Ithaca High School
Program of Studies Playbook
2025-2026

Ithaca City School District

6000+ Thinkers

Educate, Engage, Empower, Everyone

BOARD OF EDUCATION

Dr. Sean Eversley Bradwell, President
Adam Krantweiss, Ph.D., Vice President
Garrick Blalock
Erin Croyle
Todd Fox
Jill Tripp, Ph.D
Emily Workman
Karen Yearwood

CENTRAL ADMINISTRATION

Dr. Luvelle Brown, Superintendent of Schools
Daniel Breiman, Assistant Superintendent for Operations
Mary Grover, Assistant Superintendent for Teaching and Learning
Zachary Lind, Assistant Superintendent for Human Resources and Technology
Robert Van Keuren, Chief Investigation Officer
Jennifer Gondek, Director of Special Education
Samantha Little, Director of Athletics & Wellness
Daphne Shululu, Director of Fine & Performing Arts
Margie Shaw, Master Educator for Inclusion
Gladira Velasquez Cruz, Assistant Director of Human Resources

HIGH SCHOOL ADMINISTRATION

Martha Hardesty, Acting Building Principal
Scott Breigle, Associate Principal 9th & 10th Grade
Patrick Hovey, Associate Principal 11th & 12th Grade
Hilary Ewing, Associate Principal Curriculum & Instruction

SPECIALIZED SUPPORT STAFF

Tsedale Forbes, Graduation Coach 9th & 10th grade
Cal Walker, Graduation Coach 11th & 12th grade
Jennifer Dobmeier, Director of Student Activities

DEPARTMENTS AND THEIR LEADERS

English: Rebecca Gergely & Lauren Norkus
ENL (English as a New Language): Jennifer Johnson
Fine Arts: Ursula Hilsdorf
Library: Armin Heurich
Math: David Pepe
Physical Education: Josh Chase, Master Educator
Science: Arti Jewett
Social Studies: Phil Jordan
Special Education: Dawn Thurmond
Student Services: Tiffany Atiba & Charmine Warriner
Technology & Engineering: Ian Krywe
World Languages: Lana Craig, Master Educator

Table of Contents

Student and Family Engagement Pages

Contains: Information to assist and inform students and families so they can make the most of their Ithaca High School experience

Ithaca High School
1401 N. Cayuga St., Ithaca, NY 14850
(607) 274-2145
"Engage, Educate, Empower"

Jason M. Trumble, Principal

Dear Students, Parents, and Caregivers,

This program of studies is the most important document to review in planning your high school academic pathway for planning a four-year high school program. The courses you select should be guided by your plans for the future and your current interests. As time passes and moves closer to graduation, it becomes increasingly more important to your future for you to choose courses of study that are appropriate for you, balancing your desire to do well with the opportunities to challenge yourself.

It is important to think about your future and what you want to do after you graduate from high school. Choosing your courses should be guided by your interests, abilities, and time. Some of you are sure of your future plans; others are still deciding. The courses that you choose will help you clarify your interests. At Ithaca High School, there is a wide range of programs designed to prepare you for post-high school experiences, and prepare you to be "college and career" ready.

On the following pages, you will see the graduation requirements and other useful information on your academic and social/emotional needs. In this document, you will find a description of the courses offered, along with any information on prerequisites, and the amount of homework to expect. You will be provided with the resources and support needed to select courses for the next year with your school counselor. Many people can advise you and guide you through this process. Your parents, teachers, and counselors can assist you to better understand your goals, graduation pathways, and future careers. The I.H.S. Student Services Team are familiar with the work you have done in different subjects and will be able to make suggestions on how best to utilize the program of studies. We encourage you to become an informed student by reading this document, discussing it as a family, and asking questions to our counseling staff. The workbook page included in the program of studies is devised to assist you in your planning.

The diversity of course offerings is one advantage of being part of a large, comprehensive high school. Schools around the state are in awe of some of the wonderful courses that we can provide our students. From our robust engineering courses and over 20 different college credit-bearing courses. To our AP offerings and our award-winning fine and performing arts programs, our students have a significant level of choice. Collaboration with your school counselor will help you understand your choices and provide you with decision making support. Our master schedule is built around your requests.

Good choices now, combined with our own core values of tenacity, integrity, ownership and compassion will result in a successful high school experience. We are IHS Strong!

