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# **Randolph Union**

### Course Catalog SY 2023 - 2024

(Version 1.0)



Education, therefore, is a process of living and not preparation for future living.

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John Dewey

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### Randolph Union

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### **Mission & Standards**

The OSSU School Board has given RU an important charge: to prepare our students for the next stages of their lives. This is a broad and significant mandate. It requires that we focus on the skills and dispositions needed for young people to be active and engaged **agents in our democracy**, productive and innovative **contributors to the economy**, and **empathic and ethical citizens** in our local and global communities. The RU Faculty has high expectations of our students - and of ourselves - in all of these domains. We articulate essential expectations as graduation standards, aligned to our board's expectations and to state requirements for proficiency in diverse subject areas. Our graduation standards fall into two main categories:

- Foundational Knowledge & Skills (Content Area Graduation Standards)
- Habits of Heart & Work (Transferable Skill Graduation Standards)

These graduation standards guide our community daily, from classroom learning intentions, to assessment rubrics, to Senior Project, to special honors and awards for both students and teachers. In alignment with VT Act 77, a proficiency-based graduation system that is explicitly tied to these standards is being put in place for the RU class of 2020.

#### Habits of Work and Heart

(Transferable Skill Graduation Standards)

Habits of Work

- **Organization**: Efficiently organizes priorities, **time, belongings, materials**, and resources in school, at home, and in remote learning.
- **Productivity:** Completes work according to deadlines and expectations, both at school and in remote, synchronous or individual work time.

Habits of Heart

- **Respect for Others**: Respects the identity of others, listens, empathizes, seeks to understand, works to keep the community safe, and safely intervenes to protect others.
- **Personal Responsibility**: Cares for own physical and mental wellness, keeps safe physically and emotionally, shows self-control.

Link to our more detailed Habits of Work/Heart expectations: here (to be updated for SY 22-23).

# Foundational Knowledge & Skills (Content Area Graduation Standards)

#### ENGLISH

enectively for a wide range of purposes, genres, and authentic audiencesfacturately use conventions of findings and supporting evidence on a topic, conveying across multiple disciplines.information, findings and supporting evidence on a topic, conveying a clear and distinctdemonstrate respectful active engagement forums for dialogue, dialogue, the mselves, and topic comprehend, and analyze a wide range of literary and informational texts to draw auditory formats.comprehend, and evidence and use information provided in different auditory formats.audiences across multiple disciplines.support an expanding vocabulary.findings and support an perspective to an authentic audience.respectful across a range of forums for dialogue, discussion, and the greater community.comprehend, and evidence a wide evaluate and use information provided in different auditory formats.
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#### **FINE ARTS**

<b>Create</b> : Students communicate powerfully through the arts, demonstrating fluency in essential skills, terminology and processes with an artistic problem solving approach.	<b>Present:</b> Students communicate meaning and demonstrate skills through public exhibition and performance.	<b>Connect:</b> Students create connections between the arts, history, culture, politics and other domains.	<b>Respond</b> : Through critique and analysis of the work of masters and others, students understand their own skills and unique place in fine arts traditions.
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#### HEALTH

Analyzing	Accessing	Communication &	Decision-making &
Influences: Students	Information:	Advocacy	Goal Setting:
analyze the influence of	Students access	Students use	Demonstrate the ability
family, peers, culture,	reliable information,	interpersonal	to self-regulate, and
media and technology	products and services	communication to	use decision-making
on the behavior of	that enhance the	advocate for	skills and goal setting to
individuals, local	health of individuals,	personal, family and	enhance health.
community and the	the local community	community health.	
broader society.	and broader society.		
	Analyzing Influences: Students analyze the influence of family, peers, culture, media and technology on the behavior of individuals, local community and the broader society.	AnalyzingAccessingInfluences: StudentsInformation:analyze the influence ofStudents accessfamily, peers, culture,reliable information,media and technologyproducts and serviceson the behavior ofthat enhance theindividuals, localhealth of individuals,community and thethe local communitybroader society.and broader society.	Analyzing Influences: Students analyze the influence of family, peers, culture, media and technology on the behavior of individuals, local community and the broader society.Accessing Information: Students access reliable information, products and services that enhance the health of individuals, the local community and broader society.Communication & Advocacy Students use interpersonal community and the and broader society.

#### MATH

Mathematical Practices: Make sense of problems and persevere in solving them; attend to precision while constructing viable arguments and critiquing the reasoning of others. Interpret, use and create mathematical models of real world events.	<b>Number &amp; Quantity:</b> Extend properties of counting numbers to understand and use other types of numbers; reason quantitatively and use units to solve problems. Observe these properties in applications.	Algebra: Perform arithmetic operations with polynomials, including rational expressions; create equations that describe numbers or relationships; reason with equations and inequalities. Analyze and reflect on various connections in real world applications.
<b>Functions:</b> Interpret and build functions. Predict outcomes and patterns in real world events.	<b>Geometry:</b> Understand congruence; apply knowledge of similarity, right triangles & right triangle trigonometry; express geometric properties with equations; apply knowledge of geometric measurement and dimension. Use effective language to describe geometric relationships in our surroundings and everyday situations.	Statistics & Probability: Interpret and use statistical data to make decisions; apply knowledge of probability rules to make inferences. Reflect on effective or ineffective presentations of data or predictions.

#### Graduation standards, cont.

#### PHYSICAL EDUCATION

Knowledge and	Application and	Physical	Safety and	Active Living: Demonstrate
Motor Skills:	Strategy: Apply the	Fitness:	Respect: Exhibit	the value of choosing
Demonstrate	knowledge of	Demonstrate the	safe and respectful	physical activity for personal
proficiency in a	concepts, principles,	knowledge and	behaviors that show	challenge, self-expression,
variety of motor	strategies, and tactics	skills to maintain	care for self, others,	and enjoyment of the local
skills and	related to movement	a healthy level of	and our common	environment and resources.
movement	and performance.	physical activity	resources.	
patterns.		and fitness.		

#### SCIENCE

<b>Developing &amp; Using Models</b> Students design, evaluate and refine models through an iterative cycle of comparing their predictions with the real world and then adjusting them to gain insights into the phenomenon being modeled. As such, models are based upon evidence. When new evidence is uncovered that the models can't explain, models are modified.	Planning & Carrying-out Investigations Students design investigations that generate data to provide evidence to support claims they make about phenomena. Data isn't evidence until used in the process of supporting a claim. Students use reasoning and scientific ideas, principles, and theories to show why data can be considered evidence.	Analyzing & Interpreting Data Students use digital tools to interpret data by identifying significant features and patterns. They also use mathematics to represent relationships between variables, and take into account sources of error.
Using Mathematics & Computational ThinkingStudents use mathematics to represent physical variables and their relationships, and to make quantitative predictions. They engage in computational thinking, which involves strategies for organizing and searching data, creating sequences of steps called algorithms, and using and developing new simulations of natural and designed systems.	<b>Constructing Explanations</b> Student construct and revise explanations based on valid and reliable evidence obtained from a variety of sources (including students' own investigations, models, theories, simulations, peer review) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future.	<b>Designing Solutions</b> Students specify constraints and criteria for desired qualities of the solution, develop a design plan, produce and testing models or prototypes, select among alternative design features to optimize the achievement of design criteria, and refine design ideas based on the performance of a prototype or simulation.

#### **SOCIAL STUDIES**

<b>Inquiry</b> : Students use a process of questioning, locating, evaluating, analyzing, and synthesizing information in order to understand the world around them.	<b>History</b> : Students use primary and secondary sources to gather information about the past to help them make sense of the present and decisions about the future	Physical and Cultural Geography: Students use geographic themes to understand the physical and cultural environment and propose solutions to local and world issues.	Economics: Students apply the concepts of economics to evaluate their community, nation and world.	<b>Civics, Government</b> & Society: Students understand and exercise the rights and responsibilities of informed citizenship.
	future.			

#### WORLD LANGUAGES

Language Acquisition	Communication	Language	Exchange	Cultural Appreciation
Behaviors	Students can	Mechanics	Students	Students are empathic
Students engage in	communicate	Students understand	connect with	toward other cultures
behaviors that facilitate	about aspects of	the nature of	non-native	and understand how
development of skills in	their daily lives in	language through	language	language carries
level-appropriate forms of	a non-native	comparisons of the	cultures.	culture, values and
non-native language	language.	non-native language		beliefs.
communication.		to their own.		

### **Graduation Pathways** Commonality & Personalization

Earning a diploma from RU means that students have demonstrated proficiency in our graduation standards. Pathways toward proficiency typically involve a blend of common/required experiences and personalized programs of study that align to individual student interests, goals and needs.

In a normal school year, one common expectation is that all students are expected to carry **7 courses** each semester. This typically includes the pathway requirements listed below.

-		
	English	4 full years
	Mathematics	3 full years
	Science	3 full years
	US History	1 full year
	Social Studies	2 full years
	Phys-Ed	1.5 years
	Health	0.5 years
	Fine Arts	1 full year
	World Languages	Standards are addressed through multiple pathways.
	Life Skills	0.5 years (beginning with class of 2026)
	Senior Project	See detailed information on following pages.

#### **Common Graduation Pathway Requirements**

#### Promotion Requirements: Grade Level, Advisory Group, Etc.

A student's grade level standing is used to determine Advisory placement and class activities. (A student in an 11th grade Advisory, for example, will be eligible to hold office in the junior class.) At the end of the first semester, Student Services will update grade level and class standings, awarding credit for all semester courses. To be promoted from one grade/class to another, a student must have successfully completed the following, or equivalent:

4	full year courses at the end of the freshman year, including 1 full English course	
9	full year courses at the end of the sophomore year, including 2 English courses	
14	full year courses at the end of the junior year, including 3 English courses	
20	full year courses at the end of the senior year, including 4 English courses	

### **Student Supports at RU**

#### Literacy and Math Labs

Literacy and math labs are smaller group opportunities built into student schedules where students receive additional instruction focused on specific skills. Placement in labs is based on teacher, family, and student feedback/requests, testing data, and grades. Some students may access this support for a quarter or a semester, while others may access this support throughout the year.

#### **Structured Studies**

Structured study classes are taught by classroom teachers, and are focused on providing executive functioning and time management support. In addition to practicing specific executive functioning strategies, students will also have time to work on assignments, read, and practice other academic and life skills.

#### **Project Success**

Project Success is available to students who need behavioral support and/or a quiet work space. Students can visit Project Success during class time with teacher permission, and students with in-school suspension work in Project Success.

#### Callback

Callback is built into all student schedules on Wednesdays, and is a time for students to work with specific teachers on assignments, skill development, small group work, and more. Students are scheduled weekly by teachers or advisors.

#### **Education Support Team (EST) Plans**

EST Plans are support plans for students who may need more specific supports within the classroom beyond universal instruction. EST Plans are developed collaboratively between grade teams, families, and students, and are intended to outline and progress monitor shorter term goals for behavioral and/or academic achievement.

#### **Mental Health Services**

Students have access to our school and mental health counselors and/or our school social worker. Counselors also offer some group work opportunities for students.

### **RU Middle School Program of Study** *Overview: School Year 22-23*

The middle level program of study strikes a balance between choice based on interest and exposure to required areas of study. Here is an overview of important elements of the middle school experience.

### 7<sup>th</sup> Grade

In a typical 7<sup>th</sup> grade year, the year-long required courses are **English**, **Math**, **Science**, **Social Studies**, **Physical Education**, and **Fine Arts**. Students also take a required semester of **Health** Education and a semester of **World Language Exploration**. This array of courses meets middle school requirements of the State of Vermont Agency of Education, and curriculum is aligned with the same standards in which students must show proficiency later in high school.

<u>A special note on Fine Arts</u>: 7<sup>th</sup> grade Fine Arts includes a mixture of choral music, instrumental music, visual arts, and theater arts. Students who have been studying an instrument in elementary school will be able to continue their studies. Students who have not yet enrolled in chorus or band will be offered exposure to the world of theater arts. All students will continue their skill development in visual and performing arts. Flexible scheduling, individual lessons, and close collaboration between teachers allows us to meet the interests of a diverse student body.

<u>Special note on World Languages</u>: In 7<sup>th</sup> grade, students typically are exposed to basic skill development and cultural exploration in a world language. The State of Vermont requires proficiency in World Language standards to graduate from high school, and so we begin this learning for all students in 7<sup>th</sup> grade.

