

Randolph Union

Course Catalog 2017 - 2018



The belief that all genuine education comes about through experience does not mean that all experiences are genuinely or equally educative.

- John Dewey

Table of Contents

| | |
|---------|---|
| Page 3 | Mission & Graduation Standards |
| Page 6 | Graduation Pathways: Commonality & Personalization |
| Page 7 | Senior Project |
| Page 8 | Multiple Pathways: Early College, Independent Learning, and More! |
| Page 11 | PBL Lab: Project Based Learning at RU |
| Page 15 | Humanities: English |
| Page 19 | Humanities: Social Studies |
| Page 22 | Mathematics |
| Page 27 | Science |
| Page 32 | World Languages |
| Page 36 | Fine Arts: Visual Art, Music |
| Page 40 | Practical Arts: Physical Education, Health, Drivers Education |
| Page 43 | RTCC: Randolph Technical & Career Center |

Randolph Union

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Mission & Standards

The OSSU School Board has given RU an important mission: to prepare our students for the next stages of their lives. This is a broad and significant charge. 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 mission and to state requirements for proficiency in diverse subject areas. Our graduation standards fall into two main categories:

- Foundational Knowledge & Skills (Content Area Standards)
- Habits of Mind, Heart & Work (Transferrable Skill Standards)

These graduation standards guide our community daily, and help us in establishing expectations at every level, 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 Mind, Work and Heart (Transferrable Skill Graduation Standards)

| Habits of Mind (Critical Thinking) | Habits of Work (Work Ethic) | Habits of Heart (Personal Development) |
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| Curiosity - Asks questions, seeks to understand why, values multiple perspectives, and takes healthy risks. | Purpose - Has clarity about purpose and intent, sets reasonable goals, makes plans to achieve goals. | Adaptability - Embraces new techniques, actively looks for innovations, is able to fluidly change focus and goals as the situation demands. |
| Creativity – Generates new ideas, pursues alternative solutions, uses imagination, communicates in original or inventive ways. | Organization - Efficiently organizes priorities, time, belongings, materials, and resources | Personal Integrity - Takes personal responsibility for actions, puts forth best effort, and demonstrates academic honesty. |
| Analysis - Reasons logically, looks for connections, compares and contrasts, finds patterns, makes inferences, determines importance. | Productivity - Completes individual and group work according to deadlines and expectations. | Self-Respect - Cares for own physical and mental wellness, keeps safe physically and emotionally, shows self-control. |
| Evidence – Supports ideas, conclusions and solutions with evidence – from valid data, methodology, reliable sources, and verifiable experience. | Reflection & Revision - Reflects on progress, past work and experience, recognizes strengths and challenges*, seeks support, and makes improvements. | Respect for Others - Respects the identity of others, listens, empathizes, seeks to understand, and safely intervenes to protect others. |
| Synthesis & Application - Synthesizes information into new understanding, applies knowledge and skills in meaningful ways. | Technology - Uses technology to demonstrate learning and to access, manipulate and learn from information, or to demonstrate learning. | Citizenship - Contributes to the welfare of the classroom/school & community, peacefully resolves conflict, participates in school and community service. |

Foundational Knowledge & Skills (Content Area Graduation Standards)

ENGLISH

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| <p>Writing: Students write effectively for a wide range of tasks, purposes and authentic audiences across multiple disciplines.</p> | <p>Language: Students employ Standard English, figurative language, and an expanding vocabulary to advance his/her purpose.</p> | <p>Presentation: Students present information, findings and supporting evidence on a topic, conveying a clear and distinct perspective to an authentic audience.</p> | <p>Discussion: Students demonstrate respectful listening and active engagement across a range of discussion forums.</p> | <p>Reading: Students comprehend, interpret, analyze, and evaluate a wide range of complex literary and informational texts to better understand themselves and the local and global community.</p> |
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FINE ARTS

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

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| <p>Advocacy: Students use interpersonal communication to advocate for personal, family and community health.</p> | <p>Influences: Students analyze the influence of family, peers, culture, media and technology on the behavior of individuals, local community and the broader society.</p> | <p>Access: Students access reliable information, products and services that enhance the health of individuals, the local community and broader society.</p> | <p>Self-Management: Students comprehend and apply concepts that enhance health, prevent disease, and reduce high-risk behavior.</p> | <p>Decision-making & Goal Setting: Demonstrate the ability to self-regulate, and use decision-making skills and goal setting to enhance health.</p> |
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PHYSICAL EDUCATION

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

MATH

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| Understand: Students make sense of abstract and real-world problems. | Persevere: Students persevere in solving problems that are complex and non-routine. | Interpret: Students interpret abstract mathematical situations quantitatively. | Justify: Students use justification to construct viable arguments and critique the reasoning of others. |
| Model: Students model with mathematics algebraically, geometrically, and numerically to answer real-world problems. | Use Tools: Students use a variety of traditional and 21 st Century tools to solve problems and to communicate reasoning. | Be Precise: Students consider the degree of precision necessary to achieve solutions under given constraints. | Discover Patterns: Students discover underlying patterns and use repeated reasoning to deepen their understanding of mathematics. |

SCIENCE

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| Experimenting Students plan and carry out scientific investigations | Analyzing Students analyze and interpret data | Arguing and Explaining Students engage in argument from evidence and/or create an explanation | Modeling Students develop and use models to apply understanding | Engineering Students design, build, and refine a product to solve a problem or address a need | Researching Students obtain and evaluate information from a variety of sources |
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WORLD LANGUAGES

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| Proficiency Students show skill development in level appropriate forms of non-native language communication through healthy risk-taking. | Communication Students can communicate about aspects of their daily lives in a non-native language. | Language Mechanics Students understand the nature of language through comparisons of the non-native language to their own. | Exchange Students connect with non-native language communities and individuals at home and around the world. | Cultural Understanding Students are empathic toward other cultures and understand how language carries culture, values and beliefs. |
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SOCIAL STUDIES

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| Inquiry: Students use a process of questioning, locating, evaluating, analyzing, and synthesizing information in order to understand the world around them. | History: 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. | Social Sciences: Students apply the tools and concepts of sociology, economics or psychology to evaluate their community, nation and world. | Civics, Government & Society: Students understand and exercise the rights and responsibilities of informed citizenship. |
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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.

One common expectation is that all students are expected to carry a **minimum of 7 courses** each semester. Any exception must be approved by administration. This coursework includes the pathway requirements listed below.

Common Graduation Pathway Requirements

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|-----------------|--|
| 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. |
| Senior Project | See detailed information on following page. |

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.

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 Handbook 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 Handbook for more information.)

Senior Project is an important way for students – and our community – to engage in an exciting learning process. We look forward to seeing what our next round of amazing projects will be!

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!

ILO: Independent Learning Opportunity

An ILO or Independent Study is a way of pursuing learning outside of the offerings that might fit into a particular student’s schedule in a particular semester. It is also an option for students who want to push their learning in settings and domains outside of what we offer as typical courses. Strong Habits of Work are a must, and the plan of study must be approved by a teacher certified to assess the content standards in which proficiency is being pursued. Students interested in this option should speak to a subject area teacher who can approve the plan and assess the learning. Past areas of study have included: Comparative Religion, Technical Theater, History of the Middle East Conflict, Advanced Drawing and Painting, Architectural Drawing, Metal Casting, Goat Farming. See a school counselor for more information.

Early College at Vermont State Colleges

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. 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.

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 CBLs, Entrepreneurship & Manufacturing and Water Resource Management, offer work based learning and exposure. (A course description for these CBLs is on page 30)



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 vtvlc.org. 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, literature and composition, and Spanish. **It is expected that students enrolled in AP courses will take the corresponding AP exam. The exam cost will be paid by the school.**

An Important Question for Seniors:

What should I consider when thinking about where to be for my senior year?

The benefits of staying at RU for your senior year are extensive.

Most seniors stay at RU - and for good reason!

Rigor: A rigorous senior year course-load is one of the things colleges are most interested in seeing on a transcript. Colleges look to see if RU students are taking advantage of our Honors and AP offerings.

Variety: Our wide array of course offerings allows for every student to find courses that meet their needs and prepare them for post-secondary goals.

Independence: With senior privileges students can take 6 classes instead of 7 and can come and go more freely from campus.

Support: Being on campus is the very best way to access 1) support with Senior Project, 2) support with college applications and recommendations, 3) support with scholarship and financial aid applications.

Connection: Staying on campus allows you to stay connected to your peers, teachers, and advisor. During a year of major transition, these bonds can help keep you to feel a strong sense of academic, social, and emotional support.

There are also many benefits to having an early college experience your senior year.