Jason M. Trumble
Ithaca High School Principal

Vision, Mission, Values

Our Vision
6,000+ Thinkers

Our Mission
Educate, Engage, Empower, Everyone

ITHACA HIGH SCHOOL CORE VALUES

TENACITY *the quality of being determined to do or achieve something; firmness* * I can keep trying – asking for help…striving and working towards my goals. * I can invest the effort and energy needed to be successful. * I can keep trying even when something gets difficult.	**OWNERSHIP** *the quality of being responsible for yourself and taking accountability for what you say and do* * I can be responsible for my actions. * I can admit mistakes, apologize when I should, and take pride in my good work. * I can understand that my actions are a reflection of myself, my peers, my family, school and community.
INTEGRITY *the quality of being honest, fair, and doing the right thing in a reliable way.* * I can do the right thing even when no one is watching. * I can tell the truth and take responsibility for what I say and do. * I can put away excuses and follow through on a commitment.	**COMPASSION** *the quality of being respectful of another's feelings and showing kindness and a willingness to help others.* * I can empathize with others, even when I do not agree. * I can be courteous, warm, welcoming, and accepting of others. * I can be understanding of others and acknowledge that everyone has unique life experiences that shape what they say and do.

Board of Education Priorities:

Culture of Excellence for Everyone
Equity
Communication
Data
Resources

ACCESS TO COURSES

In the Ithaca City School District all education, vocational education, and employment opportunities, will be offered without regard to sex, race, color, national origin, or handicap. This procedure is in compliance with Title IX of the Educational Amendments of 1972 as well as the requirements of Section 504 of the United States Rehabilitation Act of 1973.

ITHACA HIGH SCHOOL

PROFILE 2024-2025 | Martha Hardesty, Principal

1401 North Cayuga Street
Ithaca, New York 14850
CEEB Code 332-535
BEDS Code: 61 06 00 01 0017

ph: 607-274-2157 / 607-274-2218
fx: 607-277-3061
www.ithacacityschools.org/highschool
Accredited by the New York State Education Department

SCHOOL COUNSELORS

Tiffany Atiba | tiffany.atiba@icsd.k12.ny.us
Raquel Gonzalez | raquel.gonzalez@icsd.k12.ny.us
Tara O'Malley | tara.omalley@icsd.k12.ny.us
Danielle LaGrua | danielle.lagrua@icsd.k12.ny.us
Charmine Warriner | charmine.warriner@icsd.k12.ny.us
Matthew Riehlmann | matthew.riehlmann@icsd.k12.ny.us

ITHACA COMMUNITY

Located in Ithaca, a city of 30,000

Nestled in the Finger Lakes Region of Upstate New York

With Cornell University, Ithaca College and Tompkins Cortland Community College in close proximity, the focus of the community and its chief industry is education.

Total enrollment of the Ithaca City School District: 5,023

STUDENT BODY

Class of 2024 – 349 students
High School –1423 students

62.16 %	White
6.72 %	African American
9.62 %	Hispanic
11.32 %	Multiracial
9.90 %	Asian
0.07 %	Native Hawaiian/Other Pacific Islander
26.31 %	C.E.P

ADVANCED COURSES OFFERED

AP and Honors classes offered in all academic subjects. 23 Concurrent Enrollment Courses offered for college credit with Tompkins Cortland Community College are also offered.

Advanced Placement

Art	Computer Science	German	Psychology
Biology	English Language	Human Geography	Spanish
Calculus AB	Environmental Science	Music Theory	Statistics
Calculus BC	European History	Physics 1	US History
Chemistry	French	Physics C	

ADVANCED PROGRAM OPPORTUNITIES

Electives in all academic areas plus Technology & Engineering and Fine Arts
Career and Technical Education at TST BOCES
Project Lead The Way (PLTW) - College Credit available from RIT
Concurrent enrollment w/ Tompkins Cortland Community College
New Visions; Engineering, Exercise Science & Human Performance, Health Sciences, Life Sciences

CLASSES

7 periods per day
Limited 0 period before school offerings
47 minutes in length
1 credit per year long course
.5 credit for semester course

CLUBS AND ACTIVITIES (Partial List 50 + Total)