### 8<sup>th</sup> Grade

In a typical 8<sup>th</sup> grade year, the year-long, required courses are **English**, **Math**, **Science**, **Social Studies**, and **Physical Education**. Beyond these requirements, students are offered choices:

- World Languages: Spanish 1 or French 1
- Fine Arts: Band, Chorus, Visual Arts or Theater Arts
- MS Grade 8 Exploratory Coding & Robotics and other electives schedule permitting

<u>Special note on World Languages</u>: Before graduating from high school, the state of Vermont expects students to have a basic level of proficiency in a world language. (Study of at least two years of a foreign language is recommended for students applying to a wide array of colleges.) The successful completion of Spanish 1 or French 1 in middle school will meet high school proficiency requirements. Students who do not take French 1 or Spanish 1 in middle school will be expected to take an equivalent course at some point in high school.

### Middle School at RU: More Info!

**Advisory:** Advisory at RU supports students in achieving academic and personal goals, and fosters respectful, empathic relationships that strengthen our community. In the academic realm, Advisors help students with Habits of Work like Organization and Productivity, help students get in touch with teachers for academic support, prepare students for Student-Led Conferences twice a year and help students maintain a portfolio of their middle school work.

**Call Back**: This is a special time built into the weekly schedule for enrichment learning activities or to receive extra support from teachers.

**Community Partners**: RU MS has several important partnerships that support our work. For instance, our core academic teachers work closely with the RU Innovation Center and community partners engaged with the IC. In addition, school counselors work closely with organizations like GEMS (Girls Empowered Motivated Strengthened) and the Clara Martin Center and others to connect students to community mentors and other supports. International travel and exchange starts at RU in the middle school with our travel to Japan, sustained by our local community partner, Friends of Shizukuishi.

**Support Classes**: Many students enroll in classes for support. Some common supports include **Resource Room** with a special educator, and **Math Lab** or **Literacy Lab** with a math or English teacher. These support classes may take the place of other classes in a student's schedule, as determined by the grade level team, student, and family.

**Extra-Curriculars & Athletics:** There are many extra-curricular opportunities for students at RU. Past clubs open to Middle School have included Cooking, GLOW (LGBTQIA+ alliance), the Ski & Snowboard Club, Student Leadership, and others. Athletic teams include Soccer, Basketball, Baseball, Track, Lacrosse, Gymnastics, and more. Our school website will have forms/updates from our Athletic Director.

**Honors & Awards:** We traditionally celebrate academic achievement with our Honor Roll at our Middle School Assemblies. We also have a "Habits Honor Roll" for students with strong performance in their Habits of Heart and Work. In addition, special Habits of Heart Awards, generated by peer nomination in Advisory, celebrate students who strongly exemplify these values.

**Innovation Center (IC)**: Down the hallway of the Fine Arts wing is the Innovation Center, new to RU in school year 18-19, and overseen by our Director of Career & Workforce Development. Middle school learning connects to the IC frequently throughout the year when projects involve computer-assisted design (CAD), traditional tools like hammer and saw, and modern technology like the laser cutter, milling machine, and 3-D printers.

**Integrated Studies**: Throughout the year, 7th and 8th grade core academic teachers collaborate on project-based units that blend different disciplines together. These projects do not detract from time in core or elective classes. We continue to maintain an emphasis on important traditional assessments, such as tests, quizzes, research papers, science labs, seminar discussions, creative and expository writing. These units often require student collaboration and the practice of transferable skills (Habits of Work/Heart). They incorporate standards from Science, Social Studies, Math, and English. These

projects will give students the chance to apply academic skills in compelling ways. Some examples from past years: Local History Project, The Energy Project, Water & Human Impact, and more.

**Media Center / Library**: The RU Media Center offers much to RU Middle Schoolers. In addition to a wide variety of books and multimedia resources, the Media Center supports literacy in the curriculum through digital and audiobooks, classroom activities, and book promotion. Students have opportunities to participate in book groups and extracurricular clubs. The Library Media Center specialist also provides research and digital literacy skills in collaboration with classroom teachers.

**Math Acceleration:** The Common Core State Standards (CCSS) in math dictate a rigorous math curriculum as presented by the Carnegie Learning program in grades 7 and 8. This is an important foundation for all students. Students who achieve at or above proficiency can accelerate in high school by doubling up in math, typically in 10th or 11th grade. Students who are interested in acceleration in 7th or 8th grade will take an assessment in summer prior to the start of the next school year. This assessment measures proficiency in standards for grades 7-8, and is administered by the OSSD Math Director. Results are used to inform placement options in grades 7-9.

**Portfolios & Personal Learning Plans:** One of the most important parts of being a successful life-long learner is to know one's strengths and one's areas for improvement. With this in mind, we ask students to keep a portfolio of their work. Students use portfolios in conferences with families, and at the end of 8<sup>n</sup> grade they will "defend" their portfolio of work before a panel of faculty and students.

**Proficiency-Based Learning and Assessment:** In 2013, Vermont's Act 77 brought us the new Education Quality Standards (EQS), which require that high schools move away from graduation by "credit" or "Carnegie Unit," and develop systems for "Proficiency-Based Graduation." As a 7-12 school, our Middle School teachers align expectations to these same standards, adjusted to 7th and 8th grade levels. One change from past practice is that instead of regularly getting just one grade per class, students get grades and information on how they are doing in several standards for each subject area. For example, instead of just getting a "75" on a report card for English class, students get information on how they are doing in reading, writing, discussion, etc. We feel this helps students (and their teachers!) have a better understanding of each student's strengths and areas for improvement. (Our Handbook on Proficiency-Based Graduation is available via this link, and can be found on the school website.)

**Schedule of Classes**: Student Services sends home student schedules typically two weeks prior to the start of the school year. However, families are welcome to contact us at any time to discuss past, present, future classes.

**Student Services:** Kara Merrill is the counselor for middle school students and their families. She will be able to help you with scheduling, Powerschool, Schoology, counseling referrals and many other aspects of school life. Please contact her with any questions, concerns or to schedule an appointment at <u>kmerrill@orangesouthwest.org</u> or 728-3397 ext. 1143.

### **Senior Project**

Senior Project consists of six parts, all of which must be completed in a satisfactory manner and in strict compliance with the deadlines on the Senior Project Timeline. In May, a review panel will evaluate the entire year's work. The six parts of the Senior Project are as follows:

- 1. **PROPOSAL** In the spring of junior year, each student presents a proposal to a panel for mandated pre-approval in an area of study that challenges him or her and holds his or her interest during the yearlong process. The proposal includes a letter of intent, a working bibliography, a research question web, a signed mentor agreement and a parent permission form. The senior presents a proposal to a panel of community members and staff. The senior and his or her panel reach an agreement about what the Senior Project will be. (See Sr. Project Manual for more information.)
- 2. **PAPER** Each senior writes a 7 to 12 page research paper on a topic related to the Senior Project.
- 3. **PRODUCT** Each senior creates a learning experience that requires spending at least thirty (30) hours using knowledge gained from research and from working with a mentor.
- 4. **PORTFOLIO** The portfolio documents the process and journey the student used to complete his or her Senior Project. It will include the following:
  - a. documents pertaining to Senior Project
  - b. **time sheet** that records the time spent working on the product and a summary of what was accomplished during that time
  - c. journal reflecting on the work, the process and personal growth
- 5. DISPLAY The Open House in May will include the entire portfolio and product. The product might not be tangible; for example, the student might spend time tutoring or working at a service agency, but the portfolio will document what was done. Documentation might include photographs, videotape, or a slide show. Some students wish to participate in a performance as part of the documentation of their product. This usually takes place during the *Night of the Arts* in May. The Senior Project Open House in May is open for viewing by parents, students, panel members and the public.
- 6. **DEFENSE** Each senior will present an eight to ten minute oral defense of his or her entire Senior Project to the panel in May. The oral defense is followed by a five- to eight-minute question and answer period.

If a senior does not complete any one of the five parts in a satisfactory manner or does not meet one of the published deadlines, the student and his/her parent(s) will be notified that the senior is ineligible to graduate in June. At that point the senior may appeal to continue in the Senior Project process. (See Sr. Project Manual for more information.)

Senior Project is an important way for students – and our community – to engage in an exciting learning process that allows our students to demonstrate the independent learning skills they have cultivated over their time at Randolph Union.

### Multiple Pathways Early College, ILOs, and More

As noted above, pathways toward proficiency in our graduation standards are a blend of required courses and personalized options via "multiple pathways." Below are descriptions of the multiple pathways that are open to students at Randolph Union. Some of these options are available only to students in the upper grades - but not all of them. Students, if you are not sure what options are open to you - or whether we might be able to make an exception to the general rule - just ask!

#### Independent Learning Opportunities (ILOs)

Students – What do **you** want to study? RU offers Independent Learning Opportunities to students who wish to explore topics or disciplines in a depth that may be hard to achieve in standard classes. Past ILOs have focused on business management, nonfiction narrative writing, architectural drawing, sports journalism, goat farming, veterinary science, a study of the societal conditions that give rise to the need for animal shelters, sports nutrition, pre-season training, and a variety of foreign languages and cultures. Strong Habits of Work are a must – an independent work ethic is vital to student success in an ILO - and a "teacher of record" must approve the plan of study in accordance with the student handbook. An ILO is individually titled and can really make a student transcript or resume stand out. See a school counselor or our Director of Applied Learning for more information.

#### Early College at Vermont State Colleges and Norwich University

With the 2013 passage of the Flexible Pathways bill (Act 77), Vermont's Early College Program has expanded with funds being made available to students for programs that are operated or overseen by one of the Vermont State Colleges or by an accredited private postsecondary school located in Vermont. See your counselor to learn about these early college opportunities. Students who attend any of these early college programs must complete RU Senior Project in order to graduate with a RU diploma. To begin this process, students need to speak with their school counselor and complete the Early College Advisement Form.

#### Early College at VTC

**VAST: Vermont Academy of Science & Technology** is a program for high school seniors at Vermont Technical College. This is an exciting chance for students to complete their final year of high school and first year of college at the same time. Students who successfully complete the VAST program receive a VAST diploma. Students may also receive a RU diploma if all RU graduation requirements, including Senior Project, are met. To begin this process, students need to speak with their school counselor and complete the Early College Advisement Form. (Note: There are certain RU Community Scholarships that become unavailable to students who do not receive an RU diploma.)

#### **Dual Enrollment at Dartmouth College**

The Special Community Student High School Program at Dartmouth College allows eligible seniors to take one course per term during the fall, winter and spring terms. Juniors may enroll during winter and spring terms only. Students must be recommended by a high school principal, counselor or school official. The tuition for this program is free to the student. Students are responsible for their books and transportation.

#### **Dual Enrollment at Vermont State Colleges**

High school juniors and seniors are eligible to take two college courses at Vermont colleges and universities tuition-free. Please see your school counselor for more information.

#### **CBL: Community-Based Learning**

RU is proud to be continually expanding CBL opportunities for students. CBL opportunities allow students to leave the confines of the school while continuing to meet RU graduation standards in various content areas. Our current CBL, Entrepreneurship & Manufacturing, and Water Resource Management & Public Policy, offers work based learning and exposure. (Course descriptions for these CBLs can be found in the Science and PBL sections.) Our Director of Applied Learning works with all faculty to connect class content with hands-on experiences in the community.



#### WBL: Work-Based Learning

Work-based learning at RU is possible through our Independent Learning Opportunity (ILO) program. The school maintains excellent relationships with regional employers. For more information, please see your school counselor or the Director of Applied Learning.

#### VT Virtual Learning Consortium

In an effort to offer expanded course offerings to students, RUHS utilizes the online educational organization called the Vermont Virtual Learning Consortium (VTVLC). VTVLC courses are available to a limited number of students each semester with preference given to seniors and juniors. Sophomores will be considered on a space-available basis. Learn more about VTVLC by visiting <u>vtvlc.org</u>. Interested students should talk with their school counselor about this opportunity.

#### **AP: Advanced Placement Courses**

AP classes follow a national curriculum and learning is assessed by taking a national exam. High marks on the exam can earn a student credit at certain colleges. This is a unique learning opportunity that allows students to take college-level courses and exams here at RUHS. AP courses are available in biology, calculus, physics, language and composition, literature and composition, world history, U.S. history, and statistics. It is expected that students enrolled in AP courses will take the corresponding AP exam. The exam cost will be paid by the school.