Going to college early brings great responsibility and independence. Students on a college campus often have schedules that look quite different high school, with time for independent study and opportunities to meet with professors during office hours. An early college experience also gives you the opportunity to “try out” college life before having to decide on the school you’d like to attend. In addition, there is some really good data to show student success after an early college experience:

- In 2016, 38% of VT students on free/reduced lunch immediately enrolled in college after high school, but this number jumps to 66-76% when students have a successful dual enrollment (early college) experience.
- Also in 2016, 59% of VT students who do not receive free/reduced lunch immediately enrolled in college after high school, but this number jumps to 71-82% when students have a successful dual enrollment (early college) experience.

Clearly early college can help pave the way for improving post-secondary aspirations!

When students attend an early college program senior year, including VAST, there are some significant challenges that can arise: To receive a diploma from RU you'll need to fulfill all of the RU graduation requirements, including Senior Project. Doing this while off campus requires a high level of organization and self-direction. So, if you decide to go off campus your senior year it's important to weigh these considerations:

- Off-campus students often aren't around to attend crucial Senior Project meetings, which provide important information and reminders of upcoming deadlines.
- Off-campus students do not get the same level of support for their research papers during the long and rigorous drafting process: from essential question, to outlines, to drafts, format check, etc.
- Off-campus students often struggle to maintain a strong relationship with their Senior Project mentors because schedules are often not that conducive to regular mentor meetings.
- Off-campus students sometimes report more difficulty communicating with all the people that students rely on when faced with challenges of senior year: college & career planning, senior project, financial aid, scholarships, etc.

PBL Lab @ RU

Project-Based Learning

In the PBL Lab we offer courses that engage students in **collaborative approaches to solving common problems** in our community and broader society. Students can sign up for a PBL “Challenge” just as they would for a course. Student teams who engage in PBL Challenges will employ their Habits of Mind, Work, and Heart to explore, and develop solutions to important contemporary challenges faced by youth and our community.

Components of the PBL Lab

The PBL Director: The director coordinates program components, provides guidance in connecting teachers, students and community partners, develops resources, coordinates professional development, and is the direct contact to the advisory board.

The Advisory Board: Industry, education, and research experts advising the director and RU administration on goals, vision, research methods, real world needs, and challenge bank development.

The Teacher as Lead Partner: The Lead Partner assists in the development challenges, facilitates and guides a student team, and assists in coordinating the team’s assessment panel.

The Team: Each collaborative team is made up of a group of students with a teacher as Lead Partner. The team works through a solution-seeking process to tackle a contemporary challenge.

The Lab Space: A space that mirrors a professional environment where hands-on, applied problem solving blends with technology and ideas-rich discussion.

The PBL Solution-Seeking Process

- Interpret the Challenge: Begin to define the problem you are solving.
- Plan: Determine research methodology, budget proposal, group roles and responsibilities, and a community engagement plan.
- Research: Deepen your understanding of the challenge and its context.
- Reflect and Revise: Refine your interpretation of the problem; revise plans as needed.
- Collaborate: Work with partners to seek a solution to the problem you have defined.
- Reflect and Revise: This should be ongoing.
- Synthesize and Apply: Test your solutions. Publicly demonstrate your learning. Elicit feedback from community partners.

PBL Challenges for SY 2017-2018

Note: A PBL elective is a year-long (Fall and Spring semester) commitment.

Youth Media: If youth produce the news, will more youth listen to/read the news?

Lead Partners: Jamie Koehnlein Connor and/or Tev Kelman

1 credit (English Elective)

Description: According to a study conducted by the American Press Institute, “older adults are more likely to report reading, watching, or hearing a news story in-depth in the last week; 54 percent of adults age 60 and over said they’d done so compared to just 1 in 4 young people.” So, how do you get your message out to the community? And how do you get people to listen? The goal of the course is to cover the news in a way that is not only relevant and compelling to young people, but pushes the envelope to uncover hard-hitting local and school topics. The idea is that if you have a strong stake in the stories that are covered and the way in which the news is presented, not only will more students and community members enjoy reading and listening to the news, but the connection between the school and the local community will grow stronger. In collaboration with local journalists and professionals, we’ll start with a crash course in the tools of radio and print journalism. By the end of the first semester, the team will run like a real news team, with production meetings, deadlines, and an issue and a show that is ready for broadcast. Career Pathways: This challenge will appeal to students who are interested in career fields such as journalism, education, editing, and production, as students can expect to hone their skills in writing, presentation, documentation, and design, among many other learning opportunities.

Climate Change: Is it too late for meaningful action?

Lead Partner: Vickie Johnson

1 credit (Science Elective)

Description: Using global average temperature as a measurement, Earth’s hottest year on record was 2014; that is, until the temperature record was shattered again in 2015. And now, according to a recent article published in the *New York Times*, 2016 temperatures “have blown past the previous record three years in a row.” While El Niño helped fuel some of the rise in temperatures, this does not account for the overall trend: the fifteen hottest years have occurred within the last sixteen years (NASA). What does this information mean for us? The Climate Change PBL will investigate the root causes, mechanisms and impacts of global warming and work with the community to investigate approaches and solutions. After pursuing these questions, and working with local experts, students will take actions to help our community, state and world deal with the realities of a changing climate. Career Pathways: This challenge will appeal to students interested in career fields such as ecology, environmental studies, climatology, economics, political science, and sociology.

R.A.N.D.: How can documentary film help us find solutions to pressing social issues?

Lead Partner: Deb Lary

1 credit (Elective)

Description: Surveys across the state say that young people don’t feel valued by their community. In this PBL challenge, we are working to change that. Students in this challenge will partner with people across our community to do valuable work bringing youth concerns and voices to light. Throughout the year, we will focus on the 3 “C”s: Challenges, Connections, and Change! Students will be introduced to documentary film and the exploration of social issues in our schools, homes, community, state, and world. The class is not about you necessarily, but the issues we focus on are ones that matter to you and your peers, and may include: school stress, the challenges of poverty, teen pregnancy, addiction, sexuality, depression, etc. Whether you are a beginner or veteran in using video cameras and iMovie, all levels of experience are welcome! Students will make films, and will determine the best ways for your films to have a positive social impact, locally and beyond! (P.S. You don’t have to be on camera if you don’t want to!). Career Pathways: This challenge will appeal to students interested in film production and editing, graphic arts, social work, and education.

Interact: How do we ensure that vulnerable members of our community get what they need?

Lead Partner: Scott Sorrell

1 credit (Social Studies Elective)

Description: We all have the power to enact positive social change, no matter what our individual situations may be. In this PBL Challenge, we will work in partnership with the RU Interact club, and we will fulfill the club’s mission to implement one local and one international service project (other projects will be determined by student interest). But, we will not just do the work. We will look below the surface, follow the trail, and investigate the organizations and people who we are working for. This PBL encourages students to take what they know about the world and their passions, and connect it to their strengths, skills, and futures to challenge themselves to grow. Students who have

experience with nonprofit work and a commitment to working outside of school hours are encouraged to apply. Career Pathways: This challenge will appeal to students interested in career fields such as social work, general management, international affairs, political science, and business, as well as a wide variety of career placements in non-government organizations.

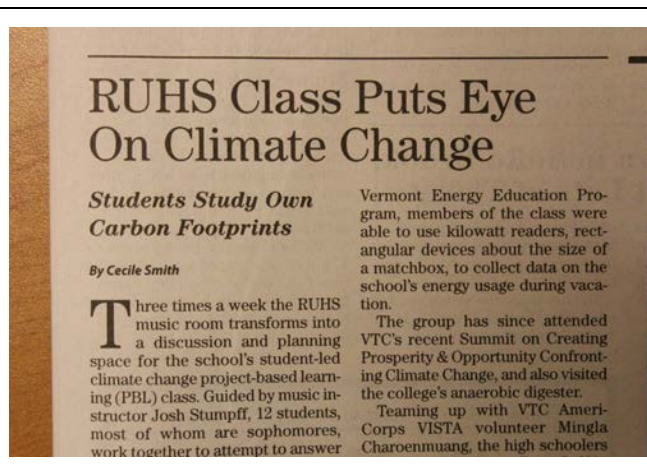
Restorative Justice: Do our schools and courts treat people fairly?

Lead Partner: Angela Bauer

1 credit (English Elective)

Description: 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 build on our previous successes and continue to raise and research questions like these. We will also continue to 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.



Service Learning Abroad: How do we work with a local nonprofit to make meaningful change in a country through service learning work without imposing our own beliefs?