A Capella Club	Drama Club	IHS Communications	Peer Tutoring	Student Council
Arabic Language Club	Fashion Club	International Foods Club	Psyche Club	SWIS
Art Club	Film Club	Alliance	Quizbowl Club	Tattler – IHS Newspaper
Beauty of Color Club	French Club	Japanese Culture Club	Rock Climbing Club	Technology Student
Bella Voice	Geopolitics Club	Key Club	SAGA	Association
Biobuilders Club	Global Alliances	Letters of Love	Scholar-Athlete Council	Theater Tech Club
Code Red Robotics	Hospitality Club	Libera Voice	Science Olympiad	TV Production Club
Community Care Bears	International Foods Club	Marine Bio Club	Ski Club	Undivided
Community Closet	I-RISE	Math Team	Social Justice Week Club	Yearbook
Creative Writing Club	IHS Ambassadors	Mock Trial	Speech and Debate Club	Youth Enrichment
Dev Team	IHS Climate Justice	Model UN	Stall Stories	Initiative Club

GRADUATION REQUIREMENTS

4 English & 4 Social Studies
3 Math & 3 Science
World Language:
1 Regents diploma
3 Advanced Designation diploma or
1 + 5 Credit Sequence in Arts / CTE

1 Fine Arts
.5 Health
2 Physical Education
Regents Exams:
5 Regents diploma (4+1 Pathway)
8 Advanced Designation diploma

Minimum 22 Credits required

2023-2024 Grading

In response to the COVID-19 Pandemic, student transcripts may show the following changes: Courses ending in 2020 students elected a Numerical Grade or Pass/Fail for a final grade. Courses ending in 2021 students elected a Numerical Grade or Credit Earned (CE)/Credit Not Earned (CNE) for a final grade.

2023-2024 Graduation rate: 86.7% Unofficial rate calculated internally

GRADING SCALE

The Ithaca City School District Board of Education (Policy #4741) eliminated the practice of ranking students by decile. Instead, Ithaca High School calculates two cumulative grade point averages (weighted and un-weighted). Both are provided to colleges through the student's high school transcript.

The un-weighted GPA is computed as an average of final course grades of all traditionally graded IHS courses. The weighted GPA is computed using an honor point scale, as shown in the charts below. Both weighted and un-weighted GPA exclude courses in, academic assistance labs and those taken pass/fail, CE/CNE, abroad or outside the IHS curriculum.
Computed scales are as follows:

Weighted Scale for Honors Courses (25%)		
4.33 = 5.41	3.00 = 3.75	1.67 = 2.09
4.00 = 5.00	2.67 = 3.34	1.33 = 1.66
3.67 = 4.59	2.33 = 2.91	1.00 = 1.25
3.33 = 4.16	2.00 = 2.50	0.00 = 0.00

Weighted Scale for AP Courses (40%)		
4.33 = 6.06	3.00 = 4.20	1.67 = 2.34
4.00 = 5.60	2.67 = 3.74	1.33 = 1.86
3.67 = 5.14	2.33 = 3.26	1.00 = 1.40
3.33 = 4.66	2.00 = 2.80	0.00 = 0.00

Grading Scale					
97-100	4.33	A+	77-79	2.33	C+
93-96	4.00	A	73-76	2.00	C
90-92	3.67	A-	70-72	1.67	C-
87-89	3.33	B+	68-69	1.33	D+
83-86	3.00	B	65-67	1.00	D
80-82	2.67	B-	<65	0.00	F

2023 AP Scores	Number of Students
5	391
4	339
3	149
2	83
1	18

Mean SAT Scores	Evidence Based Reading & Writing		Math	
	23-24	24-25	23-24	24-25
Ithaca High School	650	643	639	639
New York State	522	522	516	513
National	575	519	493	505

Mean ACT Scores	2022	2023	2024
Ithaca High School	27.3	28.3	28.5
New York State	25.3	25.3	25.4
National	19.8	19.5	19.4