### **Applied Learning:**

Independent Learning Opportunities, Project-Based Learning, Community-Based Learning, Integrated Studies, and More!

- Independent Learning Opportunities (ILOs): RU offers Independent Learning Opportunities to students who wish to explore topics or disciplines in a depth that may be hard to achieve in standard classes. Past ILOs have focused on business management, nonfiction narrative writing, architectural drawing, sports journalism, goat farming, veterinary science, genetic modification, engineering and watershed studies using the Innovation Space, sports nutrition, pre-season training, and a variety of foreign languages and cultures. Strong Habits of Work are a must an independent work ethic is vital to student success in an ILO and a "teacher of record" must approve the plan of study in accordance with the student handbook. An ILO is individually titled and can really make a student transcript or resume stand out. See a school counselor or our Director of Career Development and Flexible Pathways for more information.
- **Project-Based Learning (PBL):** Our PBL courses engage students in collaborative approaches to solving common problems in our community and broader society. In the past, we have offered PBLs on a wide range of topics: Racial Justice, Climate Change, Restorative Justice, International Development & Travel, Local Community Service (Interact), Food Systems, Digital Music Production, Emotional Wellness, Economic Inequality, and more. More info below about this year's offerings!
- Community-Based Learning (CBL): The STEAM & Innovation Center educator offers two immersive, applied learning manufacturing courses: Manufacturing & Design I and Manufacturing, Design, & Entrepreneurship II. Both courses develop student exposure to industry standards and safety, processes and methodologies, Computer-Aided Design and Drafting (CADD), and traditional and CADD assisted tool training. Students will also be exposed to a wide array of central Vermont manufacturing companies through field trips, guest speakers, and informational interviews to help examine and understand the diversity of local business & entrepreneurial models. Partners in this work have included Vermont Manufacturing Collaborative and Vermont Technical College, VtSBDC, and several local area manufacturing businesses. See the STEAM & Innovation Center educator for more information.
- Integrated Studies: Our middle school teachers collaborate across disciplines to create special units of learning called "Integrated Studies." The Tarrant institute for Innovation in Education has been an important support for this work in the past. The STEAM & Innovation Center educator collaborates with and supports teachers in designing and implementing a variety of integrated studies' units. More info below about this year's offerings!
- The STEAM & Innovation Center: These applied learning units allow students to explore basic manufacturing technologies and reinforce, apply, and transfer academic knowledge and skills to a variety of interdisciplinary and relevant projects. Past work with the STEAM & Innovation Center educator includes units covering math-based building of bird-houses, book-binding projects, thematic board game design and implementation, Vermont-based wall-mounted 3-D representations of personal "spirit animals," and computer-assisted design and drafting (CADD) created visual representations of learning about the industrial revolution. See the STEAM & Innovation Center educator and below for more information.

# PBL Offerings SY 23-24

[Note: More offerings may be added before Fall of 2023]

Racial Justice: How can we advocate for and create a more equitable community? (English/ Social Studies standards)

In this PBL Challenge, students will respond to increasing community concerns about social injustice in our local and national community. Students will work with area experts to establish and maintain a Racial Justice Student Alliance here at RU, with the goal of raising awareness around racial injustice to create a safer and more educated environment for all community members. Students will study the history of social injustice in our country, including the creation of race, the function of class division, and the history of exclusion based on gender and sexuality. In studying these histories and contemporary impacts, students will be encouraged to question and reimagine the power dynamics that contribute to an inequitable society . Through the PBL, students will work with their peers to educate our school community about current issues, and will work with teachers to develop inclusive curricula. Throughout the year, students will work to recruit RJSA members, establish goals, and host regular meetings and events. In participating in this PBL, students will learn about organizing around social issues and advocating for change through education and civil resistance. <u>Career Pathways</u>: This PBL challenge will appeal to students interested in careers in social justice, community organizing, social work, political science, history, and education.



#### Food Systems: How do we create community through food? (English standards)

The Vermont Department of Health recently released a simple way to understand chronic disease in VT: 3-4-50. 3 behaviors lead to 4 diseases that result in 50% of deaths in the state. Many of these conditions are rooted in what we eat, so what do we do about all of this? Most consumers believe that eating healthy is cost-prohibitive, often selecting unhealthy, yet affordable products to feed themselves and their families. In this PBL Challenge, we will do the research necessary to understand the issues that prohibit people from engaging in a more healthy lifestyle, meeting with experts, getting out into the community, and advocating and implementing change in the school and local community. We will take a journey together through the food systems pathway, from germination to propagation to harvest and distribution, all the while analyzing the challenges of sustainability, cost, and other factors that may contribute to the myth that eating healthy is complicated and unaffordable, and inviting and welcoming others to create community through a study of food systems. In addition, this PBL spends a significant amount of time in the kitchen learning food preparation skills and producing affordable, high quality homemade

foods. <u>Career Pathways</u>: This PBL Challenge will appeal to those students interested in career fields such as sustainable agriculture, food service, supply chain management, economics, political science, biology, and nutrition.

#### Restorative Justice: Do our schools and courts treat people fairly? (English Standards)

Do VT schools discipline students fairly? Do some kinds of students get suspended more often than others? Does a school suspension have any connection to dropping out? And what about our legal system: Do the courts treat people fairly? Does VT have too many prisons - or not enough? Should people with mental health challenges go to jail if they commit a crime? How should people with opiate addiction be treated when in custody? In this PBL challenge, we will begin by raising and researching questions like these. Then we will look at Restorative Justice practices, and how schools and communities can find ways to heal and repair - while still holding people accountable for wrongdoing. We will learn from local advocacy groups, law enforcement, human rights, and legal experts to help us determine what we can do in our school and community to ensure that we treat people fairly - even when they make mistakes and do harm to others. Career pathways: This challenge will appeal to students interested in career fields such as law, criminal justice, public policy, and human rights.

Mindfulness and Movement Exploration: How can we improve our mental and physical wellness?

(Physical Education standards) This PBL will explore the ways in which an active lifestyle, good nutrition, mindfulness, and a sense of purpose can all help a person to live a healthy life. Students will engage in journaling, goal setting, weight-bearing exercise, yoga, outdoor activities and more. Community partners will help students understand the roles that these elements play in their lives and expose students to a variety of paths to self-care and wellness. Career Pathways: This PBL Challenge will appeal to those students interested in career fields such as physical education, physical training, physical therapy, mindfulness, nutrition, kinesthetics, and others.

**Digital Music Performance: How can technology democratize music production? (Music standards)** Prior to the "desktop revolution," the ability to create music digitally was out of reach for all but a few successful and wealthy composers. Today, technological tools that were only a dream for most people in the past are now commonplace, and the Internet allows us to share our ideas with the world. This PBL challenge will focus on understanding how these tools work and how they can be used to compose and share evocative music and meaningful dialogue. This will involve exploring music theory (rhythm, melody and harmony), basic piano skills, composition, history, engineering, physics, live sound reinforcement, communication, writing, and psychology. While this list of disciplines (particularly the musical ones) may sound daunting, the computer makes most of them accessible even if you are not a skilled performer. Topics will be addressed by focused individual and group projects and will culminate in the submission of a song to a class album. <u>Career Pathways</u>: This PBL Challenge will help prepare students for almost any career in communications requiring content creation skills and teamwork such as video editing, web design, digital photography, theater, copywriting, live sound, and broadcast production.

### DREAM Mentoring: How can I invest in my community through peer relationships and leadership opportunities?

DREAM staff will lead high school students through a mentor-in-training curriculum to kick off a two year mentoring relationship. High school mentors will gain the tools, resources, and confidence to provide mentorship to elementary school-aged youth, and they will be mentored by a young adult Guide throughout their experience.

They will explore how their identities intersect with their community and be empowered to create social change - and they'll have a blast doing it!

The two-tiered, guided mentoring approach highlights that, throughout our lives, we are both mentors, those who provide guidance to others, and mentees, those who learn from and lean on others. Often we find ourselves in both roles. It is important for youth to learn when and why to shift between these two roles, and to explore how they can show up authentically. Spending meaningful time with peers in growth-experiences optimizes this learning.

The curriculum focuses on developing powerful mentoring relationships, a deeper understanding of identity, a stronger sense of place, and greater meaning and purpose. With layered support and an increased sense of connectedness, youth will have a newfound confidence in working together to make their community a better place so *all* young people feel safe, supported, and connected. The DREAM experience begins with a mentoring retreat to establish a foundation for the journey ahead, introducing the curriculum and beginning to learn about best mentoring practices. The experience culminates with a capstone project designed to have a lasting impact on their communities and reflect their learning about their communities and the roles they play.

# **CBL Offerings SY 22-23**

### 2023-24 STEAM & Innovation Center Course Offerings:

Imagine YOUR story here!

# Applied Engineering and Technology I & II (PBL): PLTW Engineering Essentials Semester courses (.5 credit each)

This course utilizes Project Lead the Way (PLTW) curriculum where students explore the work of engineers, and their role in the design and development of solutions to real-world problems.

Students will be able to identify and explain the engineering design process, study engineering concepts that cross multiple engineering disciplines, and build technical skills through a variety of engineering tools.

As students progress, course work will transition from guided activities to solving open-ended projects and problems that develop planning and technical documentation skills. This course will be a mix of theoretical and applied learning that stresses critical thinking, problem solving, collaboration, inter and intra-personal communication, ethical reasoning, persistence, and professionalism. Career exploration, college visits, work with industry partners, and guest speakers will also be part of this course.



#### Digital Photography I: Fundamentals Semester course (.5 credit)

As photographers, you see the world in new and exciting ways. Your curiosity and passion drive you to create moments that can become a powerful voice for change and to freeze memories into beautiful and inspiring keepsakes. You are as captivated by how light behaves to move emotions and tell a story, as you are fascinated by the science behind capturing an image.

In this course, students will explore both the art and science behind digital photography; and build a foundation in digital photographic equipment, design principles and aesthetics, image workflow and manipulation, and storage and presentation. All students will be provided a camera for use, will be completing several projects for presentation using Adobe Lightroom and Express, and will be creating a portfolio of work. Basic drone photography will be introduced in the last couple weeks as well.

Professionalism, perseverance, curiosity, collaboration, ethical reasoning, critical thinking, and problem solving skills are all integral to the work to be completed throughout the course.

# Digital Photography II: Advanced Semester course (.5 credit)

(Prerequisite: Digital Photography I: Fundamentals or permission from STEAM & Innovation Center educator)

This course builds upon the photographic techniques, skills, and scientific understandings developed in Digital Photography I: Fundamentals. It will also be expanding student use and understanding of those areas, plus RAW image manipulation, filters, and creative printing. Students will be introduced to Adobe Photoshop, complete additional skill building and training in drone photography with the option for drone certification, and explore how to develop a business and marketing plan for their work.

Professionalism, perseverance, curiosity, collaboration, ethical reasoning, critical thinking, and problem solving skills are all integral to the work to be completed throughout the course.

# Innovation and Applied Design Thinking Semester course (.5 credits)

As a creative, do you find excitement in coming up with new ideas and useful products? As an innovator, do you find reward in seeing those ideas and products successfully implemented?

In this course, creativity and innovation work hand-in-hand and to engage in that synergy, students will be utilizing the design thinking process to apply creative and innovative project design solutions.

In addition to that work, students will be using critical thinking and problem solving skills as they collaborate in small groups and interactive discussions, practicing their inter-and-intrapersonal communication techniques, building their data literacy & fluency, and demonstrating professionalism and perseverance as they design and construct project artifacts and build an innovation culture.

Course projects will be a combination of self-identified passion projects, and community-based needs projects. Career exploration, field trips, and guest speakers will be part of the course experience as well.