Lead Partner: Simona Talos

1 credit (Elective)

Description: In this PBL challenge, students will learn, listen and act. The challenge is designed to research and familiarize students with the peoples, cultures and inherent beliefs of the countries where we choose to engage in service learning work, while analyzing our own perceptions. Students will explore Nicaragua - the people, culture, cuisine, music, history and contemporary politics - in order to best understand and serve the needs of the families they will work with during a service-learning trip to that country. Students who enroll in this PBL will be part of the club that is going on the April 2018 Spanish Trip to Nicaragua. We will work with a community partner organization, *Planting Hope*, which has the goal to support "sustainable growth and mutual understanding through the exchange of social, cultural and material riches of Nicaragua and the U.S." Students will develop a portfolio to document their knowledge of the culture and history of Nicaragua (learn), the connections between the challenges this country faces, such as illiteracy and poverty (listen), and the work related to organizing and fundraising for the trip (act). Students will make a final presentation of their findings and service work to the greater Randolph community and the supporters of *Planting Hope* (learn, listen, and act!). Career Pathways: This challenge will appeal to students interested in career fields such as foreign language, international relations, foreign aid, political science, and comparative politics. Prerequisite: Completed Spanish 2.

Digital Music Performance: How can we use technology to communicate complex thoughts and emotions and bring people together?

Lead Partner: Tom Walters

1 credit (Fine Arts)

Description: 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 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, hearing safety, communication, writing, physiology 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 address a community need such as creating a public service advertisement for radio, producing a podcast about a community issue, or creating a warm-up song for the basketball team. Career Pathways: This 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.

Potential Future PBL:

Coding: How can we use technology to solve local, contemporary problems?

Lead Partner: Josh Hester-Reyes

1 credit (Math Elective)

Description: What is the machine behind the machine? In this PBL challenge, we will begin our work by dissecting the computer. How does it function? How can we use this tool to its fullest potential? Then, we will learn how to use programs like Pong to develop skills that will allow us to learn about digital animation, accepting input from users to arrive at specific outcomes. This work will involve math functions and applications, as well as physics, and will provide students with a strong technology background. Once we have built a good foundation and have worked with one another and outside experts to learn how to use coding programs, we will crowdsource our school and local communities to tackle an identified community problem. This product could translate into building a website for a local organization, designing applications to solve financial puzzles (how much money do I need to save each week to buy a home in five years?), or hosting coding forums for students and community members. Join us and use coding to solve problems! Career Pathways: This challenge will appeal to students who are interested in career fields such as computer science, computer programming, software architecture, video game design, database development, IT program management, and web design and development.

**The educational end
and the ultimate test of value
of what is learned
is its use and application
in carrying on and improving
the common life of all.**

- John Dewey

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.

English 9: Struggle and Hope

In this class, students will explore how we read texts to better understand our world. Students 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. Students will develop their reading, writing, speaking and listening skills by exploring many important themes and questions - with connections to our companion course, Social Studies 9. Students will write personal, narrative, and analytical essays, as well as participate in a variety of discussions. Skill-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 may earn an Honors designation on their transcripts by successfully demonstrating advanced levels of proficiency in course standards.

English 10: Diversity and Power

Students will develop their reading, writing, speaking and listening skills by exploring literature connected to the themes of identity, diversity, tradition, prejudice, empowerment - and other themes connected to our companion course, Social Studies 10. Students will write narratives, personal, and analytical essays (such as response to text), as well as participate in a variety of discussions. There will be multiple opportunities to demonstrate thinking and learning through creative assessments. Students may earn an Honors designation on their transcript by successfully demonstrating advanced levels of proficiency in the course standards and fulfilling the Honors contract.

Junior/Senior English Courses

Students must take at least one year of English coursework during both the junior and senior years. Freshmen and sophomores may take Jr/Sr electives by permission of the instructor.

American Literature

Students will study two to four 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*.

AP Language and 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™ 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.

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™ 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.

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.

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*, *Isabelle 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.

Monsters of British Literature

“What does it mean to be a monster?” We’ll trace this question through four periods of English literature: Medieval, Elizabethan, Romantic and Postmodern. Throughout the class, you will be asked to think critically and creatively about how the meaning of “monster” has changed over the years, and reflect on who or what are the “monsters” of our contemporary world. You will write personal, persuasive and analytical essays in response to literature, participate in class discussion built around your questions, and learn the skill of close reading. You will also have plenty of opportunities to demonstrate your learning and thinking through creative, non-written assessments. Reading list may include, but is not limited to, *Beowulf*, *Macbeth*, *Frankenstein*, and *Grendel*. Vermont Field of Knowledge Standards will address: Eras and Styles; Times and Cultures; Changes in Language; and Vermont Vital Results Standards in the areas of Reading, Writing, and Speaking.

Flexible Pathways: English

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

- **Restorative Justice:** Do our schools and courts treat people fairly?
- **Youth Media:** If youth produce the news will more youth consume it?

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

Potential future offerings include:

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.

Dystopia

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.

Shakespeare

In this class, we’ll tackle three Shakespeare plays: a comedy, a tragedy and a “wild card,” with the precise reading list by you, the students. The menu currently includes *King Lear*, *Macbeth*, *Othello*, *Romeo and Juliet* (tragedies), *A Midsummer Night’s Dream*, *The Tempest*, *The Taming of the Shrew*, *Twelfth Night* and could include other plays in future years depending on student interest. Initially, coursework will focus on developing skills for deciphering (and appreciating, hopefully) Shakespeare’s language as well as understanding the historical and social

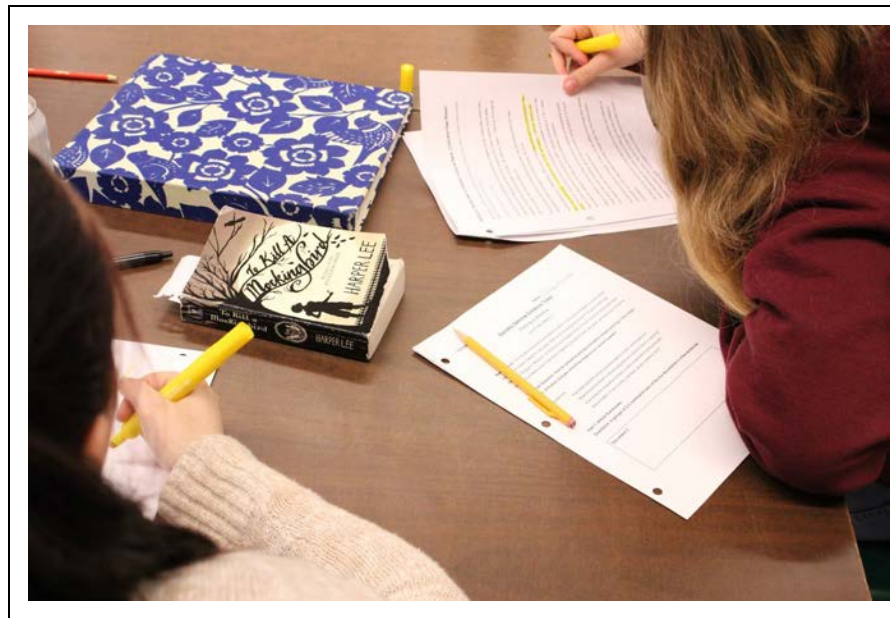
context in which his plays were written. Later, we'll look at what defines and motivates his characters by imagining them as real people in the 21st century world. Finally, we'll examine what are the universal themes and experiences that give Shakespeare's plays staying power, culminating in a final project in which you adapt a Shakespeare play into a new setting and a new medium (stage, film, radio, comic book, etc.) Vermont Field of Knowledge Standards include: Point of View; Types of Literature; American Literature; Literature Community, Responding to Text; Analysis. Vermont Vital Results Standards: Writing Dimensions; Writing Conventions; Responses to Literature; Information Technology; Research.

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.

Literature to Film

Students will explore the elements of film (lighting, sound, camera shots/angles, costumes, etc.) and focus their attention on film adaptations of texts. Students will be responsible for reading the texts that correspond to each film watched in the class. Active watching is required. Audience awareness and participation is a must. Students may be responsible for adapting a short story or selection from a longer work into a screenplay. Students may collaborate with students in RTCC to turn their screenplay into a reality. You will never see movies in the same way again!



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 understandings of history, geography, civics and economics to analyze historical events and propose solutions to current global, domestic, and local issues.

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. Honors credit is available to students who show proficiency in a more rigorous set of standards, including significantly more reading and writing.

The Human Experience (Grade 10)

“What does it mean to be human?” Through an integrated study of historical events, literature and social issues, students will explore answers to this question. In cooperation with English 10, students will consider some of the ways which people have represented and reflected on the physical, social, psychological and ideological features of the world in which they live. Students will employ a variety of analytic perspectives: literary, historical, philosophical, social scientific. Students will organize their work into portfolios demonstrating their personal growth and attainment of graduation standards. There is emphasis on the research process, research writing, and persuasive writing. This class explores important moments in World History and compliments 7th grade focus on world geography, 8th grade study of the Colombian era, and 9th grade study of the Euro/American colonial era.