CLASS OF 2024 COLLEGE MATRICULATION *PARTIAL LIST*

Albany State University
Bard College
Baylor University
Binghamton University
Brandeis University
Clarkson University
Colgate University
Cornell University
Corning Community College
Drexel University
Eastman School of Music
Culinary Institute of America
Farleigh Dickinson University
Fashion Institute of Technology
Florida International University
Hamilton College
Hartwick College
Hobart William Smith Colleges
Indiana University-Bloomington
Ithaca College
Louisiana State University
Loyola University Maryland
Macalester College
Marist College
Middlebury College
Morgan State University
Nassau Community College
New York University
Niagara University
Northeastern University
Oberlin College
Oberlin Conservatory of Music
Ohio State University
Pennsylvania State University
Rochester Institute of Technology
Saint Michaels College
San Diego State University
Skidmore College
Southern Connecticut State University
SUNY Alfred
SUNY Buffalo
SUNY College of Technology at Delhi
SUNY Geneseo
SUNY New Paltz
SUNY Oneonta
SUNY Oswego
SUNY Plattsburgh
SUNY Purchase
SUNY Stony Brook
Stanford University
St. Lawrence University
SUNY Buffalo State
SUNY Cortland
SUNY Maritime College
SUNY Polytechnic Institute
SUNY Purchase
SUNY Stony Brook
Susquehanna University
Swarthmore College
Syracuse University
Temple University
The New School
Tompkins Cortland Community College
Tufts University
University at Albany
University at Buffalo
Universite de Lille
University of Alberta
University of Arizona
University of Alabama
University of California-Davis
University of Colorado Boulder
University of Florida
University of Massachusetts-Amherst
University of Massachusetts-Boston
University of New England
University of North Dakota
University of Pennsylvania
University of Rochester
University of Tampa
University of Toronto
University of Vermont
University of Wisconsin-La Crosse

ITHACA HIGH SCHOOL LIBRARY

Teacher Librarian/Department Leader: Armin Heurich
Phone: (607) 274-2186
Email: aheurich@icsd.k12.ny.us

Teacher Librarian: Rachel McDonald
Email: rachel.mcdonald@icsd.k12.ny.us

The library remains open for homework and study for an hour after classes every day except Friday, and the library is available as a meeting space after school for various clubs and student activities.

Hours:

Monday - Thursday 8:30 am - 4:30 pm
Friday 8:30 am - 3:45 pm

The Ithaca High School library offers a wide range of services to support the educational needs of students and staff, as well as fostering personal interests. Students receive individualized assistance accessing our collection of approximately 21,000 books and over 4,000 audiobooks and e-books in our Sora/Overdrive platform, which is easily accessible on all computers and mobile devices. In addition, we subscribe to over 30 periodicals and numerous research databases. We specialize in book recommendations and have curated online suggestions for every interest. Links to valuable research tools, tutorials, and recommended booklists, can be found on our website: **http://tinyurl.com/ithacahigh-lib**

Interlibrary Loan

The Inter-Library Loan service connects students and staff to library material at other regional libraries. Students have access to theMac lab for multimedia production and the library staff provides support for students' district-issued Chromebooks. Photocopying and scanning are available.

IHS Community Closet

Rachel McDonald manages the IHS Community Closet (https://bit.ly/ihscloset) located just off of the library. It is open every day during Universal Lunch and on an as-needed basis. In the 23-24 school year, there were over 1800 student visits for clothing, shoes, and toiletries. All visits are free and confidential. The Community Closet is supported by students, families, and staff. Donations of clothes and shoes in new-to-excellent condition (no rips, stains, or tears), new/unopened toiletries, and base layer clothing are greatly appreciated.

School Food Center

Managed by Rachel McDonald, the School Food Center offers food to take home to students and staff. It is open Mondays, Wednesdays, and Fridays. IHS Community members who want food to take home need to fill out an order form by the end of Universal Lunch (12:12 pm) for same day fulfillment of their order. Orders of food through the School Food Center (SFC) are confidential for all.

Guide to Choosing Your Schedule

Contains: Essential information that students and families should read and discuss prior to making course selection for next year.