During the course, students will be using and developing skills in:

- Measurement, Materials & Safety
  - OSHA-10 certification required
  - Standards of Operation for specific tools covered in this course
  - Data Literacy and Fluency
- **Basic CADD assisted programming** to help visualize, plan, design and implement product generation and iteration
- Additive and Subtractive technologies at this level, the specific tools/mediums will be covered:
  - Hand tool uses and methodologies
  - FDM/FFF 3D printing (Ultimaker)
  - Laser Engraving and Cutting
  - Vinyl cutting and printing
  - Ink Printing
  - Molding
- Management and project workflow tools
- Inter and Intrapersonal communication skills

#### Manufacturing and Design I (CBL) Semester course (.5 credit)

(Prerequisite: Innovation and Applied Design Thinking or permission from STEAM & Innovation Center educator)

Vermont has a rich and varied manufacturing history that ranges from traditional tooling and processes to advanced CADD based technologies. This course will expose students to the history of manufacturing, modern industry standards and safety, manufacturing processes and methodologies - including Computer-Aided Design and Drafting (CADD), and traditional and CADD assisted tool training, and rapid prototyping. Career exploration, field trips and college visits, work with industry partners and guest speakers will also be part of this course. Partners in this work include the Vermont Manufacturing Collaborative and Vermont Technical College, VT SBDC, and several local area manufacturing businesses.

Professionalism, perseverance, curiosity, collaboration, ethical reasoning, and critical thinking and problem solving skills are all integral to the work to be completed throughout the course.

During the course, students will be using and developing skills in:

- Measurement, Materials & Safety
  - OSHA-10 certification required
  - OSHA-30 certification optional
  - Standards of Operation for all tools
  - Data Literacy and Fluency
- Advanced CADD to help visualize, plan, design and implement product generation and iteration
- Additive and Subtractive technologies at this level the tools/mediums covered:
  - CNC ShopBot (Computer Numeric Controlled machining)
  - CNC Wazer water jet (Computer Numeric Controlled machining)
  - Sewing and textiles
  - **PLUS**: all the tools covered in the Innovation and Design Thinking course
- Product market research, quality assurance, and evaluation skills
- Management and project workflow tools
- Inter and intrapersonal communication skills

#### Manufacturing, Design, and Entrepreneurship II (CBL) Semester course (.5 credit)

(Prerequisite: Manufacturing and Design I or permission from STEAM & Innovation Center educator)

This course is an extension of Manufacturing and Design I. Students will come to this class with the requisite background in skills and knowledge acquired in the Manufacturing and Design I course. Students will continue their skill development in CNC tools and safety training, as well as begin the introduction of business and entrepreneurial concepts.

To support that work, students will be exposed to a wide array of central Vermont manufacturing companies through field trips, guest speakers, and informational interviews to help examine and understand the diversity of local business & entrepreneurial models. Partners and resources in this work will include the Vermont Manufacturing Collaborative and Vermont Technical College, VT SBDC, VMEC, VBSR, and several local area manufacturing businesses.

### **Humanities: English**

It was books that taught me that the things that tormented me most were the very things that connected me with all the people who were alive, or who had ever been alive.

- James Baldwin

**Mission**: In the English department, it is our mission to contribute to a literate community by teaching students to read, speak, write, listen and think in a variety of contexts, recognizing language as an essential tool in problem-solving.

**Typical course sequence**: Students typically take English 9 in 9th grade and then English 10 in 10th grade. The other two English courses that students take during their four years of high school vary. 9th and 10th graders may take Jr/Sr electives by permission of the instructor.

#### 9th & 10th Grade Courses

**English 9:** In this class, students will develop their reading, writing, speaking and listening skills by exploring various themes connected to Social Studies 9. Students will write personal, narrative, and analytical essays, as well as participate in a variety of discussions. Skills building will focus on active reading strategies and productive writing processes. A range of texts will be used, including short stories, poetry, fiction and nonfiction. Students will explore how we read texts to better understand our world. Through this lens, they will investigate how social issues like oppression, poverty, discrimination, and gender affect individuals and communities, and how we can use this knowledge to shape change.

**English 10:** In English 10, students will study texts written from various perspectives and time periods in order to continue developing their critical thinking, writing, and discussion skills. By studying diversity, social relationships, and power, students will consider challenging ethical questions relevant to their current lives through both fiction and nonfiction texts.

#### Junior/Senior English Courses

Advanced Placement (AP) Language & Composition: Advanced Placement Language and Composition is a college level course designed to prepare highly motivated students for success on the AP Language exam. Following The College Board<sup>™</sup> syllabus, students in AP Language will study and develop evidence-based analytic and argumentative essays that proceed through several stages or drafts. Students evaluate, synthesize, and cite research to support their arguments. Throughout the course, students develop a personal style by making appropriate grammatical choices. Additionally, students read and analyze the rhetorical elements and their effects in current and past non-fiction texts, including graphic images as forms of text, from many disciplines and time periods.

**American Literature:** Students will read a variety of American novels, spanning from commentaries on our first settlements in New England to contemporary and postmodern experiments in literature, as well as short stories and poetry by American writers. Students will tackle sophisticated college-level texts and will approach the literature in a critical and purposeful way. Students will generate persuasive and analytical responses to literature, and showcase their skills in evidence gathering, synthesizing information and writing focused thesis statements. Texts may include, but are not limited to the following: *The Great Gatsby, Slaughterhouse V, Their Eyes Were Watching God, The Things They Carried, Death of a Salesman, Raisin in the Sun, Ellen Foster, The Awakening.* 



**Creative Writing:** In this course you will read and write creative prose and poetry. The readings will provide models for the writing assignments, which are staged over a period of one to four weeks, with ample opportunity for feedback and revision. Our goal as a class is to gain a greater understanding of the writing process and the meaning of writing by reading various author interviews and essays. Through a variety of writing exercises, you will practice your craft, and learn what makes your personal voice in writing unique. As a class we will develop a protocol for critically discussing others' works and evaluating our own.

**Dystopian Literature:** In this class, we'll look at worlds gone horribly wrong, where totalitarian governments crush individual rights, where the dream of a perfect society has turned into a nightmare. We'll also look at our own world, and discuss whether these science fiction stories might shed some light on real events and trends in modern society. If you're a fan of The Hunger Games or Divergent, you might want to see where Susan Collins and Veronica Roth got their inspiration. Reading list will be determined largely by student interest, but may include: 1984 by George Orwell, Brave New World by Aldous Huxley, The Handmaid's Tale by Margaret Atwood, Fahrenheit 451 by Ray Bradbury, Lord of the Flies by William Golding or The Road by Cormac McCarthy. The culminating project in this class will be to create your own dystopian narrative.

#### Senior English:

This course provides a great deal of choice and a great deal of support as students continue to practice literacy skills in the areas of reading, writing, speaking, and listening in preparation for their post-graduate paths. Areas of focus will include Senior Project, College Essays, and Career Readiness. Students will also explore their own passion projects and community connections as we read, write, and celebrate together in this final year of high school English.

#### Flexible Pathways: English

PBLs: PBL electives that may meet graduation standards in this subject area include:

- Restorative Justice PBL
- Yearbook PBL
- Interact

See the PBL offerings section for more information!

ILOs:

• Talk to your counselor for more information or if you have an idea for an ILO in this area.

#### **Future Offerings**

Our offerings shift based on enrollment and need. Sometimes we rotate offerings from one year to another. Potential future offerings include:

(AP) Literature and Composition: Advanced Placement Literature and Composition is a college-level course designed to prepare highly motivated students for success on the AP Literature exam. Following The College Board<sup>™</sup> syllabus, students in AP Literature will study representative works from various genres and periods at a collegiate level to sharpen their awareness of language and their understanding of the writer's craft. Frequent writing assignments will focus on the critical analysis of literature. Additional writing includes creative and expository pieces in personal essay, narrative, and poetry, as well as a research paper. Upon successful performance on the Advanced Placement exam, students may earn up to three college credits and/or advanced placement in college English. A significant summer reading and writing assignment is required for this course.

#### Poetry Workshop

Students will address the questions, "What is a poem?" and "What makes a poem different than a story?" as well as, "Do poems have to rhyme?" in a workshop style format. Students will study the works of traditional and contemporary poets – identifying and defining writing tools and poetic devices employed by these writers. Students will compare and contrast styles and forms of poetry. Students will write a minimum of one poem per week to be shared and discussed in our constructive and critical writing community. Students will assemble a poetry portfolio to demonstrate their knowledge and learning. Poets studied may include, but are not limited to the following: Matthew Dickman, Tony Hoagland,

Billy Collins, Mary Ruefle, Lucille Clifton and Elizabeth Bishop.

#### Non-Fiction

Students will move away from fictional literature to study essays, documentaries, biographies, photographs, print/radio/web journalism and other books exploring popular social, scientific, political and economic commentary. Students will be selecting an issue of interest/controversy, writing in a journalistic style, and designing a project to engage the community based on their learning. Authors of interest may include, but are not limited to: Oliver Sacks, Daniel Pink, Malcolm Gladwell, Thomas Friedman, Tracy Kidder, John McPhee, Studs Terkel, Levitt and Dubner. Vermont Field of Knowledge Standards include: Diverse Literary Traditions; Response to Text; Point of View. Vermont Vital Results Standards: Writing Dimensions; Writing Conventions; Responses to Literature; Information Technology; Research.

#### World Literature

Students will study a wide range of literary works by authors from five of the seven continents. As our world becomes increasingly global due to the influence and impact of the Internet, students will brush up on their understanding of non-Western cultures and their literary traditions. Students will generate personal essays, persuasive and analytical responses to the literature, and showcase their skills in evidence gathering, synthesizing information, and writing focused thesis statements. Texts may include, but are not limited to the following: *Things Fall Apart, Midnight's Children, The Samurai's Garden, The Kite Runner, Red Azalea, To Live,* as well as short Works by *Gabriel Garcia Marquez, Jorge Luis Borges, Isabel Allende, Haruki Murakami, Jhumpa Lahiri, Edwidge Danticat.* 

#### Food and Travel Writing

Students will examine contemporary food and travel writers – their writing styles, medium, and topics of exploration. Students will publish their thoughts on food and travel in a blog, video, school or local newsletter. Students must be accountable when "on assignment" off-campus, as they make and write their observations of new people, places, and food. In the second half of the semester, students will be responsible for cooking a meal, designing an ideal restaurant experience, and writing critical food and restaurant reviews for/of their peers. Resources may include, but are not limited to the following: Food Network, Travel Channel, and smittenkitchen.com.



### **Humanities: Social Studies**

To be hopeful in bad times... is based on the fact that human history is a history not only of cruelty, but also of compassion, sacrifice, courage, kindness. What we choose to emphasize in this complex history will determine our lives.

- Howard Zinn, American Historian

**Mission:** In the social studies department, it is our mission to aid students in understanding the development of human society and to help them acquire the skills for the continuation of that society. We want students to understand their places in societies, both modern and past, and understand how different changes and continuities have connected the two. We want students to know how and why social change occurs and how American and global institutions have enhanced that change. Upon completion of our curriculum, students should be able to use inquiry to increase their understanding of history, geography, civics and economics to analyze historical events and propose solutions to current global, domestic, and local issues.

Typical course sequence: Students typically take US History I in Grade 9 followed by Modern

World History in Grade 10, and by US History II in 11th grade.

#### US History I (Grade 9)

US History I provides foundational knowledge of significant events, individuals, and trends in United States history from the colonial era through the American Civil War. In cooperation with English 9, the course connects social and political issues from these eras to modern-day America. The course uses readings, expository writing, and seminar discussions to develop evidence-based civil argumentation skills.

#### Modern World History (Grade 10)

In this class, students examine the Essential Question "What forces have shaped the modern world?" Students begin their study with the Industrial Revolution and creating projects in the Innovation Center, followed by units on revolutions throughout the 19th and 20th centuries, colonization and decolonization in Africa, World War II and the Holocaust, the Cold War, and globalization. Throughout the course students practice working with primary and secondary sources to better understand historical periods, and how we can use historical artifacts to understand our present world. Students build on research skills throughout the year, culminating in a 10th grade research paper on a topic of their choice that addresses a question of historical significance within the modern world history period.

#### US History II (1865 - present)

This course explores American history from the Reconstruction period through the present day. Using case studies, role plays, seminar discussions, oral history interviews, and independent research, students will explore the events and historical forces that shaped the world we live in today, and evaluate various perspectives about the lessons we should learn from these events to help us make sense of the problems we face today. This class will focus on developing research and writing skills to prepare students for Senior Project, and on developing the knowledge and skills to be informed, engaged citizens.