US History II (Grade 11)

This course picks up where 9th Grade US History left off, and builds on the study of world history in other years. We begin with the end of the Civil War and Reconstruction. Students will trace the social, economic, political, and cultural forces that have shaped the history of the United States to the present day. Units of study will include: Race, Destiny, and Economic Expansion, Imperialism, W.W.I., and Democracy at Home, Normalcy through the New Deal, W.W.I.I. and Civil Rights, The Modern Presidency, Terrorism. This course is rich in primary sources, and emphasizes understanding of contemporary issues in light of our past. As in other social studies classes at RU, this course will include extensive writing and revision, including a research paper and a persuasive essay - both of which are important preparation for future work and study, including Senior Project! *For the 2017-2019*

school years this course will explore a wider span of US History topics including topics from Colonial America through the American Civil War. This will ensure that during our curricular transition current HS students will not have a significant gap in their exploration of US History.

Archaeology Case Studies in the American Southwest I

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. Students will also analyze and propose solutions to contemporary issues that face indigenous peoples in the Southwest. Students who satisfactorily complete standards in this course will be eligible to take Archaeology Case Studies in the American Southwest II (fall of 2018) which will culminate with a trip to the Crow Canyon Archaeological Center in Cortez Colorado.

AP World History

The AP World History course focuses on developing students' understanding of world history from approximately 8000 B.C.E. to the present. Students investigate the content of world history for significant events, individuals, developments, and processes in six 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, Asia, Europe, and Oceania. Students will focus much of their energy on preparation for the National Advanced Placement Exam in May.

Psychology (English or Social Studies credit available): This course focuses on individual behavior and why an individual thinks, feels, and reacts to certain stimuli. Major emphases 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.

Theater History and Production (Social Studies elective)

This introductory elective allows students to explore major works, the history of theater, and support current RU drama productions. Participants will read, investigate, and discuss a diversity of current and classic works. Central themes include relationships, race, gender, and economic opportunity. We will also explore the history of theater, reaching from the present to the ancient world. Satire, tragedy, comedy, stagecraft, and musical theater will feature prominently. Opportunities will be present to assist with research, design, and construction. The theater program at Randolph Union has a long history of bringing meaningful, challenging works to the stage – in which your participation is welcomed. With oversight from an English or Fine Arts teacher this course could support meeting some standards in one or both of these content areas.

Flexible Pathways: Social Studies

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

- **Interact: How do we ensure vulnerable members of our community get what they need?**

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 Social Studies Offerings

These offerings may next be available in 2018-19:

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.

European History Survey Why do revolutions succeed and fail? What are the causes and consequences of totalitarian rule? Why world war? We'll try to answer these questions by examining the epic changes that Europe experienced in the period between the Renaissance and World War II. Using readings, primary documents, films, discussions and lectures, we will tackle a variety of topics in modern European History, including the Age of Exploration and the Columbian exchange, the Enlightenment, the English Civil War, French Revolution, Napoleonic Era, the Industrial Revolution and the World Wars. At the same time, we will be building essential skills for studying history, including interpreting primary documents, making a historical argument and developing research questions. You will be expected to prepare for and participate in class discussions, and will be asked to think critically to make connections between the historical events you are learning about and current events in the world today.

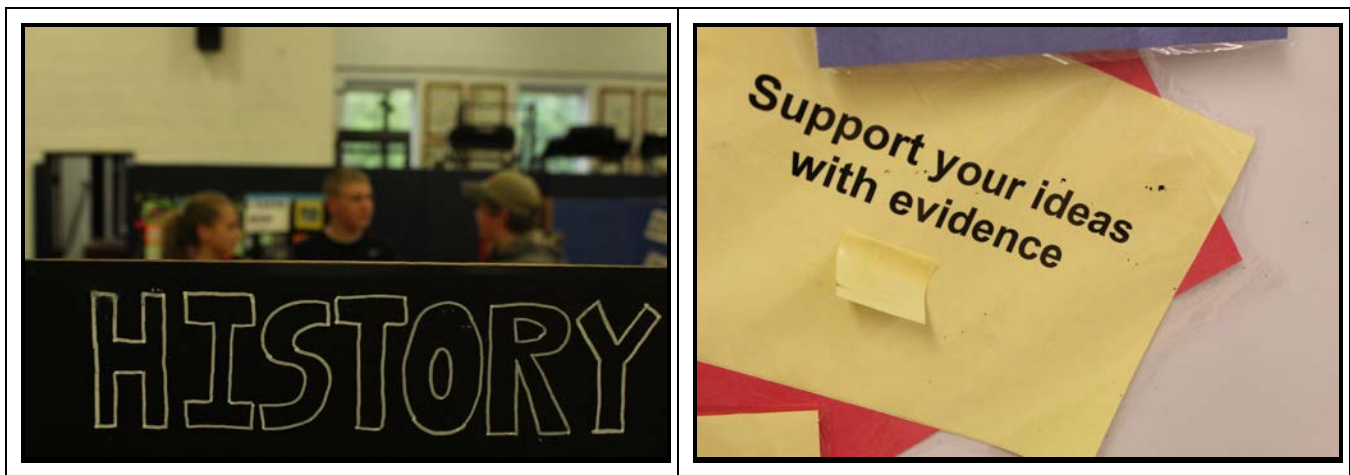
Introduction to Economics You may think that Economics is boring. You may think it's all graphs and numbers. You may think that you could *never* understand terms like “collateralized debt obligations” or “aggregate demand” and that even if you *could*, it would never help you in your life. But you'd 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.

You and The Law Students will use role-play activities, discussions, presentations, and response papers to probe the purposes, degrees, and ramifications of law. Vermont standards addressed include critical evaluation, citizenship, and human rights. Prospective students are cautioned that this course carries a significant reading, writing, and research load. Willingness to be an active and informed participant in classroom discussions is absolutely essential.

The 1950's: A Seminar Designed for students who have completed American History, this upper level course explores the postwar economic boom, U.S. 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.

Sociology

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.



Mathematics

In the broad light of day mathematicians check their equations and their proofs, leaving no stone unturned in their search for rigour. 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.

-Michael 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 of 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.

Our graduation standards require that students demonstrate proficiencies in Standards for Mathematical Practices in the courses listed below. These standards are adapted from the Common Core Math Standards, and are, in essence, transferable skills that will arm students with the math tools they will need for success in traditional and in non-traditional settings. RU students will be required to demonstrate proficiencies in these Mathematical Practices, multiple times on multiple measures, over multiple years. We recommend four years of study in mathematics to best equip students with the tools and knowledge necessary to succeed in any postsecondary path of their choosing.

Pre-Algebra

Buying your first car? Choose the best deal by analyzing equations and break-even points. How much will your car depreciate after 4 years of ownership? Use an algebraic formula to determine that value. Algebra opens the door to a way of thinking. It arms students with the tools to solve problems efficiently, and to make sense of the world around them. In this course, students will strengthen their foundational knowledge of whole numbers, fractions, and decimal operations, including fluency in computations using positive and negative numbers. Students will solve and graph linear equations and inequalities, advancing to solving systems of equations. They will be introduced to concepts involving real-world applications of exponents, and apply algebra to data analysis and probability. Students will formulate and solve problems, and then justify their solutions with sound mathematical practices, empowering them to take on challenges presented in future mathematics classes, and in aspects of student life outside of school. This course is intended for students that need more time to establish their foundational knowledge and skills before taking Algebra I.

Algebra I How can farmers use mathematical models to describe exponential growth of bacteria that multiplies in spoiled milk? How can investors use this same concept to understand the accumulation of interest on investments compounded continuously? How can consumers use concepts of exponential decay to understand automobile depreciation? As mathematicians, we can use mathematical models to make sense of these real-world phenomena, empowering us to become more informed citizens. Algebra opens the door to a way of thinking. It arms students with the tools to solve problems efficiently, and to make sense of the world around them. It is often referred to as the “gateway” to higher-level math and sciences. The fundamental purpose of this course is to formalize and extend the building blocks of algebra that students learned in the middle grades. The aim is to deepen and extend understanding of linear and exponential relationships by contrasting them with each other and by applying linear models to data that exhibit a linear trend. Students will engage in methods for analyzing, solving, and using quadratic functions. The Mathematical Practice Standards apply throughout each unit and, together with the content standards, allow students to experience mathematics as a coherent, useful, and logical subject to solve novel problems and to understand complex situations. This course is intended for students that have strong foundational knowledge in concepts of numeracy, and the ability to think critically and abstractly.