MEET STUDENT SERVICES AT ITHACA HIGH SCHOOL

Office Phone: (607) 274-2157

Student Services Staff

Jacquelyn Aman
Student Services Administrative Assistant
Email: jacquelyn.aman@icsd.k12.ny.us

Deborah Casey
IHS Registrar/Records
Email: dcasey@icsd.k12.ny.us

Jay Barnes
College & Career Senior Typist
Email: jbarnes@icsd.k12.ny.us

School Counselors

Danielle LaGrua **A-Co**
Email: danielle.lagrua@icsd.k12.ny.us

Matthew Riehlmann **Cb-Ho 9th & 10th grade**
Email: matthew.riehlmann@icsd.k12.ny.us

Tara O'Malley **Cb-Ho 11th & 12th grade**
Email: tara.omalley@icsd.k12.ny.us

Tiffany Atiba **Hp-Me**
Email: tiffany.pena@icsd.k12.ny.us

Charmine Warriner **Mf-Se**
Email: charmine.warriner@icsd.k12.ny.us

Raquel Gonzalez **Sf-Z**
Email: raquel.gonzalez@icsd.k12.ny.us

Social Workers & Psychologist

Katina Scavuzzo **A-K**
Email: katina.scavuzzo@icsd.k12.ny.us

Lyn Reitenbach **LN-Z**
Email: mreitenb@icsd.k12.ny.us

Shawn Goodman **School Psychologist**
Email: sgoodma1@icsd.k12.ny.us

Student Services at Ithaca High School

Who We Are

The Student Services team at IHS believes that all students deserve a safe and welcoming school environment where they can pursue their goals and make meaningful relationships. We help to identify services and supports to promote positive mental health, meet academic needs, and explore postsecondary pathways for all. We specialize in assisting students achieve all academic goals as well as interests in pursuing employment, trades, military careers, college, etc.

Our team is intentional in our efforts to actively dismantle racist and biased policies and procedures. We are social justice advocates, leaders, and change agents. We work to ensure that all students, specifically students from diverse backgrounds, develop in healthy and successful ways in their academic, career, and social/emotional development.

We are a team of trained professional counselors, social workers, and psychologists who work with students, teachers, administrators, and families, to promote the health and well-being and academic success of all students.

Getting The Help You Need

Accessing help in a safe and non-judgmental way is important to our team. Students can drop-in or make an appointment with their Social Worker and/or School Counselor. To make an appointment, please contact the Student Services Secretary, or drop-in to the Student Services suite (J116) to connect for the support you need.

Supporting Mental Health and Well-Being

We support and promote the health and well-being of all of our students as the foundation for all life activities. All students deserve the right to a school environment that is welcoming and supportive of their identity and individually defined goals.

Supporting Life After High School

We aim to equally support all students and their future interests. Identity development is one of the defining characteristics of high school. We partner with all students and families to help them explore, define, and achieve their unique goals.

Supporting Academics

The center of all learning happens when students connect with teachers, peers, and the material in the classroom. Our team is committed to helping each student access their learning by advocating, connecting, and planning, to maximize confidence, relevancy, achievement, and outcomes.

New York State Regents Diploma Graduation Requirements

*This is an overview of the graduation requirements in New York State for both the NYS Regents Diploma and NYS Regents with Advanced Designation. There are additional pathways to graduation. Please see your school counselor to discuss your unique graduation plan.

Regents Diploma

Earn a total of 22 units of Credit

- **4 Credits in English**
- **4 Credits in Social Studies** – 2 Global Studies, 1 United States History, 1 Government/Economics
- **3 Credits in Mathematics**
- **3 Credits in Science** – must include: 1 life science, 1 physical science
- **1 Credit in World Language**
- **1 Credit in Fine/Performing Arts**
- **½ Credit in Health**
- **Physical Education –** enrolled every semester in high school – 2 credits

Regents Exams Passed (65+):

- English
- History
- Mathematics
- Science
- One additional History, Math or Science

For students new to NYS, please discuss a Regents Exam plan with your School Counselor

Regents Diploma with Advanced Designation

Earn a total of 22 units of Credit as listed for Regents Diploma

- **Additional Elective Pathway:**
    - **3 Credit sequence in World Language**
    - **5 Credit sequence in Technology & Engineering or Fine Arts**

Regents Exams Passed (65+):

- English
- Global History
- United States History
- Algebra 1
- Geometry
- Algebra 2
- Life Science
- Physical Science

Local Exams Passed (65+):

- World Language Checkpoint A (if needed for level 1 language credit prior to grade 9)
- World Language Checkpoint B

Other Possible Credentials and Certificates

New York State Career Development and Occupational Studies Commencement Credential

The NYS CDOS Commencement Credential is a credential recognized by the NYS Board of Regents as a certificate that the student has the knowledge and skills necessary for entry level employment.
Mandatory Components:

- a **Career Plan** including documentation of career interests, career-related strengths and needs, career goals, etc.
- demonstrate achievement of CDOS learning standards in the areas of career exploration and development, integrated learning, and universal foundation skills.
- complete at least **216 hours of CTE/Technology** coursework including at least **54 hours of work-based learning experiences**.
- at least **one completed employability profile**.