#### **AP World History**

The AP World History course focuses on developing students' understanding of world history from 1200 CE to the present. Students investigate the content of world history for significant events, individuals, developments, and processes in four historical periods, and develop and use the same thinking skills

and methods employed by historians when they study the past. The course also provides five themes that students explore throughout the course in order to make connections among historical developments in different times and places encompassing the five major geographical regions of the globe: Africa, the Americas, Europe, Asia, and Oceania. Students will focus much of their energy on preparation for the National Advanced Placement Examination in May.

#### **AP US History**

AP U.S. History is designed to be the equivalent of a two-semester introductory college or university U.S. history course. In AP U.S. History, students investigate significant events, individuals, developments, and processes in nine historical periods from approximately 1491 to the present. Students develop and use the same skills, practices, and methods employed by historians: analyzing primary and secondary sources; making historical comparisons; utilizing reasoning about contextualization, causation, and continuity and change over time; and developing historical arguments. The course also provides seven themes that students explore throughout the course in order to make connections among historical developments in different times and places: American and national identity; migration and settlement; politics and power; work, exchange, and technology; America in the world; geography and the environment; and culture and society.

#### Introduction to Economics (Semester-long)

You may think it's all graphs and numbers. You may think that Economics is boring. You may think that you could *never* understand terms like "collateralized debt obligations" or "aggregate demand" and that even if you *could*, it would never help you in your life. But you'd be wrong. This course is tough, but it is also practical, interesting and extremely relevant. By the end of the semester, you will be able to use economics to predict how gas and food prices might change over time, decide how best to pay for college or a car, evaluate politicians' plans to fix the economy, invest your time and money most effectively, and decide for yourself how worried you should be about our national debt. Completing homework, studying for quizzes and actively participating are keys to success in this course.

#### Archaeology Case Studies in the American Southwest I (Spring Semester)

This course provides an introduction to archaeological theory and methods through the study of the Ancestral Puebloan (Anasazi) peoples of the Four Corners Region. Students will explore the development of civilization from the Archaic era up through Modern Puebloan societies, including the cliff-dwellers of the Pueblo II era. We are hopeful that there will be a week-long field trip to the Crow Canyon Archaeological Center in Cortez, CO. Students will also analyze and propose solutions to contemporary issues that face indigenous peoples in the Southwest.

#### Sociology: Nature and Nurture; Rights and Wrongs (Semester Long)

Once you have taken Sociology, you will never look at the world the same way again. This is because Sociology is not a body of knowledge, but a way of thinking about how human societies function. We'll ask (and attempt to answer) questions like: "What attributes do all cultures share?" "Are we born with our morals, or do we learn them?" "What are the unwritten rules of social interaction and what happens when they are broken?" and "Under what conditions will ordinary people behave in extraordinarily evil ways?" If you take this course, expect to read, write and share your ideas in class on a regular basis; I promise it won't be boring, but this is not an elective you can coast through. The final exam will be a research project in which you investigate a topic that interests you, collect and interpret data, and present your findings.

#### CBL/Social Studies: Water Management: Public Policy and Practicality (Spring Semester)

One of Vermont's greatest resources is its water: you can't depend on your Mountain State to remain Green unless you understand how to manage water and keep your supply of it healthy. Water is a natural, vital, and incredibly powerful force. It is necessary to maintain life, but it is also capable of astounding destruction. Destruction by water can come slowly, quietly trickling, or it can rise and arrive in a seeming instant: rushing madly in. From drinking water wells to storm water to the water that floats our boats, water seeps into nearly every aspect of civic life, and it impacts nearly every career. This course looks at the public policy that keeps our water safe, the engineering that keeps us (relatively) safe from water, and the science behind water quality testing and cleanup. We will make use of many field trips to see science in action, providing many hours of experience witnessing policy and science at work. It is a good choice for students wishing to pursue further education and careers in Environmental Science, Civil Engineering, Public Policy, Agriculture, & Forestry.

#### **Flexible Pathways: Social Studies**

PBLs: PBL electives that may meet graduation standards in this subject area include:

Racial Justice

See the PBL offerings section for more information!

ILOs:

• Talk to your counselor for more information or if you have an idea for an ILO in this area.

#### **Future Offerings**

Our offerings shift based on enrollment and need. Sometimes we rotate offerings from one year to another. Potential future offerings include:

Famous Supreme Court Cases Students will use role-play activities, discussions, presentations, and response papers to probe the purposes, degrees, and ramifications of law. Some of the many skills and concepts addressed in this course include critical evaluation, research and analysis, synthesis and application, citizenship, and human rights. Willingness to be an active and informed participant in classroom discussions is absolutely essential.

**The 1950's: A Seminar** Students in this course will explore topics such as the postwar economic boom, US foreign policy, popular American culture, and the Cold War in greater depth. We will examine a selection of art, literature, music, and film from the period. Works by Loren Baritz, Norman Rockwell, Betty Freidan, David Halberstram, Lorraine Hansberry, Studs Terkel, Grace Mettalious, Elvis Presley, and Sloan Wilson may be given particular attention. Site visits to 1950's landmarks, and a reading of Howard Frank Moser's *Northern Borders*, will be expected in further exploring this time period.

#### **Current Issues and Trends**

The Current Issues course provides opportunity for applying inquiry, analysis, and deliberative skills on: human rights and social justice issues; geopolitical relationships and "hot spots" in the world. Every two weeks we will research and report our findings on the issue/theme being covered. These themes will include, but are not limited to: poverty, human rights, human trafficking, global security, gender issues, crime and punishment, famine and food insecurity, war and conflict, economic equity, religion, and access to education. Connections among history and social science disciplines provide a context for developing creative, integrative perspectives on current issues.

#### Psychology

This course focuses on individual behavior and why an individual thinks, feels, and reacts to certain stimuli. Major emphasis will be placed on research methods, stages in childhood and adolescence, how the brain works, altered states of consciousness, which may occur through sleep deprivation, sensory deprivation or overload, neurochemical imbalance or trauma, psychological testing, and psychological disorders.

# **Mathematics**

In the broad light of day mathematicians check their equations and their proofs, leaving no stone unturned in their search for rigor. But, at night, under the full moon, they dream, they float among the stars and wonder at the miracle of the heavens. They are inspired. Without dreams there is no art, no mathematics, no life. - M. Atiya

**Mission:** The mission of the mathematics department is to provide students the mathematical tools to analyze and communicate about the world around them. To this end, the department provides students with systematic, logical problem-solving strategies. This is accomplished via multi-faceted experiences where students first apply critical thinking skills to achieve clarity and focus on situations or events. They then use these skills to translate a problem to a mathematical model, and solve. To this result, students are able to communicate and defend their observations and conclusions using the language of mathematics.

#### Math Curriculum and program:

RUHS offers a sequence of Common Core math courses published by Carnegie Learning. This program was adopted in grades 7-11 for the 20-21 school year, and was implemented, with support from the publishers, throughout the challenges of our global pandemic. Its strengths in technological presentations, modeling, analysis, real world applications, and communication of learning were instrumental in moving our students forward in a trying time.

This program uses a rigorous integrated problem solving approach to enhance student learning habits through investigation of related topics and skills, much like those one could find in real life. Students will develop mathematical reasoning and computation skills through collaboration, critical thinking, and related skills practice. Integrated math is especially timely for our current need to support all domains of mathematics as effectively as possible in distance learning.

Our middle school offerings have, for a few years, had an integrated approach that combines different domains of math (pre-algebra, algebra, geometry, statistics, etc). RU students will continue in high school with an integrated curriculum that covers the traditional domains of Algebra, Geometry, and Statistics. We call it "AGS" for short.

A typical sequence is AGS 1 in 9th grade, then 2, and 3 in successive years. Students have opportunities for support through math labs and our math interventionist. Students have opportunities to accelerate and take Pre-Calculus, Calculus and/or AP Calculus by their senior year. This is typically done by doubling-up on math classes later in high school. Please see your school counselor with questions.

**AGS 1** (Algebra, Geometry & Statistics 1): This first class in our series of three courses uses a rigorous integrated problem solving approach to enhance student learning habits through investigation of related topics and skills, much like those one could find in real life. Students develop mathematical reasoning and computation skills through collaboration, critical thinking, and related skills practice. This instruction

is supported through an online digital skills support program called Mathia. The content included in AGS 1 includes analysis and manipulation of functions, systems of equations and inequalities, coordinate graphing, one-variable statistics, constructions, and rigid motion congruence theorems.

**AGS 2** (Algebra, Geometry & Statistics 2): This second of three course series continues the use of Mathia as a skills support for further development of the integrated content. The content includes algebraic analysis of geometric shapes and relationships, trigonometric relationships and applications, 3-D investigations and comparisons, further development of functions to quadratics with applications.

**AGS 3** (Algebra, Geometry & Statistics 3): This third of our series of integrated courses still employs the Mathia site as the skills support for the content that includes deeper analysis and structure of algebraic patterns and quadratics, comparisons of polynomial equations and models, rational and irrational functions with logarithmic expressions and modeling, further applications of trigonometry, and data interpretations and arguments using these previous tools.



**Precalculus** This course is offered as a prerequisite for those students interested in taking Advanced Placement Calculus and college Calculus. The course finishes the study of functions of two variables: polynomial, exponential, logarithmic, trigonometric and the conic sections. Mathematical reasoning, problem solving, understanding multiple perspectives, and use of graphing calculators will be stressed.

**AP Calculus AB / Calculus (non-AP)** This elective course is equivalent to a first-semester college calculus course. Students will engage in the following behaviors to achieve conceptual understanding: reasoning with definitions and theorems, connecting concepts and representations, implementing processes, building notational fluency, and communication of ideas. As prescribed by the College Board, students will study three main ideas: limits, derivatives, and integrals. The notion of a limit helps us understand the behavior of a graph near a point and serves as the basis for determining continuity. In a hopeful sense, limits are much less about what things *are* and much more about what things *should* be. Derivatives give us the language of covariation: describing the rate of change of one variable in terms of another variable. Applications of derivatives include, but are not limited to, slopes of tangent lines at a point, analyzing graphs, rectilinear motion, Mean Value Theorem, related rates, optimization, and growth and decay. Integrals allow students to use the language of limits to solve problems involving area, volume, rectilinear motion, and accumulation. Students will study the Fundamental Theorem of Calculus as means to translate between the languages of derivatives and integrals. Due to the rigor of the AP curriculum, a non-AP version of calculus will be concurrently offered. Please see the instructor to determine which course placement is most appropriate for you.



#### **Computer Science Principles**

AP Computer Science Principles is an introductory college-level computing course that introduces students to the breadth of the field of computer science. Students learn to design and evaluate solutions and to apply computer science to solve problems through the development of algorithms and programs. They incorporate abstraction into programs and use data to discover new knowledge. Students also explain how computing innovations and computing systems—including the internet—work, explore their potential impacts, and contribute to a computing culture that is collaborative and ethical.

The following are the major areas of study, or big ideas, that serve as the foundation of the course, enabling students to create meaningful connections among concepts and develop deeper conceptual understanding:

- Creative Development: When developing computing innovations, developers can use a formal, iterative design process or a less rigid process of experimentation, and will encounter phases of investigating and reflecting, designing, prototyping, and testing
- Data: Data are central to computing innovations because they communicate initial conditions to programs and represent new knowledge.
- Algorithms and Programming: Programmers integrate algorithms and abstraction to create programs for creative purposes and to solve problems.
- Computing Systems and Networks: Computer systems and networks are used to transfer data.
- Impact of Computing: Computers and computing have revolutionized our lives. To use computing safely and responsibly, we need to be aware of privacy, security, and ethical issues.

During this full year course students will create many programs using JavaScript which is considered by many experts to be the among the most commonly used computer language in the world today.

**HS Robotics I:** This course provides an introduction to robotics for students with no programming background using Vex Robotic kits. Using the CCSS math practices, students will learn to construct,

control and program these robots through investigative and exploration activities. Research projects will expose the students to the engineering process.



**HS Robotics II:** (Successful completion of Robotics I or equivalent experience is required.) This course will continue the development of the engineering skills necessary to advance previous robot programs and design. Students use mentoring to increase their understanding of required programs. More rigorous research projects or activities will be expected. Students may partake in the regional Vex Robotics competition.

**Math for Everyday Life** Students in this class build their numeracy skills, hone problem-solving strategies, and work with resources geared to, and differentiated for, individual needs. Common Core Math Practice Standards are reinforced throughout this course. Along with increased mathematical competency students will practice their organizational skills, note-taking strategies, personal management skills, productivity, reflection and revision. There are specific focus areas stressed each year, dependant on students strengths and needs, ie: financial literacy, architecture, or foundational skills.