Geometric Foundations Many careers like construction, engineering, architecture/design, and computer game design rely on an understanding of geometry. Geometric Foundations will emphasize a practical approach to the study of geometry, building on fundamental principles, and applying geometry to real-world phenomenon. An understanding of the attributes and relationships of geometric objects can be applied in diverse contexts—interpreting a schematic drawing, estimating the amount of wood needed to frame a sloping roof, rendering computer graphics, or designing a sewing pattern for the most efficient use of material. The year begins by looking at the way we use points and lines to reference locations. Next, students are introduced to logic rules that are the basis for computer programming and our court system. From there, students explore congruence through transformations, a topic important to tool-and-die makers, as well as anyone ever needing to construct an exact replica. The year ends with a unit on proofs! Prerequisites:

Geometry

Geometry is linked to many other topics in math, specifically measurement, and is used daily by architects, engineers, physicists, video game designers, and land surveyors - just to name a few. When you learn to use geometry, you also learn to think logically. This is very important in everyday life, as not everything is easy and understandable. When thinking logically, many difficult problems can be tackled and simple solutions found.

In this course, spatial reasoning and problem-solving skills will be developed, emphasizing an abstract, formal approach to the study of geometry. The course is crafted so that students employ experimentation and modeling with tools that allow them to investigate geometric phenomena, and to manipulate figures; examining and making conjectures about their constructions. Students will strive to prepare logical justification and facts for their conjectures with formal mathematical proofs!

The geometry presented in this course will include properties of, and work with, plane and solid figures; inductive methods of reasoning and use of logic; concepts of congruence, similarity, parallelism,

perpendicularity, proportion; and rules of angle measurement in triangles. Prerequisites: This course is intended for students with a strong background in Algebra I. Others will need permission from the instructor.

Bridge to Algebra II This course is intended for students who can use a refresher in algebraic and geometric skills, for those that need to build their mathematics confidence, and those who need more time to develop proficiency in foundational skills necessary to be successful in completing Algebra II the following year. The course will incorporate preparation strategies and techniques to improve performance on high-stakes testing, including SAT, ACT, and college entrance exams.

Throughout the course, students will make connections between algebra and geometry while using technology to deepen their understanding and visual approaches to solving real-world problems. In this spirit, students will become proficient users of several types of calculators and technology-based computer integration tools. Prerequisites: This course is intended for students who have completed Geometry Concepts, but may need more instruction and practice before taking Algebra II.

Algebra II Building on student work with linear, quadratic, and exponential functions from Algebra I, students extend their repertoire of functions to include polynomial, rational, and radical functions. Students focus on the expressions that define the functions, and continue to expand and hone their abilities to model situations and to solve equations, including quadratic equations over the set of complex numbers, and exponential equations using the properties of logarithms. Graphing calculator technology is learned and applied to problem-solving situations. Prerequisites: This course is intended for students that completed Geometry with a high level of conceptual and practical understanding. Others will need permission from the instructor.

Precalculus

Knowledge of topics in pre-calculus, which permeate all areas of science and all branches of mathematics, provides powerful methods for describing the real world. Did you know that predicting things like birth rates and death rates is only possible when applying elements of pre-calculus? Making predictions like these allow us to solve problems related to public health and thus continue to survive as a species! This course finishes the study of functions of two variables: polynomial, exponential, trigonometric, and the conic sections. Student completing this course are prepared for college level mathematics, including AP Calculus, Statistics, and AP Statistics. In addition, knowing pre-calculus allows you to understand marginal revenue and costs in economics. This allows an economist or entrepreneur to estimate maximum profits. So take this course before signing up to take your business idea to *Shark Tank!*

AP Calculus

Following The College Board™ syllabus and AP audit guidelines, this first year college mathematics course reviews the study of functions and applies this to limit theory, differential and integral calculus of one variable. Functions and their rates of change are explored and analyzed numerically, algebraically and graphically with a language-based approach to problem solving. The use of graphing calculator technology, especially as applicable to calculus, is an emphasis of this course. Students who complete this course qualify to take the AP exam in May for college credit. Prerequisite: Precalculus and/or permission of the instructor.

Statistics, Truth & Public Policy In our adult lives, we are constantly asked to examine numbers and make decisions based on them. To be citizens in a democracy, we need to understand data, how it can be used to tell the truth, and how it can be used to deceive. Knowing statistics is one key to understanding how numbers are used by policy-makers to craft laws and shape policy. Statistical ideas and their relevance to public policy, including business; social, health, and physical sciences are the focus of this critical approach to analyzing statistical evidence. Students will work with statistical measures of centrality and spread, methods of data collection, methods of determining probability, binomial and normal distributions, hypothesis testing, and confidence intervals. This course may interest students pursuing studies and/or careers in business, social sciences, science, technology, engineering, and math. Pre-requisites: This course is intended for students that have completed Geometry or with permission from the instructor.

Math for Everyday Life Math is all around us. In order to navigate our world we need to apply math skills in everyday situations and in activities unique to our lives, interests and careers. This course celebrates time as the variable when considering students' readiness to understand the concepts that make for successful citizenship. Therefore, this course may be one, two, or even three years in length. Students in this course build their numeracy skills, hone their problem-solving strategies, and work with resources geared to, and differentiated for, their individual needs. Along with increased mathematical competency, students will practice their organizational skills, note-taking strategies, personal management skills, productivity, and reflection and revision. (Space is limited. See your school counselor if interested.)



Entrepreneurial Math

(½ year elective often paired with Business & Personal Financing)

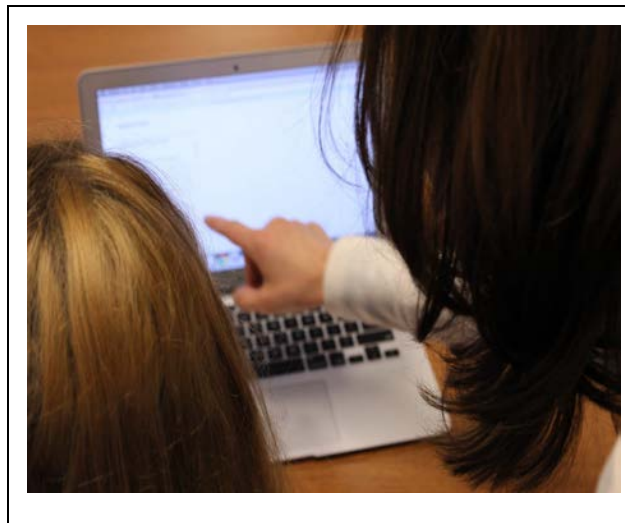
Students in this course will discover the entrepreneur within themselves. Participants will brainstorm business ideas, perform market research, draft a business plan, and secure financing for their plan. Finally, students will execute their proposal. This business math course will teach students to apply concepts of ratios, proportions, and percents to running a business, and will include financing, taxes, income and payroll, manufacturing, cost analysis, profit/loss margins, and evaluating business performance. This course will be co-taught by an instructor from the mathematics department at RUHS

and the head of the RTCC Business Program. (Space is limited, with initial enrollment going to students in the RTCC Business Program. See your school counselor if interested.)

Business and Personal Financing

(½ year elective often paired with Entrepreneurial Math) This course is designed for students who want to explore mathematics in the business world, as well as to develop lifelong skills in managing their own money. Students enrolled in this course will apply concepts of Numbers and Quantity, Algebra, Functions, and Mathematical Modeling to real-world business applications including budgeting, payroll, wages, online banking, discounts, interest, 401K savings plans, exponential growth, depreciation, and the stock market. Students will compete in several competitions including the H&R Block Budget Challenge, and the Stock Market Game. This course will be co-taught by an instructor from the mathematics department at RUHS and the head of the RTCC Business Prog. (Space is limited, with initial enrollment going to students in the RTCC Business Program. See your school counselor.)

Financial Literacy Did you know that in 2015, the average American household had \$129,579 of debt — \$15,355 of it on credit cards? Get the information and skills you will need to buck this trend and enter the infamous “real world” as an informed consumer! Ideal for 3rd or 4th year math students, Financial Literacy applies Algebra 1 concepts in practical business and personal finance contexts. In this course we will take an in-depth look at the math of banking, the stock market, business management, credit cards and loans, taxes, and planning for your financial future. Key math topics addressed include proportional reasoning, linear and exponential functions, creating and interpreting graphs, regressions, and measures of central tendency. If you’re looking to polish up your math skills and have a financial leg up when you leave high school, this is the course for you! Preference given to RTCC students.



Flexible Pathways: Math

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.

Science

Men [and women!] love to wonder, and that is the seed of science.

- Ralph Waldo Emerson, American Intellectual

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.