Any student can receive a CDOS credential in addition to a Regents or Local diploma. The CDOS credential can also be used as a "pathway" to graduation. Please see your school counselor if you have questions about obtaining your CDOS Credential.

New York State Skills and Achievement Commencement Credential

Beginning with the 2013-14 school year and thereafter, New York State (NYS) introduced an option for students with disabilities. There is an Individualized Education program (IEP) diploma with a Skills and Achievement Commencement Credential for students with severe disabilities who are eligible to take the New York State Alternate Assessment (NYSAA).

In this context, students with severe disabilities means students who have limited cognitive abilities combined with behavioral and/or physical limitations and who require highly specialized education, social, psychological, and medical services, in order to maximize their full potential for self-fulfillment and meaningful participation in society. Students with severe disabilities may experience significant speech, language, and/or perceptual-cognitive impairments, and evidence challenging behaviors that interfere with learning and socialization opportunities. These students may also have extremely fragile physiological conditions and may require personal care, physical/verbal supports, and assistive technology devices.

The Skills and Achievement Commencement Credential will provide this group of students who are exiting school after attending at least 12 years, excluding kindergarten, with a commencement certificate similar in form to the diploma issued by the school district. The Skills and Achievement Commencement Credential must be accompanied by documentation of the student's skills and strengths and levels of independence in academic, career development, and foundation skills, needed for post-school living, learning, and working.

New York State Seal of Biliteracy

Any student who is proficient in a language other than English can apply for the New York State Seal of Biliteracy to be added to their diploma. Eleventh (11th) grade students interested in applying must submit a letter of intent and apply during 12th grade. To be considered, students must achieve 3 "points" in both English and the target language which includes a presentation to a panel in the target language. For more information please see your school counselor or email Emily Ufford (eufford@icsd.k12.ny.us). You may also wish to review the student handbook found at: http://www.nysed.gov/world-languages/new-york-state-seal-biliteracy-nyssb

Levels of Instruction

At Ithaca High School another component of selecting a student's course of study is choosing the appropriate level of instruction. Levels of instruction are explained in detail below: **(Please be sure to read the homework requirements for each course you are requesting.)**

REGENTS (R)

Regents courses are college preparatory courses and are based on the NY State curriculum. These courses have been designed to prepare students for a large variety of colleges and will often require a research project as well as some independent study.

HONORS (H)

Honors courses will have extended areas of study; not available in other courses, substantial homework, and possibly extensive research projects and independent study.

DUAL ENROLLMENT

Tompkins Cortland Community College (TC3) works with partner schools to approve qualified high school instructors as adjuncts who offer college courses, following the TC3 course syllabus, in their high school's regular schedule. Qualified students earn high school and college credit concurrently, at no cost to the schools or students. This program enables students to take challenging, college-level courses in high school, strengthen the transition from high school to college, and earn college credits that can then be transferred to many colleges and universities in New York and throughout the country.

- Interested students should sign up for the course at Ithaca High School during the course request and registration process.
- Students can also sign up for online courses at a reduced tuition rate.
- For more information, please visit: http://www.tompkinscortland.edu/collegenow.

ADVANCED PLACEMENT (AP)

An AP course is an introductory college course. Compared to other high school courses, AP courses often take more time and work because they explore subjects in greater depth. As part of the course, students will be prepared for and are encouraged to take the AP Examination in May.
The awarding of college credit for an AP course is at the sole discretion of an individual college at which a student enrolls. The College Board publicizes each college's individual AP credit policy, searchable at:
https://apstudents.collegeboard.org/getting-credit-placement/search-policies/

- The rules and regulations for AP exams are regulated by the College Board.
- Students who wish to take an AP exam must register online for the exam in the Fall (approximately by mid-November), supported by the IHS subject teacher and AP Coordinator.
- All AP exams have an associated fee, and **fee waivers** are available for eligible students. In 2023-2024 this fee was $98. **Students may register after the deadline but are subject to a late registration fee.**
- Any student who requires testing accommodations must have their accommodations approved by the College Board prior to testing. Only the College Board approved accommodations can be provided on AP exams.
- For more information visit ap.collegeboard.org. AP is a registered trademark of collegeboard.org.