#### Flexible Pathways: Math

VTVLC

- Online classes can be taken to compliment RU standard course offerings, but there may be redundant topics or skills.
- Coding, Robotics, and Computer Principles are also offered

ILOs:

- Talk to your counselor for more information or if you have an idea for an ILO in this area.
- The offerings of the Innovation Center may be well-suited to an ILO in math.

#### **Future Offerings**

Our offerings shift based on enrollment and need. Sometimes we rotate offerings from one year to another. Potential future offerings include:

**AP Statistics / Statistics (non-AP)** This elective course is equivalent to a first-semester college statistics course. Students will learn concepts and tools for collecting, analyzing and drawing conclusions from data. Students learn under four broad conceptual themes: 1) Exploring Data: Describing patterns and departures from patterns, 2) Sampling and Experimentation: Planning and conducting a study, 3) Anticipating Patterns: Exploring random phenomena using probability and simulation, and 4) Statistical Inference: Estimating population parameters and testing hypotheses. Due to the rigor of the AP curriculum, a non-AP version of statistics will be concurrently offered. Please see the instructor to determine which course placement is most appropriate for you.

### **Science**

Somewhere, something incredible is waiting to be known.

-Carl Sagan, astronomer

**Mission:** The Science department believes that students should draw from a rich variety of experiences with living and physical systems and apply that knowledge to real-world situations. Students should ask questions, seek answers, and evaluate claims based on qualitative and quantitative evidence, and effectively communicate the results. Our mission is to enable students to act as informed citizens and even contribute to the ever-expanding body of scientific work.

**Typical course sequence:** RU middle school core science NGSS standards start in 6th grade. The 7th grade NGSS course at RU focuses on Energy in Earth Systems, and in 8th grade the focus is on Waves and Biological Systems. In high school, students take at least three core courses, which prepare students for a diversity of pathways through senior year and into college and career - including programs at RTCC, AP courses at RU, and beyond. Our core science courses also prepare students for the Vermont Science Assessment, a standardized test taken in 11th grade. The three core high school courses are:

**Integrated Science I: Earth Science with Chemistry.** : This <u>year-long</u> course serves as an introduction to Earth science with an emphasis on the chemistry of and human impact on the environment. We will examine surface and atmospheric processes including, but not limited to, the relationships between resource extraction, natural hazards, and climate change and human development. We will use hands-on investigations and real world examples to explore these key concepts.

**Integrated Science II: Biology with Chemistry :** This <u>year-long</u> course offers an introduction to the principles of **biology** with emphasis on **biological** chemistry, ecology and homeostasis, cell structure and function, gene expression, and patterns of inheritance. We will be using hands-on labs and real-world examples to explore the key concepts in biology. *Prerequisite: Integrated Science I: Earth Science with Chemistry* 

**Integrated Science III: Space Physics :** This <u>semester-long</u> course considers questions such as "how did the Universe begin? How do stars generate the different elements that make up our world? How did the Earth form, and how does energy from the Sun's core arrive here?" This course provides an introduction to the principles of physics through the lens of space. We will be using hands-on investigations to analyze the phenomena of space. (RU students at RTCC also take the semester of Integrated Science III to help ensure coverage of standards and help with their readiness for the 11th grade assessment.)

Prerequisite: Integrated Science I: Earth Science with Chemistry

#### Chemistry

This course offers a foundation in chemical concepts and focuses on physical chemistry. Students will learn how the atom and its particles determine the nature and properties of compounds that make our world work. This course has a heavy emphasis on science skills including explanations and argumentation, developing and conducting investigations, and reading informational texts. Basic algebra skills will be employed to better understand the content; dimensional analysis is the backbone of most calculations. This course will help students who wish to take AP Physics and AP Biology. Prerequisite: Planet in Motion and Algebra I or instructor approval

#### Physics

This course offers both hands-on and theoretical approaches to understanding forces, momentum and energy and applying them to everyday situations. Topics covered include kinematics, projectile motion, statics and dynamics, rotational mechanics, pressure and basic electricity. Algebra is used throughout this course as mathematics is the backbone of physics. Students who are interested in technical or science careers are encouraged to take this class. Prerequisite: Algebra I.

#### **AP Biology**

The goal of this course is to help students develop a foundation in college-level biology. Students will engage as scientists in systematically investigating the world around us and building on the understanding of prior scientific work. In addition to appreciating the inherent beauty and elegance of living beings, throughout the course students will make connections between ideas in the course as well as to current societal issues. Daily use of scientific thinking will help students explore concepts in an authentic context while honing key skills. Students will be expected to take the exam in May. Prerequisites: Proficiency in science standards 1 - 3 or approval from the instructor.

#### **Forensic Science**

This semester-long course will introduce students to forensic science, and skills and practices used in crime scene investigation and other applied sciences. Students will learn how to investigate, and problem solve with lab activities and mock crime scenes, as well as explore the many careers paths and applications of this science.

#### **Food Science**

In this semester-long course, students will explore the wonder of science through food. Food and nutrients are essential for living things. In this course, multiple perspectives on the production, consumption, nutrition, and access will be introduced. Students will define problems, propose solutions, construct explanations for the chemical reactions that take place in our bodies and in our food. Students

will have a chance to learn skills in the laboratory as well as the kitchen, experiment with growing their own food, and use mathematical computation to identify regenerative approaches for sustainability and access to food for our school and community.

#### Flexible Pathways: Science

ILOs:

- Talk to your counselor for more information or if you have an idea for an ILO in this area.
- The offerings of the Innovation Center may be well-suited to an ILO in Science.

#### CBLs and the IC:

See above for Community Based Learning classes taught in collaboration with the Innovation Center:

- Entrepreneurship & Manufacturing
- Water Management & Public Policy

#### **Future Offerings:**

Our offerings shift based on enrollment and need. Sometimes we rotate offerings from one year to another. Potential future offerings include:

#### Human Anatomy and Physiology:

This semester-long course will take you on a walk through the human body seeing human tissues magnified 400 times with HIGH-POWERED MICROSCOPES and learn how your many billions of cells work together to allow you to do all the interesting things you do. Everything from seeing, hearing, tasting, smelling and the way your body parts work together to perform exercise will be explored.

#### Marine Ecosystems

In this semester-long course, you will learn how CORAL REEFS, SEAGRASS BEDS and MANGROVE FORESTS support specialized forms of ocean life and how they support one another as well. Also, learn how we, as humans, can contribute considerably in the preservation of marine organisms/systems that support overall EARTH-HEALTH. This course may culminate in a week-long marine biology field-trip.

#### AP Biology

The goal of this course is to help students develop a foundation in college-level biology. Students will engage as scientists in systematically investigating the world around us and building on the understanding of prior scientific work. In addition to appreciating the inherent beauty and elegance of living beings, throughout the course students will make connections between ideas in the course as well as to current societal issues. Daily use of scientific thinking will help students explore concepts in an authentic context while honing key skills. Students will be expected to take the exam in May. Prerequisites: Proficiency in science standards 1 - 3 or approval from the instructor.

#### Astronomy/Cosmology

Space officially begins approximately 60 miles above the Earth's surface. Few humans have ventured beyond this boundary. Yet there is much that we know about this world beyond our World. And far more that we don't yet know. This course provides an overview of what we know, beginning with an orientation of the night sky, exploring the contents of the Solar System, the Milky Way Galaxy and the Universe beyond. The structure and evolution of space-time will be considered as well as recent discoveries that affect our understanding of the forces that affect our Universe.

### **World Languages**

If you talk to a man in a language he understands, that goes to his head. If you talk to him in his language, that goes to his heart. - Nelson Mandela

**Mission**: In the World Language department, we believe language and communication are at the heart of the human experience. The world we live in requires individuals to communicate and make connections between cultures. The World Language department seeks to advance target language proficiency and cross-cultural competency. Our goal is for students to be able to speak and understand a world language and to be curious about and empathetic toward other cultures.

**Typical course sequence:** Students can progress from Level I through Level V at RU. Every level of language class builds upon the previous year's learning.

State Standards require some familiarity with World Languages, and at RU we require a basic level of proficiency that typically comes with at least one year of study, achieved in either MS or HS. However, a minimum of two years of high school study is an expectation of most four-year colleges–with many colleges expecting students to have taken three or four years of language.

**World Language course goals:** Students in all levels of the world language program will be working towards proficiency in five standards:

Language Acquisition	Communication	Language	Exchange	Cultural		
Behaviors	Students can	Mechanics	Students connect	Appreciation		
Students engage in	communicate about	Students	with non-native	Students are		
behaviors that facilitate	aspects of their	understand the	language	empathetic toward		
development of skills in	daily lives in a	nature of language	cultures.	other cultures and		
level-appropriate forms of	non-native	through		understand how		
non-native language	language.	comparisons of the		language carries		
communication.		non-native language		culture, values and		
		to their own.		beliefs.		

### WORLD LANGUAGES STANDARDS

#### French I

French I is a beginning level language course designed to develop basic speaking, reading, writing and listening skills. Students will focus on building vocabulary and grammar, as well as an awareness of the history, geography, culture, and ways of life in various French-speaking countries of the world. The cultural focus of this class is meant to highlight France and their cultural heritage. Students will be able to ask simple questions, talk about themselves and their environment and will be able to grasp the meaning of simple texts, videos, and songs in French.

#### French II

This course reviews and expands on the basic communicative skills taught in French I. Students will be capable of more complex conversational exchanges in the present tense. Students will progress from

memorized words and phrases to "sentence-level" dialogue to "paragraph-level" conversations and will become comfortable reading and responding to longer texts in French. Students will focus on building vocabulary and grammar, as well as an awareness of the history, geography, culture, and ways of life in various French-speaking countries of the world. Students will use more complex structures to ask questions and express opinions. The course will have a cultural and linguistic focus on music and food.

#### French III

This class is designed to expand upon the material covered in French I and II, as well as begin to use more authentic texts and resources to expose students to a wider variety of topics beyond personal environments and relationships. Reading, writing and conversational skills will be sharpened as we study the history, geography and culture of several of the 29 French-speaking countries in the world. Using French in class is a priority at this level and students will be reading and responding to stories, films, podcasts, and authentic media from the French-speaking world. Students will create dialogues, videos, and presentations in which they talk about the past, present, and future. Through the study of authentic sources, students gain an appreciation for the breadth of cultures, beliefs and customs across the francophone world.



#### Spanish I

Spanish I is a beginning level language course designed to develop basic speaking, reading, writing and listening skills. Students will focus on building vocabulary and grammar, as well as an awareness of the history, geography, culture, and ways of life in various Spanish-speaking countries of the world. The cultural focus of this class is meant to introduce students to the world's many Spanish-speaking countries and their cultural heritage. Students will be able to ask simple questions, talk about themselves and their environment and will be able to grasp the meaning of simple texts, videos, and songs in Spanish.

#### Spanish II

This course reviews and expands on the basic communication skills and cultural knowledge from Spanish I. Students will be capable of more complex conversational exchanges in the present tense,

and will develop their listening comprehension skills and be encouraged to increase their speaking skills. They will progress from "sentence –level" dialog to "paragraph –level" conversations and will become comfortable reading and responding to longer texts in Spanish. The course will have a cultural and linguistic focus on music and food.

#### Spanish III

Students in this course will review the grammar principles learned in Spanish I and II and consider new themes not presented there. Reading, writing and conversational skills will be sharpened as we study the history, geography and culture of several of the twenty Spanish-speaking countries in the world. Using Spanish in class is a priority at this level and students will be reading and responding to stories, films, podcasts, songs, and other authentic media from the Spanish-speaking world. Students will create dialogues, videos, and presentations in which they talk about the past, present, and future.

#### Spanish IV

Students will continue developing their ability to communicate in Spanish, expanding on the grammar and vocabulary from previous years through thematic cultural units that deepen their knowledge of history and culture and address current issues. In addition, students will focus on improving written communication. They will write short essays in response to cultural events and issues in the United States and Spanish-speaking countries. Readings, films, class discussion and music will facilitate their understanding of the language. The class will also incorporate group activities and accessible technology. At the end of the year students will have deepened their understanding of the language and have a broader knowledge of the cultures, art, history and literature of the Spanish-speaking world.