Introductory Science Courses (Year Long)

The Planet in Motion: Intro to Earth Science and Physics

This course is designed as an introduction to high school science for all 9th graders. It covers principles in Earth Science, Space Science, and Physics and replaces the course formerly known as NGSS1. Considerable emphasis will be placed on scientific processes including modeling, argumentation, and designing and conducting investigations. In doing so, we will examine the impact of forces and motion on Earth's surfaces on both short and long timescales. We will explore guiding questions such as: What is the universe and what goes on in stars? How is energy transferred and conserved? What are the predictable patterns caused by Earth's movement in the solar system? How do the major Earth systems interact? How can one explain and predict interactions between objects and within systems of objects? How do the properties and movements of water shape Earth's surface and affect its systems? How do humans depend on Earth's resources? Finally, how do people model and predict the effects of human activities on Earth's climate?

A Universe of Atoms: Intro to Earth Science and Chemistry - This course, formerly known as NGSS 2, is designed as a continuation for students who previously completed NGSS 1. The curriculum will blend earth and space science with chemistry. We will consider changes at a very large scale over a vast amount of time and think about how they are related to tiny atoms and their invisible interactions. We will investigate the intersection of guiding questions that include: What is the universe, and what is Earth's place in it? How and why is Earth constantly changing? How do Earth's surface processes and humans affect each other? How can one explain the structure and properties of matter? How do substances combine or change to make new substances? How does one characterize and explain these reactions and make predictions about them? How is energy transferred and conserved?

College-Preparatory Science Classes (Year Long)

Honors 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 Physics, AP Physics and AP Biology. Prerequisite: Planet in Motion (NGSS 1) or instructor approval

Honors/AP Physics 1 (Algebra-Based)

Ever wonder how the world really works? In physics, we don't just learn the rules for the universe – we write them. Using Newtonian mechanics and energy conservation as a guide, students analyze problems as they relate to real-life situations. This includes developing algebraic and trigonometric equations to describe different situations and using them to predict whether Evel Knievel will jump the Snake River gorge, whether Lindsey Vonn can make the turn, or if Mighty Mouse really can save the day. The College Board has recently revised its AP physics curriculum to emphasize more inquiry and problem-solving, and a deeper understanding of the concepts within. Students may elect to take this course for honors credit or AP credit. Students choosing AP credit will be expected to take the exam in May. Prerequisite: Algebra II or instructor approval.

Honors Biology

Have you ever thought about being a nurse or a doctor? How about working in a lab researching cures for disease, or finding new applications in genetics. Maybe not, but maybe you would like to study local ecosystems, work in zoology or botany. Honors Biology is an advanced look at all the major themes of biology. This course is all about the study of life, from the smallest cell to the largest biome, and will give students a chance to look in depth at the topics that impact all levels of life, whether it be local, state, national or world. Students will learn laboratory protocols and skills, test taking skills, practice writing scientifically and how to read complex text that will prepare them for "life" beyond high school. Students will also be expected to take part in an extra lab periods when scheduled.

AP Biology

The goal of this course is to help students develop a foundation in college-level biology while preparing for the AP Biology Exam. 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. Students will engage in a variety of activities to support their learning, including but not limited to textbook and article readings, class discussions, and investigations. Lab work will make up at least 25% of class time. Daily use of scientific thinking will help students explore concepts in an authentic context while honing key skills. Prerequisites: Honors Biology and Honors Chemistry or approval from the instructor.

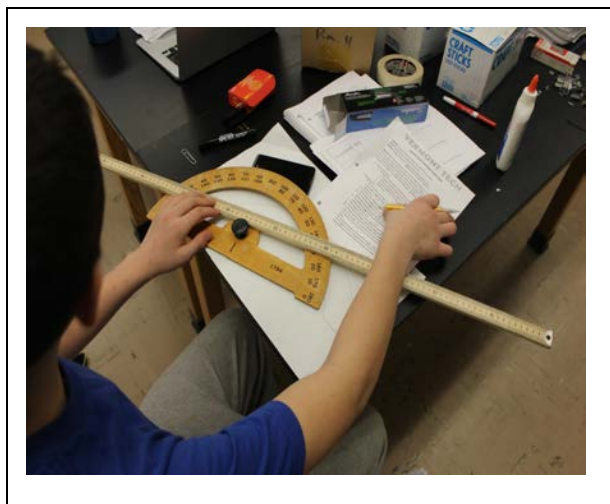
Science Electives (Semester Long)

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 understandings of the forces that affect our Universe.

Biomechanics of the Human Body

Are you interested in sports or health professions - like nursing or physical therapy? Do you want to know how to get a jump shot like Ray Allen, or a golf swing like Tiger? Or how to swing a bat, chop wood, run or walk in ways that will make you more efficient and strong? Have you ever wondered how physical education and science are connected? Ever seen those cool "ESPN Sport Science" videos on YouTube (check them out!) - and do you want to make your own? Do you learn better by doing the task rather than just hearing about it? What components of science/physical education allow our bodies to perform various movements? If any of these questions spark your interest, this class could be for you! Course content includes the study of movement and it is through this lens that we will explore the scientific concepts pertaining to bodies in motion, the growth and development of humans as well as the structure and function of body systems. One of the primary modes of inquiry will be through the use of video analysis, to refine movements and track progress. The student entering this class should have strong interest in the topics. Students will work individually and in groups to complete projects and labs.



Introduction to Engineering

This course is designed to provide an introduction to the science and practice of engineering. Students will investigate materials, structures, engines, machines and linkages, hydraulics/pneumatics and

electricity and magnetism; other topics may be explored depending on time and interest. Students will design and construct a series of small and large design projects alone and in small teams. Emphasis will be placed on problem-solving, teamwork and communication skills.

CBL: Entrepreneurship and Manufacturing

How does manufacturing fit into the fabric of Vermont, and how has technology changed the manufacturing workplace? How can any person with a great idea for a product turn that idea into a solid business? Students will develop in-depth answers to these questions as they pursue this Community Based Learning (CBL) offering at the GW Plastics plant in Royalton, VT. From a request for a quote (when a company asks the manufacturer to build them a product), to designing the molds on a CAD system and then building them, to purchasing the necessary raw materials, to scheduling, programming, and employing the state-of-the-art machines and robots, to making the product (and ensuring each piece passes a quality test), right to finding the best way to shipping off the finished product, students will learn firsthand the capacities, challenges, and rewards of entrepreneurship and manufacturing. Eighth graders age 14 or over may be eligible for this course.

CBL: Water Management:Public Policy & Practicality

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. It's form of destruction come slowly, quietly seeping or rushing madly and wildly. 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. In this course, we will explore a variety of careers, and the law, theory, thinking, practicality, and discipline that figures into dealing with water. This course is intended to provide a model for developing a local talent pool for occupations that make use of civil engineering and community planning skillsets. Further, the knowledge gained will benefit those who tend toward fields relating to construction, natural resources, water quality, and general contracting. The course will consist of 36 local and regional field trips, and 18 classroom days.

Flexible Pathways: Science

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

- **Climate Change: Is it too late for meaningful action?**

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:

Courses not running in SY 2017-18

AP Physics 2: Algebra-Based

The problem-solving fun continues where AP Physics 1 leaves off, but it takes a few radical turns. Discover the back cabinets of the physics lab as we explore fluid mechanics, thermodynamics, electricity and magnetism, optics and atomic/nuclear physics. This course is designed to be equivalent to a second-semester college course in algebra-based physics. Students enrolled in this course will be expected to take the AP Physics 2 exam in May. Prerequisite: AP Physics 1.

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. Our society requires individuals to communicate, make comparisons and connections between cultures. The World Language department seeks to advance target language proficiency and cross-cultural competency. Through oral proficiency, we foster curiosity and empathy towards other cultures. By learning the nuances of language, students can understand the multi-faceted dynamics of world cultures and human interactions. A minimum of two years of high school study is an expectation of most four-year colleges and many recommend three or four years of language. Every level of language class builds upon the previous year's material. To move from level 1 to level 2, students need to show proficiency in level 1. To move from a level 2 class and beyond, students will need to show that they have acquired specific competencies and proficiency outlined in the course syllabus.

French I

French I is a beginning level language course designed to develop basic speaking, reading, writing and listening skills. Students will learn 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 develop elementary listening, writing, speaking and reading skills in French, and will complete assessments to demonstrate competency in these areas.

French II

This course reviews and expands on the basic communicative skills taught in French I. Students will be introduced to more complex conversational exchanges. They 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 longer texts for meaning and pleasure. Major Concepts: Review of the present tense, introduction to irregular verbs in the present tense with all spelling change, cultural/linguistic focus on art, music and food, describe family relationships, talk about activities in progress, order in a restaurant, ask for and pay a bill, talk about things to do in the city, body parts, chores, discuss outdoor activities, describe the weather, jobs and professions.