Other Programs and Considerations

TST BOCES

PROGRAMS IN CONJUNCTION WITH I.H.S.

CAREER AND TECHNICAL EDUCATION

Career and Tech Programs instruct students in a variety of technical areas, preparing them for entering the workforce with a marketable skill and for continuing on to higher education. Classes are conducted at the Career and Tech Center on Warren Road in Ithaca. These programs are taught for a minimum of 2 hours during the AM or PM session each day, and all courses provide an internship experience over the course of the completed curriculum. Bus transportation is provided daily to and from the Career and Tech Center. Students continue their major academic subjects in the remaining three or four periods at the home school district. Courses may yield three or four credits, depending on individual students' situations.

All Career and Tech classes are currently New York State approved. To be approved, courses must meet rigorous guidelines related to assessment, an academically strong curriculum that is aligned with the New York State Learning Standards, and relevance to industry practices. Most Career and Tech courses offer integrated math and science credit, and some classes offer Concurrent Enrollment college credit through Tompkins Cortland Community College (which is listed in the course descriptions). All Career and Tech Programs have at least one articulation agreement with colleges that have a related program.

NEW VISIONS PROGRAMS

The Career and Technical Education Center offers two exciting and challenging senior year options for college bound students who are looking for a different educational experience for their last year of high school. The New Visions program in Health Sciences is offered in cooperation with the Cayuga Medical Center and offers an introduction to various medical specialties and opportunities. The New Visions program in Life Sciences allows students to explore their interest in the life process and the world around them from a biological and social perspective, in cooperation with Cornell University. Students in these programs attend the high school for two periods a day and the rest of their day is spent on site. Entry in these programs is competitive. Interested students should refer to the Career and Technical Center sections of this guide and talk with their school counselor.

ALTERNATIVE PATHWAYS THROUGH TST BOCES

HIGH SCHOOL EQUIVALENCY: GED

TST BOCES strives to offer options that meet the variety of needs in the community. These options will help you reach your goal of attaining a high school equivalency diploma which will lead to future opportunities for career and academic success.

REGIONAL ALTERNATIVE SCHOOL

The Regional Alternative School is a nurturing community and safe place where students can make a fresh start in a small school. We support the academic and personal growth of young people with the hope that they become willing and able contributors to their communities. We value communication, camaraderie, commitment, compassion, and courage!

P-TECH ACADEMY

Students enter the P-TECH program as ninth graders and each will successfully earn their Regents Diploma, Associate's Degree, and gain access to a quality work opportunity in either Advanced Manufacturing or Computer Science at the end of their time with us.

EXCEPTIONAL EDUCATION

TST BOCES provides programs in Exceptional Education to students ages five through 21. Classes are provided for students at the Darwin C. Smith School located on the BOCES campus in Ithaca, NY. We also provide Itinerant Services for our component districts. Speech therapists, occupational therapists, teachers of students who are blind or visually impaired, and teachers of students who are deaf or hearing impaired, travel to component districts to provide services as requested. Applications to BOCES Special Education programs are submitted through the home school district's Committee of Special Education**.**

NCAA Division 1 & 2 Participants

The NCAA Eligibility Center certifies the academic and amateur credentials of all college-bound scholar-athletes who wish to compete in NCAA Division I or II athletics. It is the responsibility of each individual student-athlete to make sure that their courses are approved by the NCAA. This should be done on a yearly basis by working with your school counselor.