#### Flexible Pathways: World Languages

ILOs: Some common Independent Learning Opportunities in this subject area include:

• Advanced Language: Students who are interested in studying a language we do not offer in our traditional courses may propose an ILO, or you may propose an ILO if you are interested in going deeper with your study of Spanish or French during the school year or over the summer.

Talk to your counselor for more information!

#### **Future Offerings:**

Our offerings shift based on enrollment and need. Sometimes we rotate offerings from one year to another. Potential future offerings include:

Advanced French A and B: The Advanced French A and B class consists of a two-year rotation for French IV and French V students. The class will use the discussion medium to advance language in a variety of topics. Students will interact with authentic materials and creative immersive experiences in the classroom to fine tune simple mechanics, expand vocabulary, and improve linguistic nuance. Students will expand their communicative abilities to include the imperfect/conditional and the subjunctive mood. Students produce writing that reflects their development of complex syntax and the ability to express a number of diverse opinions. Students use authentic materials to interact with francophone cultures and develop an understanding of the wide range of cultural issues in the francophone world.

#### Spanish V

This course further deepens students' knowledge of the Spanish language through reading, writing, listening, and speaking about cultural issues, art, history, literature, film, the impact of technology, and challenges faced by contemporary global society. The aim of this course is to prepare students to be confident in their ability to take risks and communicate in Spanish and to demonstrate curiosity and empathy towards the different cultures that make up the Hispanic world.

Service Learning Abroad, You Belong to the World! This course supports our world travel program. Students in this course plan, fundraise and learn language to support their travel abroad. Service learning is a component of this work, as are home stays, to ensure that students truly have an opportunity to live in the place they are visiting.

### **Fine Arts: Visual Arts, Music, Theater**

Every child is an artist. The challenge is to remain an artist after you grow up.

~ Pablo Picasso

Mission: The arts play an important part in our community, our schools, and in the lives of individuals. Our educational system needs to emphasize the arts and use them as a vehicle for learning and self-expression. Art is a way to touch the values and beliefs of the world and communicate the needs of the self or the soul. As former President John F. Kennedy stated, "I see little of more importance to the future of our country and of civilization than full recognition of the place of the artist. If art is to nourish the roots of our culture, society must set the artist free to follow his/her vision wherever it takes him/her." Art at RUHS is a place for the child to have a voice, a place of expression for the artist in everyone, especially the students of today. For it is true that art defines us all.

**Typical course sequence**: Students minimally take one year of fine arts classes in HS, and many students take many more than that! Some courses have prerequisites and others do not. Most classes can be taken in any order or sequence. Please see descriptions below and work with your counselor to put together a pathway that corresponds to your needs and interests.

#### Visual Art

#### Exploration in Art

Do you want to explore what makes great Art? Through the exploration of the basic *Elements of Art* and *Principles of Design*, students will delve into various mediums such as acrylic painting, watercolor, collage and more. Aesthetic and creative judgment will be examined with public exhibition as a high point. This is a foundation course which will help the student through further investigation of the Arts. Independent opportunities for creativity are also available based on the student's talent of previous experience.

#### **3D Construction Art**

If you like creating art with your hands, this is the course for you. This class will investigate and develop various relief and 3D sculpture projects. By observing established sculptural forms and different artists styles, students will develop artwork using diverse media such as paper, wire, plaster, wood, and more. Aesthetic judgment and artistic problem solving become fun challenges when

creating projects. The class incorporates both smaller individual work as well as group involvement in large projects. Come see if you can change a discarded book into a work of art, make artistic trading cards, or work recycled materials into something unexpected, beautiful and new!

#### **Drawing and Painting**

This course is designed to provide students with basic skills in drawing and painting with an emphasis on drawing from both direct observation, perspectives, artistic styles and grid work. The student will be practicing many of the Principles & Elements of art through contour drawing, negative space, and value. There will be color-mixing, art history application, fundamentals and theory. A variety of mediums, including pencil, pastel, charcoal, watercolor, and acrylic will be the focus. Come find your favorite medium and discover the possibilities.

#### Advanced Drawing and Painting

This studio course is for motivated artists who have already taken Drawing and Painting. Critical thinking, objective analysis of artwork, and the ability to communicate in the language of art will be developed and used through the course. This is a desirable course for any student wishing to develop a portfolio for college. Students will be encouraged to brainstorm and create project ideas independently, while still utilizing the teacher for problem solving, encouragement, critique and technical development of the project(s) as a whole.



#### Music

#### Senior Concert Band (All instrumentalists 9-12)

Band is for students who enjoy making music with friends! By playing their instruments in various styles and settings, students will improve their ability to perform on their instrument, both alone and with others. We will play our instruments inside, outside, and as often as possible! Community performance

will be an important aspect of the course. Band members will participate in various concerts throughout the year at which participation is required. Students will also have the opportunity to audition for both the Winooski Valley District Music Festival and the All-State Music Festival. <u>8th graders must participate in the Middle School Band</u>. **Past musical learning and experience is an important prerequisite for this class**.

#### Senior Chorus (All vocalists 9-12)

Chorus is open to all students who like to sing! Proper methods of voice production, listening, expression and musicianship are emphasized. Music from differing periods, composers, styles and cultures will be covered, exposing students to different forms and eras of music. Participants will also learn to read musical notation. Chorus members will participate in various concerts throughout the year at which participation is required. Students will also have the opportunity to audition for both the Winooski Valley District Music Festival and the All-State Music Festival. <u>8th graders must participate in Junior Choir.</u>

#### Digital Music (Semester-long)

Prior to the "desktop revolution," the ability to create music digitally was out of reach for all but a few successful and wealthy composers. Today, technological tools that were only a dream for most people in the past are now commonplace, and the Internet allows us to share our ideas with the world. This course will focus on using one of these tools, Logic Pro X, to create our own original music. This will involve exploring music theory (rhythm, melody and harmony), basic piano skills, composition, and sound engineering. While creating music may sound daunting, the computer makes music composition accessible even if you are not a skilled performer. A musical background is not necessary for entrance into this course.

#### Introduction to Guitar (Semester-long) (middle school and high school)

In this semester-long course, we will learn everything necessary to get started on guitar. We will learn how to play chords, scales, strumming patterns, and fingerstyle guitar. We will then use these skills to perform pop and rock songs in a guitar ensemble. Access to a guitar at home is preferred but not required. No past musical experience is necessary to join this course.

#### Senior Rock Band

This advanced rock ensemble is designed to build upon the songs we play in RU Rockin'. Together, will perform songs from a wide variety of genres using traditional rock band instrumentation. We will work as a group to create our own arrangement of songs. We will learn how to read chord progressions, how to read tablature, and how to improvise a solo. Students will also play a direct role in choosing the music the Rock Band performs by creating chord and lyrics sheets. Rock Band members will participate in various concerts throughout the year at which participation is required. Experience playing guitar, bass, piano, or drums is required. At least one semester of playing with RU Rockin' is recommended, and **approval from the Music Teacher is required for entrance into this class**.

#### Theater

RU Theater is an engaged community of adventurous learners - where foundational knowledge from nearly every academic discipline melds with critical thinking, adaptability, collaboration, problem-solving, and resiliency. Courses are semester long, but students are welcome to reenroll. The theater program strives to offer meaningful, challenging opportunities for growth and discovery to a diversity of students.

**Puppetry** *semester long*: Puppetry is an ancient art form that sets objects into motion. In this course students will develop original characters and animate them to bring their ideas to life. Students are expected to build *and* perform in this course as we create puppets big and small. We will begin with finger puppets for a music video and build up to creating BIG puppets used in our own parade. Students will explore the history of puppets used in varied traditions all over the world: from rituals, ceremonies, and processions to traditional stage performances, T.V. and movies.

**Dance** (open to students in 7-12 grade) *semester long*: This course is for students with an interest in dance. We will begin each class with a warm-up on stage. Over the semester students will learn routines in ballet, hip hop, jazz, modern, and African dance. Dance students will examine, question, celebrate, and reflect on a multitude of dance traditions and functions from around the world. Students will learn techniques to choreograph dances together as the final project in this course. No prior dance experience is necessary.

**Technical Theater** *semester long*: This is a workshop based course. Students will learn about design and construction of props, sets, costumes, and lighting for our Mainstage productions. Students are expected to work independently on design concepts as well as together on fabrication and construction. Technical theater encompasses a diversity of real-world skills, abilities, and aptitudes. In this course students will be exposed to the wide range of jobs available in the theater.

**Mainstage Theater Performance** *year long:* This is RU's advanced theater course. Students will hone their skills in all areas of onstage performance: acting, movement, and voice. Class will be held on stage in the auditorium. This course is limited to students who have previous performance experience either in school or outside of school, or students who get prior approval from the teacher. This course will exercise your creative muscles to exhaustion! Although this course will meet regularly, learning will carry over into the rehearsal period after school. Students who are actively involved in a current production are encouraged to enroll.

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#### Flexible Pathways: Fine Arts

ILOs: Some common Independent Learning Opportunities in this subject area include:

• **Creating an Artist Portfolio**: Would you like to get a college degree in gaming art and design? Or would you like to work for a company like Pixar? Or maybe you are interested in studying Fine Art in college? Most colleges and universities require an art student to present a portfolio during the admissions process. An ILO in this area will help you. Students will research the portfolio requirements of leading art schools like RISD (Rhode Island School of Design), Full Sail University, and SCAD (Savannah College of Art and Design). The challenge will be to compile a professional-quality portfolio that communicates and demonstrates fluency in essential arts processes and skills.

• After-School Music, Theater, Visual Arts: If you are involved in a structured learning experience in any of these - or other fine arts - areas, you may be able to develop an ILO to support and document the work. An ILO in this area may be done instead of or in addition to a traditional fine arts course.

Talk to your counselor for more information!

#### **Future Offerings**

Potential future offerings include:

#### Compositional Development, Visual Art

What is the secret to a good artistic composition? 3 could be the magic number! This semester course investigates the Rule of Thirds and many more compositional techniques that can improve your art. Students are required to do work outside the classroom, as well as plan and execute independent projects within the framework of the class. What makes a good composition will be creatively problem-solved while working in various mediums; i.e. paint, pen and ink, pastel and more. Students will refine their art into successful compositions and conveying artistic intent through revision and reflection. This class is recommended for students who have taken art foundation classes. Come learn the tricks of the trade!

### **Practical Arts**

Intelligence and skill can only function at the peak of their capacity when the body is healthy and strong.

- John F. Kennedy

Mission: The Mission of the Practical Arts Department is to supply students with the resources to prepare them to make healthy, informed choices for their present and future.

#### **Physical Education**

#### My Physical Best I (Semester Long)

Learn the skills necessary to develop lifelong fitness. Team sports and individual fitness activities are used as a vehicle for introducing strategies for assessing personal fitness levels, goal-setting, and building a foundation for understanding the health and skill-related components of physical fitness. My Physical Best I provides an experience through which all students recognize the value of physical activity for health, enjoyment, challenge, self- expression and/or social interaction.

#### My Physical Best II (Semester Long)

Deepen your understanding of the health and skill-related components of physical fitness through an array of team sports and individual-performance activities. It is strongly recommended that all students complete My Physical Best I (MPB1) prior to this course. A basic understanding of the principles of training, target heart rates, and the FITT formula as they apply to personal fitness levels will be essential for your success. The concept of wellness and the importance of striving for optimal levels of health are

the cornerstones of this course and are exemplified by a capstone project where students develop and maintaining a personal fitness portfolio.

#### Flexible Pathways: Physical Education

PBLs: PBL electives that may meet graduation standards in this subject area include:

Movement Exploration

See the PBL offerings section for more information!

ILOs: Some common Independent Learning Opportunities in this subject area include:

- Athletics/PE ILO: Students who are engaged in a rigorously athletic program at RU or outside of school, are invited to develop an ILO to meet Physical Education standards.
- Independent Learning Opportunity in PE: The PE ILO is a full semester independent course for students to pursue an interest in physical education that may not be offered in a traditional PE class. Students will work independently on a personal fitness plan and record their progress through weekly journal entries. Students will also be required to research and review eight articles related to their program over the semester. The journaling and article reviews should address the National and VT State Standards in Physical Education as well as personal insights and experiences gained in the process. Because this is independent work, it is incumbent upon the students to be responsible for meeting deadlines and requirements each week. Unless agreed upon in advance, a PE ILO is offered as pass/fail. The goal is to develop physically literate individuals who have the knowledge, skills and confidence to enjoy a lifetime of health and physical activity.