French III

This class is designed to expand upon the material covered in French 1 and 2, as well as begin to use more authentic texts and resources to expose students to a wide variety of topics. The grammatical goals of French 3 are to introduce and practice five tenses, namely the present, passe compose, imparfait, conditional, and future. In addition to the new tenses, students will learn more idiomatic expressions and exceptions. Through the study of authentic cultural and historical sources, students gain an appreciation for the breadth of cultures, beliefs and customs across the Francophone world.

Advanced French A and B

The Advanced French A and B class consists of a two-year rotation for French 4 and French 5 students. The class will explore Francophone film, literature and current events with the goal of practicing and improving grammar and vocabulary, and deepening students' knowledge of the issues facing Francophones throughout the world. We will explore themes of identity, race, and class with a special focus on migration. During the first rotation, students will have access to more resources and complete the work in a more structured way. During the second rotation, students will be expected to expand upon the previous year's skills by improvising more in their speech and their writing, and complete written assignments that are longer and more complex.



Spanish I

Spanish I is a beginning level language course designed to develop basic speaking, reading, writing and listening skills. Students will learn 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. Students' will develop novice proficiency in listening, writing, speaking and reading skills in Spanish, and will complete assessments to demonstrate competency in these areas.

Spanish II

This course reviews and expands on the basic communication skills taught in Spanish I. Students will be introduced to more complex conversational exchanges. They 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 longer texts for meaning and pleasure. Major Concepts: Review of the present tense, introduction to irregular verbs in the present tense with all spelling change, cultural/linguistic focus on music and food, describe family relationships, talk about activities in progress, order in a restaurant, ask for and pay a bill, talk about things to do in the city, body parts, chores, discuss outdoor activities, describe the weather, jobs and professions.

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 the twenty Spanish-speaking countries in the world, with a focus on Puerto Rico, Mexico and Cuba. Video projects are a major part of this course and oral participation lays at the heart of this class and is a major part of assessments. This course is given mostly in Spanish. Major Concepts: Reading an intermediate story in Spanish and be able to speak and write in full sentences describing all aspects of the story. Expressing self in Present, Past, and Simple Future.

Spanish IV

Students will continue developing their ability to communicate in Spanish, incorporating the grammar and vocabulary that they have learned in previous years through thematic cultural units that expand their prior knowledge and address current issues. In addition, students will improve in the area of written communication. They will compose short essays in response to cultural events and issues focusing on Chile, Bolivia and Argentina. 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 culture, art, history and literature of Spanish-speaking countries.

Spanish V

This course is designed to develop and enhance students' knowledge of the Spanish language through reading, writing, listening, and speaking. In addition, students will improve their cultural knowledge of the Hispanic world by exploring and presenting on art, history, holidays, food, traditions, the impact of technology, and challenges that contemporary global society is facing. The aim of this course is to prepare students that are confident in their ability to communicate in Spanish and to demonstrate curiosity and empathy towards the different cultures that make up the Hispanic world. For this reason, both the teacher and the students will speak almost exclusively in Spanish throughout the year. Students are required to speak Spanish only, abiding the "Palabra de honor".

Flexible Pathways: World Languages

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

- **Service Learning Abroad**

See the PBL offerings section for more information!

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 a Spanish or French during the school year or over the summer.

Talk to your counselor for more information!

Future Offerings:

Next be available in 2018-19:

Language and Culture Exploration

The Culture and Language Exploration course is designed to give students a basic introduction to linguistic and cultural differences of select nations and regions of the world. Students will learn introductory vocabulary and grammar in Spanish, French, Russian and Romanian and will begin to develop an understanding of the history, geography, and daily life of the cultures studied. Students will conduct more focused investigations independently and in small groups and will share their findings with the class and the instructor.

Fine Arts

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 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 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.

Visual Art

Exploration in Art: Texture, Color, and Form

Do you want to explore what makes great art? Through the exploration of three of the basic Elements of Art and Principles of Design, students will delve into various mediums such as ceramics, acrylic painting, watercolor, collage, and more. The course work will center on interesting art projects and the pursuit of creating good compositional work. Aesthetic and creative judgment will be examined and public exhibition a high point. *Exploration in Art* is one of two half year foundation courses which will help the student through further investigation of the arts. Watch your artistic abilities grow!

Exploration in Art: Line, Value and Space

Did you know that for every positive shape there is a negative shape surrounding it? Understanding this concept will help students create successful art. This course will have an emphasis on exploring Shape, as well as Line and Value; three of the basic elements of design and composition. Developing the use of line and value shading will be a big part of the artistic risk taking of exploring art. Importance will also be on the understanding of various artistic techniques and use of different materials with public exhibition as a high point. Students will be able to experiment with pen and ink, pastels, drawing pencils, paints, and much more. Both half year *Exploration in Art* classes offer building blocks in the foundation of art.

2D VS 3D: Finding the Artist Within

Have you ever thought about who you are? What you stand for? Art is a great pathway for self exploration! The semester course is designed to help students pinpoint areas of interest and art specific strengths. This personal journey will involve the investigation of both 2D and 3D styles of art. This level of **advanced art** is a progression of studio-based investigations for students interested in pursuing art on a more advanced and intense level. Projects and exploration cover a more narrow range of self examining of topics/techniques. Self-expression, thinking abstractly & creatively, while developing understanding of one's individuality and cultural diversity becomes the focus of *Finding the Artist Within*. This semester class is recommended for students who have taken art foundation classes.

3D Art

If you like creating art with your hands, this is the course for you. This semester class will investigate and develop various relief and 3D sculpture projects. By observing established sculptural forms and different artists styles, the student will develop artwork using diverse media such as clay, plaster, wood, and more. Aesthetic judgment and artistic problem solving become fun challenges when creating projects like oversized Pop Art Food. The class incorporates both smaller individual work as well as group involvement in large projects. Public exhibition of work will be a high point. Come see if you can change a discarded book into a work of art, or work recycled materials into something beautiful and new!

Art & Artists

A big question in the 20th century is what defines art. What is abstract art all about? Is Banksy's graffiti a true expression of art? Students will investigate these and similar questions. Through film and video, discussion, and creating art, students will become familiar with a selection of well-known contemporary artists. The course focus is on understanding the motivations and methods of each artist so that students will be able to create original two-dimensional and three-dimensional works based upon discovered insights. Students will maintain a journal/sketchbook as part of a course. Critical response and analysis of the artistic process is the main focus of the semester course.

Compositional Development

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!

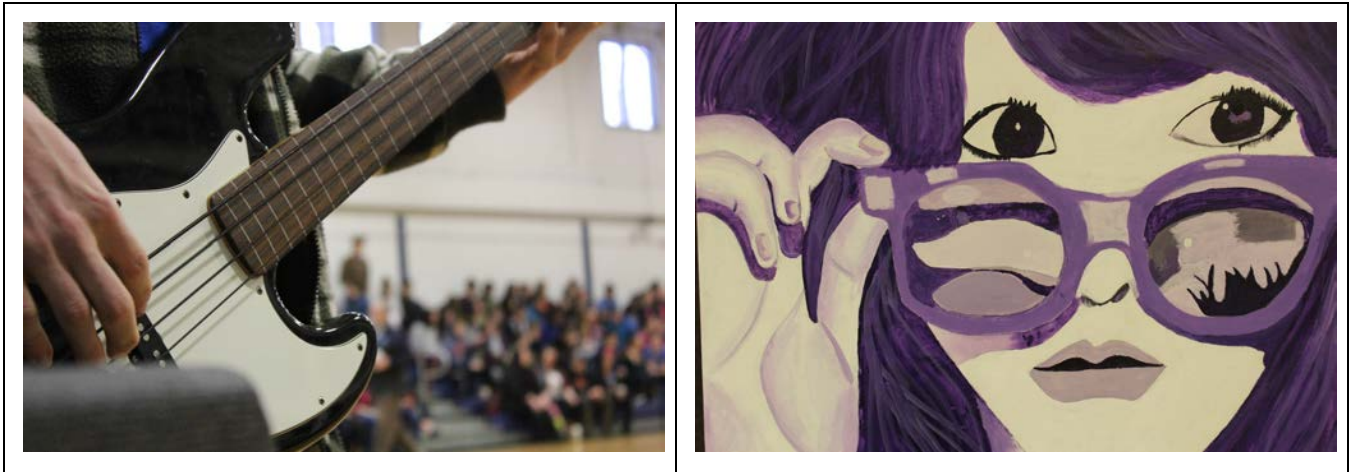
Construction Art

Do you want to be part of an award winning team? In this course, students have created Halloween floats that have gained awards and recognition. Or maybe be you can be the student building props for local plays, or backdrops for student dances. This semester course works from the ground up creating and developing purposeful projects. Designing and building three dimensional structures is the main focus. Power tools, wood, nails, and screws become the students mediums, Working creatively as well as planning and organization are important aspects of the course. Students will engage in a respect approach to work and productivity to ensure a safe environment and construction of large pieces of art.

