Management
	Nursing	Dual enrollment courses could be offered so that students can transfer credits towards an Associate's Degree	3 courses in a nursing lab	Nursing Skill Development Adults and Wellness Continuum I and II
			6 courses in a regular classroom	Families and the Wellness Continuum Integration of Nursing Practice: Adults with Complex Health Problems Anatomy and Physiology II Microbiology Lifespan Development
	Certificate in Medical Assisting	Goodwin	7 courses in regular classrooms	Concepts in Human Biology Medical Terminology Medical Law and Ethics Medical Assisting: The Medical Office and Patient Care Introduction to Medical Insurance and Coding Medical Office Management Introduction to Psychology
			3 courses with practical applications	Medical Assisting: Diagnostic Procedures Pharmacology Medical Assisting: Laboratory Procedures
			1 course in a computer lab	Computer Literacy Competency (CL)

Windham STEAM HS Core Curriculum

DEPARTMENT	COURSES
English	English I, II, III & IV - CP English I, II, III & IV - Honors English Language Composition (Dual Enrollment) Public Speaking (Dual Enrollment) Technical Writing (Dual Enrollment)

Math	Algebra I Algebra I Honors Geometry Geometry Honors Intermediate Algebra (Dual Enrollment) Intermediate Algebra Algebra II Algebra II Honors Advanced Algebra & Trigonometry Statistics AP Statistics Pre-Calculus AP Calculus
Science	Biology Biology Honors Chemistry Chemistry Honors AP Chemistry Physics Physics Honors AP Physics Marine Biology Honors Geology ECE Biology ECE Biotechnology Environmental Science Pop & Effect Environmental Science Ecology ECE Environmental Science Anatomy & Physiology
Social Sciences	Modern World History CP Modern World History Honors American Studies CP American Studies Honors Contemporary World Issues Latin American Studies Economics (Dual Enrollment) US History CP US History Honors ECE US History Civics AP American Government AP Psychology ECE Western Traditions Before 1500 ECE Western Traditions After 1500 ECE Foundations of US Education Sociology Legal Systems

Physical and Health Education	Health Physical Education Lifetime Sports Fitness for Life Team Sports CPR/AED/First Aid & Lifeguarding Weight Training and Conditioning
Arts	Music Technology Guitar Piano Concert Choir Concert Band String Orchestra Theater Arts Drawing II Painting II – Acrylic & Oil Painting II – Watercolors Clay II Jewelry II Sculpture II AP Music Theory AP Drawing AP Art History AP Studio Art 2D AP Studio Art 3D
World Languages	Spanish I Spanish II Spanish III Spanish IV Spanish for Native Speakers Heritage Spanish I Spanish Conversation & Culture AP Spanish Language French I French II French III
ESOL	ESOL New Arrivals ESOL Foundational New Arrivals ESOL II/III ESOL III/IV American Cultural History for New Arrivals ESOL English II Medical Interpretation Writing for College and Career
Family and Consumer Science	Culinary Arts I Culinary Arts II Parenting Child Development Honors ECE Independent & Family Development