Talk to your counselor for more information!

#### Health

**Health Education** (Semester Long)RU Health Education is designed to assist students in developing life skills to maintain and improve their health, prevent disease, and reduce health-related risk behaviors. The course allows students to acquire and demonstrate health-related knowledge, skills, and practices. The course is required for one semester. Topics of instruction include: Adolescent Brain Development, Personality/Psychology, Behavior Modification/Change, Stress Management, Depression/Suicide Prevention, Loss/Grieving, Chemical Addiction, Media Literacy, Human Sexuality/Relationships. The "Reality Works" baby project is a requirement for completion of the course. Historically, students have taken this class in 10th grade, but this semester-long class is open to students in any high school grade.

#### Life Skills

#### Life Skills 101 (Semester Long)

Life Skills is designed to increase student knowledge and skills necessary for everyday living that will serve them well in their postsecondary lives. The course emphasizes goal-setting, decision making and problem solving, communication, healthy lifestyles and relationships, nutrition, personal safety, citizenship and consumerism. The curriculum will offer students the emotional, social and intellectual tools needed to achieve success in life – on a personal level, an interpersonal level, and within their community and work places.

#### **Driver Education**

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The Driver Education program at RU is based on basic driving systems. The focus is to assist students in becoming low-risk motor vehicle operators. Emphasis is placed on responsibility in every aspect of their participation in this course. Students will have to demonstrate that they possess the maturity responsibility, and skill potential for operator license possession. The Driver Education department at RU recognizes that thirty hours of classroom and six hours of behind the wheel instruction cannot produce a skilled driver without parental assistance and support. The number one killer of youth ages 15-20 is traffic crashes. Parents, students, and teachers, working together, can be much more successful at turning this statistic around. Prerequisites: A student must have his/her permit prior to the first day of class and a copy of the permit must be given to Student Services one month prior to the first day of the class. Students must sign up for Driver's Education by June 1st for the upcoming fall semester and by December 1st for the upcoming spring semester. There is limited space in Driver's Education classes. Registration will only be permitted if there are open seats. Seniors will be given preference only if registering, and having their permit, prior to the deadlines noted above. Prior to the deadline, non-seniors will be registered based on date of procurement of permit, not by date of sign up for the course. Any open seats after the registration deadlines will be available for those with a permit on a first come, first served basis.

### **Randolph Technical and Career Center**

**Note**: For the most up-to-date description of RTCC offerings, visit: <u>https://orangesouthwest.org/rtcc</u>

**Mission**: The Randolph Technical Career Center is committed to providing students with a challenging academic and technical education in a supportive, engaging, and respectful environment.

#### **Randolph Technical Career Center Profile**

RTCC students come from the seven regional communities of Bethel, Chelsea, Northfield, Randolph, Rochester, South Royalton, and Williamstown, to form a unique school and student body. All day technical program offerings give students the opportunity to take advantage of many leadership and community-based activities including work experiences and community service projects throughout the region. Comprehensive RTCC programs combine applied academic skills with technical education competencies that promote lifelong learning for students.

Students have the opportunity to earn industry recognized certificates, earn dual enrollment credits, earn scholarships to college, and participate in work-based learning to earn experience in their programs.

#### Planning a Technical Program

Students may choose a program in which to participate at the Randolph Technical Career Center. The programs are available to all students who have obtained junior or senior status at their high school.

Prior to attending RTCC, students are expected to have completed most of their graduation requirements.

#### Admission Process

Students should meet with their School Counselor after determining general career interest areas. The School Counselor will provide the student with an application for the student and their parents to complete. The School Counselor will forward this application, along with a student's transcript, to RTCC for consideration.

#### **Entrance Requirements**

Those students attending RTCC will fulfill graduation requirements for the Senior Project by completing the RTCC Project. The Technical Center will make companion courses at RUHS available to students enrolled in a technical program. Any exceptions to the above requirements must be reviewed by the student's counselor and the RUHS Director of Student Services. The admission procedure would include a formal application submitted for review by the RTCC Admission Committee. All students are required to take English. Some students may also be required to complete their remainder Academic Requirements at Randolph Union High School.

See next page for more on specific requirements for Seniors and Juniors.

#### Requirements for joining RTCC as a Senior:

Students must have successfully completed the following courses prior to the senior year.

English	3	full years
Math	3	full years
Science	3	full years
Social Studies	2	full years
US History	1	full year
P.E.	1.5	years
Health	.5	years
Fine Arts	1	full year

If admitted to RTCC as a junior, companion courses will be taken to meet senior year requirements while enrolled in the center.

#### **Requirements for joining RTCC as a Junior:**

Students must have successfully completed the following courses prior to the junior year:

English	2	full years
Math	2	full years
Science	2	full years
Social Studies	2	full years
P.E.	1.5	years
Health	.5	years

#### **Junior/Senior English**

Junior or Senior English-is integrated into each program's curriculum. Students develop reading, writing, critical thinking, and organizational skills while studying material that is directly related to the student's program and are interesting and useful to them in program class. Program teachers plan closely with the English teacher to make sure students are successful and the subject matter is relevant.

#### **Technical Project: Portfolio**

All RTCC students are required to present a Technical Project as part of their graduation from the center. The Technical Project is a digital portfolio project aimed at charting a pathway after high school, documenting student learning and creating a network of professional industry connections. The project is aligned with the student's technical program. Students will present their portfolio to the public during the RTCC Open House and they will present to their program Advisory Board.

#### Work Based Learning: "Co-op"

"Co-op" is a program available to all students depending on performance in their technical program, availability of suitable work experiences, individual need, completion of resume, cover letter, interview, and at minimum two job shadows. Four primary types of experience are available to students including: Job Shadows, Unpaid Training, Paid Work Experience, and Apprenticeship. Work schedules are individually designed and can occur during the school day and/ or after school. The purpose of "Co-op" is to enhance a student's performance in skills learned through their technical program and to give students an opportunity to learn new skills in a "real world" setting. Supervisor evaluations are the basis for grades that are factored into program grades.

#### **Extended Learning Opportunities**

All students at RTCC have the opportunity to earn Industry Recognized Certificates which can place them ahead in the competitive job market. Students can enroll in Dual Enrollment courses and or through the Fast Forward program and earn college credit in everyone of our programs. Each program offers through a variety of partnerships or agreements opportunities to extend the students learning and create a portfolio of mastery to demonstrate learning as well as show potential colleges or employers.

#### Business Core Programs

#### **Digital Filmmaking / Media Arts**

The Digital Filmmaking /Media Arts program exposes students to a wide range of creative digital and media arts projects. The Digital Filmmaking and Media Arts program is not your typical classroom program. Our program is a fast paced and "hands on" program environment where students learn by collaborating in and outside the classroom and always at their own pace. This is the place where technology, skills and arts converge and where students get to explore their personal ideas and dreams. Over the course of a year students learn a variety of media, including graphic design, illustration, photography, animation, multimedia journalism and filmmaking. Graduates of the program are prepared to take immediate entry-level positions in a variety of businesses ranging from advertising and design companies to TV stations to film production companies; or enter a two- or four-year college program with the necessary technology skills, computer program knowledge, and confidence to conquer the next phase of their lives.

#### **Mechanical Core Programs**

#### Advanced Manufacturing

The Advanced Manufacturing program provides foundational skills and knowledge coupled with co-operative work experience, job shadow opportunities, and college exploration. This program enables students to gain the necessary background to obtain entry-level employment in these fields and/or pursue post-secondary education. The program employs a STEM curriculum to teach fundamentals of Science, Technology, Engineering and Mathematics. The STEM lab will employ teams working on solving problems defined by the curriculum or identified by the team on a collaborative project to fostering imaginative and critical thinking. Manual and CNC machining activities will work in conjunction with lesson plans and study material to produce parts for practice, projects or certifications. NIMS machining certifications will be blended into assignments for students looking to continue on to Manufacturing Engineering Technology at Vermont Technical College or a similar program.

SolidWorks, an industrial strength CAD program, is used to give students hands-on experience designing parts to fabricate either through traditional Subtractive Manufacturing and CNC machines, or Additive Manufacturing via 3D printers. TIG welding and fabrication will be offered and used during the fabrication of parts and assembles used in projects and lessons. Certifications for TIG welding are also available through the American Welding Society.

#### Automotive Technology

The Automotive Technology program is designed to give students the opportunity to learn about the automotive field. Throughout the learning process, they will be able to practice and demonstrate their learning during hands-on activities. The program's curriculum reflects the Vermont Auto Dealers' Association standards and Vermont's Framework of Standards. Students who participate in this program will be given the chance to gain entry-level experience, receive specialization in a field through cooperative education experiences, and earn their state inspection certificate

#### **Construction Trades Management**

The Construction Trades Management program is designed to give students a combination of theory and practical application and real-life learning experience. Students will participate in a variety of off-campus projects that include several phases of construction work. These projects include carpentry, masonry, electrical, and plumbing. In addition to this, students are introduced to regional contractors and manufacturers and have apprenticeship opportunities.

#### **Diesel Technology**

The Diesel Technology program provides students with the opportunity to learn about Diesel Technology and demonstrate that knowledge through a variety of projects and written assignments. Students have the opportunity to work with customers, suppliers, and other professionals. The program culminates with an intensive, individualized project that tests students' knowledge.

#### **Diversified Agriculture**

This program provides students with the skills and knowledge necessary in pursuing careers and college studies related to today's diversified agricultural business. Graduates of this program become valuable assets as inventive problem solvers to small and large farms and related businesses in the fast growing agricultural economy. Renewable energy production, local food production, farm business management, mechanical and electrical systems as well as welding and fabrication are just some of the topics explored. Throughout the program, students will utilize scientific and project-based methods to gain insight into the solutions for pressing local and global environmental concerns.

#### Service Core Programs

#### **Education Services**

The Education Services program is designed to provide students with basic skills and competencies needed to continue their education toward a career in education or to be fully prepared for an entry level position in the Human Services or Education field. Components of the program include effective instruction, activity and lesson planning, health and wellness throughout the life cycle, human growth and development, career exploration, leadership training and skills needed for career and college success.

#### **Dental Assisting**

The Dental Assisting program prepares students for entry-level employment, further training, and/or post-secondary education in the dental field. With a national workforce over 300,000 strong, a career in dental assisting ranks as the fourth fastest growing occupation in healthcare. To meet our nation's expanding medical demands, recent studies indicate that over 400,000 assistants will be employed by 2021. The RTCC Dental Assisting program prepares students to provide patient care, conduct dental x-rays, prepare patients and equipment for dental procedures, and discharge office administrative functions under the supervision of dentists and dental hygienists. The Dental Assisting program includes instruction in medical recordkeeping, general office duties, reception and patient intake, scheduling, equipment maintenance and sterilization, basic radiography, oral photography, pre- and post-operative patient care and instruction, chairside assisting, performing tooth and mouth impressions, and professional supervision. Students have the opportunity to practice their dental assisting skills in our school-based lab and at local dental practices. Professional Skills developed by business and industry leaders across Vermont are integrated throughout the program. Dental Assisting students develop leadership, social, civic, and career skills through participation in Career and Technical Student Organizations.

#### **Health Careers**

Health Careers is a program of study that affords students the time and opportunity to explore and examine varied careers within the healthcare industry. The program provides the information students need in order to make an informed decision regarding a health care path they wish to follow and includes coursework on such topics as anatomy and physiology, first aid and advanced life support, patient care and communication, medical terminology and the safe, competent development and delivery of fundamental care competencies.

#### **Culinary Arts**

Students participate in an award-winning and active program of coursework and food preparation in a well-organized production kitchen. Students have the opportunity to be engaged in all aspects of the field including: planning and cost estimating, purchasing, and preparation of an incredibly wide variety of menu items. Students who complete the program are well prepared to enter two or four-year college programs or full-time employment including apprenticeships.

#### **Criminal Justice**

The Criminal Justice program introduces students to a broad range of career opportunities in the Criminal Justice and Public Safety/Emergency Management fields. It also aims to expose students to the latest available laws and technologies for these fields where applicable. This program assists

students with making informed life decisions regarding their behavior, which might inhibit a future career in one of these careers.