Drawing and Painting

"What do drawings mean to me? I really don't know. The activity absorbs me. I forget everything else in a way that I don't think happens with any other activity" (John Berger). Find out what drawing and painting means to you! The semester course will first focus on the development of drawing skills using a variety of media and techniques. The second half of the class will focus on developing various painting explorations based upon drawing from life as well as abstraction. Students will be expected to maintain a sketchbook of ideas and observations as outside work. Using elements and principles of art and conveying artistic intent while understanding the particular properties of the artistic media will be

key in this semester course. Public exhibition of work will be a high point. “Good drawing forms the 'bones' on which a strong painting hangs” (Chris Bingle).



Music

Guitar Class

Have fun and make friends while learning the friendliest instrument of all! In Guitar Class, the goal is to provide students with the opportunity to enjoy music for their entire life. Students will learn to read music at a basic level, gain confidence when performing, begin to understand and apply music theory and learn and practice the basics of musical composition. The class will culminate in a final project involving music you love.

Digital Music Performance (PBL) 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 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, hearing safety, communication, writing, physiology 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 address a community need such as creating a public service advertisement for radio, producing a podcast about a community issue, or creating a warm-up song for the basketball team.

Jazz Band

Jazz is an open-ended music designed for open minds, so open your mind and join the RU Jazz Band. This course is intended for capable, self-motivated students who are interested in learning more about jazz and improvisation. This ensemble will play regularly here in Randolph and at in-state jazz festivals. We will play from all eras in the jazz tradition and begin to learn the basics of harmony, melodic construction, blues form and swing. There will be listening sessions, improvisation exercises, and solo transcription as part of the course. Playing in the RU Band and Marching Band are a requirement of the

course. As Louie Armstrong said, "What we play is life." Permission of instructor is required for admission to the course.

Senior Band

Band is for students who enjoy making music with friends! Through participation in various concerts, parades and music festivals, students will improve their ability to perform on their instrument, both alone and with others. They will also learn to listen, analyze, and evaluate performances. Community performance will be an important aspect of the course. Band members will participate in and critique various programs throughout the year at which participation is required and assessed. Students are encouraged to audition for both the Winooski Valley District Music Festival and the All-State Music Festival (high school, only).

Senior Chorus

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 and critique various programs throughout the year at which participation is required and assessed. Students are encouraged to audition for both the Winooski Valley District Music Festival and the All-State Music Festival (high school, only).

Flexible Pathways: Fine Arts

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

- **Digital music performance**

See the PBL offerings section for more information!

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.
- **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!

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

Introduction to Personal Fitness

This course serves as a foundation for high school physical education. The purpose of this course is to motivate students to achieve lifelong physical fitness with a strong emphasis on the components of health-related physical fitness. 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 design their own personal fitness programs. Additional topics include; Our country's declining health through food choices, fundamentals of exercise physiology, correct and safe weight training techniques, and the application of training principles.

Recreational Sports

The goal of this course is to promote a lifetime of wellness through sport and build upon the foundational knowledge learned in middle school physical education. Students will experience wellness through sport and recreational style competition by participate in, and gaining a better understanding of, a variety of recreational team, individual, and dual sports. The course will cover several of the following activities; handball, table tennis, volleyball, badminton, floor hockey, Soccer, softball, etc.

Lifetime Fitness

This is an elective course designed to meet the needs students with both recreational sport and fitness interests. Students will participate in a variety of physical activities with an emphasis on lifetime individual sports such as, hiking, rock climbing, mountain biking, disc golf, and bowling. The content of this course goes beyond traditional health and physical education course offerings. Students will gain the awareness, knowledge and skill sets needed to be active throughout their lifetime.

Strength and Conditioning

In this course, students develop personal fitness and performance goals for various sports and fitness related activities. This course will be ideal for the athlete or non-athlete that wants to condition the total body. A plan to achieve goals will be developed and implemented during this semester long course. An introduction to Olympic style lifts and conditioning activities will be incorporated to promote improvement in strength, endurance, balance, agility and speed. Movement technique, safety, and the principles of training will be emphasized. Injury prevention is a bi-product of this course.

Unified Physical Education

This course is designed to advocate for the physical education and socialization of our diverse school community. Students will engage in the education of our diverse student population through class experiences and exposure to text, film, and guest speakers throughout the semester. They will identify specific movement and social goals for one another, and build a tolerance for different strengths and weaknesses. As the semester progresses, students will be instrumental in the planning and instruction of classes. It is their responsibility to assist and participate in the daily movement activity and games. The primary goals of this course are to create awareness and tolerance through movement.

Health

Health Education

RUHS 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 typically in the sophomore/junior year. 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).



Driver Education

Driver Education

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. Therefore, parents will be required to accompany their teenager for a minimum of twenty documented hours of driving practice, all of which must be recorded during the semester of course enrollment. 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. The major parts of the Vermont Framework that will be addressed by this course are: Vermont Vital Results: Problem Solving, Healthy Choices, and Making Decisions. 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.

Flexible Pathways: Physical Education

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

- **Athletics:** Students who are engaged in a rigorously coached athletic program at RU or outside of school, are invited to develop an ILO to meet Physical Education standards.

Talk to your counselor for more information!

Future Offerings:

This offering will next be available in 2016-17:

Team Sports and Coaching

This course is for students with team sports and coaching interests. Students will also gain an understanding of basic coaching principles. These principles will include developing an individual coaching philosophy, tools to motivate athletes, teaching techniques and tactics, as well as learning how to manage relationships between coaches, athletes and parents. Students should complete Introduction of Personal Fitness/Wellness and Recreational Sports before enrolling. Open to juniors and seniors. Sophomores may join with permission of the instructor.

RTCC

Randolph Technical and Career Center

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 Technical 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

All RTCC students are required to present a Technical Project as part of their graduation from the center. The Technical Project provides an independent learning opportunity for students. The project is aligned with the student's technical program. The Project requires the successful completion of a reflection paper, a portfolio of the student's achievement, and oral presentation. The Oral Presentation offers the student the opportunity to present his/her technical project to the program advisory board, the program instructor, the student service coordinator, and the English teacher.

Work Based Learning

"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. We hope to be using Schoology as our Learning Management Platform in 2017 2018 school year so all students can document their proficiency.

Business Core Programs

Business Management

Students prepare for a two or four year college program in accounting, advertising, retailing, marketing, merchandising, or business management. Those who expect to immediately enter the business world prepare for entry-level jobs in banking, customer services, or retail operations. All students study accounting, computer applications, management, and marketing, while exploring future options through college and business visits. Students prepare a professional business plan for their own business, and may receive college credit upon completion of their accounting and/or computer applications work.

Students also create, market, and operate classroom micro businesses, with profits shared among participants. During the second semester, students may choose to participate in a work-study program or take a college course. Leadership opportunities and scholarships are available through the local, state, and national DECA organization.

Graphic Arts

The Graphic Arts program is a one-year program that exposes students to the skills necessary to pursue further education or work experience in the graphic arts industry. The program builds specific skills in drawing, illustration, graphic design, software applications, computer systems management, printing, designing for film, and digital photography. Students study the work of design professionals both in the classroom and out in the field and complete projects for a variety of public customers.

Digital Filmmaking

The program exposes students to a new project each week, where they will have the opportunity to produce a video in a format ranging from a narrative film, documentary, commercial, music video, TV show, or web series. Within these projects, students are given the opportunity to perform each of the production functions. Beyond these real world projects, students read (or watch) and analyze articles, movie scenes and entire films.

Mechanical Core Programs

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

Building Trades

The Building Trades 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.

Environmental Resource Management

The Environmental Resource Management program is designed to expose students to natural science related skills and careers. Classroom study will include theory of environmental systems, GIS mapping, land use, water and soil systems, forest management, forestry practices including the safe and effective use of power and hand tools, equipment and apparatus. The program provides focused field labs and project-oriented activities. Within each area of study, career objectives and business applications will be explored through field trips to businesses, guest speakers, and applied demonstrations and projects.

Agricultural Technology

This program provides students with the skills and knowledge necessary in pursuing careers and college studies related to today's diversified agricultural business. Agricultural Technology students 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 and Social Services

The Human Services & Education 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.

Technical Health Careers

Technical 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.

Public Safety and Criminal Justice

The Public Safety and 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.