- To access the list of NCAA-approved courses at IHS, go to the Eligibility Center website and enter the Ithaca High School information.
- If you plan to participate in Division 1 or 2 athletics, then you must register with the NCAA (NCAA Registration). It is suggested that you register on the NCAA portal your sophomore year.
- Our NCAA Compliance Officer, Stephanie Valletta, is required to upload transcripts for registered scholar-athletes after their junior year and again after graduation.
- For students who have attended more than one high school, the NCAA Eligibility Center will need official transcripts from all high schools attended.
- There is a sliding scale for academic qualifications. For Division I, the minimum GPA is a 2.3 and for Division II, the minimum GPA is a 2.2. The GPA is calculated using core course grades only. Additionally, this is a sliding scale. The higher the SAT/ACT scores, the lower the GPA requirement. The lower the SAT/ACT scores, the higher the GPA requirement.
- Please see this slideshow for more information.
- Please direct questions and concerns to Stephanie Valletta, NCAA Compliance Officer, stephanie.valletta@icsd.k12.ny.us.

Please know that the NCAA requirements are the minimum and each institution, (DI, II, III, or JUCO) will have their own admission requirements. If you have any questions about the admissions standards for a certain college or university, you should contact their admissions office.

Reminders When Building Your Schedule

- Each student should strive to take 5.5 credits per school year (including 0.25 PE credits each semester). This helps maintain the 4-year pace for 22 overall credits needed for NYS graduation (5.5 credits x 4 years = 22 credits). Work with your School Counselor to make sure you are on track with graduation requirements in credits and NYS/Local exams.
- Select courses and levels that are unique to you and your individual interests and goals.
- IHS has a 7-period day with a universal lunch period for all students. Students may take an optional zero period course in either semester or in a yearlong course.
- Consider both individual courses and also your course load as a whole. Reflect on your responsibilities outside of school and the amount of time to dedicate to your studies, while also prioritizing and maintaining balance, health, and wellness.
- Explore elective areas such as art, technology, music, or drama. Clubs and organizations are also great opportunities to make connections and develop extracurricular interests.
- After the deadline of May 1, 2024, you will not be able to change your course requests.
- IHS does their best to place all students in their requested courses, but this is sometimes challenging or even impossible due to scheduling conflicts with the Master Schedule. Students are placed in courses through an automated sorting process in the SchoolTool database, and then each schedule and course requests are reviewed by each counselor.

Course Request Process

- Review graduation requirements, teacher recommendations, and **Program of Studies,** for the 2024-2025 school year.
  - Find teacher recommendations on SchoolTool under the student portal. On SchoolTool, go to the Grades tab, and select Progress Report Grades and Quarter 2: TchRec on the drop-down menus to access teacher recommendations. If you have a question regarding your recommendations, please have a conversation with your teacher.
  - For those students who are interested in the Career and Technical Education programs at TST BOCES or New Visions programs, please notify your school counselor by email as soon as possible.
- Use the Course Request Sheet to see the full list of offerings for next year, and use the Course Request/4 Year Planning Worksheet as a template to list your course preferences in preparation for your School Counselor meeting. Please keep in mind that the students will not be inputting their own courses into SchoolTool this year as they have in previous years, as the counselors will be supporting this entry so students can focus on their academic choices.

Teacher recommendations:

- IHS staff recommend that you follow your teacher's recommendation for course level request, however you are not required to do so. Your teachers are making the recommendation based on their subject area alone and do not see your full course load, you can always select a course at a lower level than recommended.
- If you wish to override the teacher recommendation and take a course that is a higher level than suggested (ex. you were recommended for H-US History, but you wish to take AP US History) – you must submit a **recommendation waiver form.**

4 Year Planning: Sample Worksheet

Things to consider:

- NYS Graduation Requirements
- Your short-term and long-term goals
- All the aspects of your life (ask yourself, does this schedule acknowledge all the other parts of my life? Will I have time for all my extracurriculars? Does this support my mental health in a positive way?)

Example: Below is an example of a 9th grader thinking about courses for the future. Their current goals include wanting to become a Third-Grade teacher. See below the type of courses this student is considering to help them reach their goal.

NYS Regents Graduation Requirements	9th Grade (Current Classes)	10th Grade	11th Grade	12th Grade
English (4 credits)	R/H English 9	R/H English 10	R/H English 11	English 101-102
Social Studies (4 credits)	R/H Global 1	R/H Global 2	H US History	Participation in Govt and Economics
Math (3 credits)	Algebra 1	R/H Geometry	Intro to Stats	
Science (3 credits)	R/H Biology	R/H Earth Science		Astronomy & Sustainable Ag
World Language (1 credit)	H Spanish 2	H Spanish 3		
Fine Art (1 credit)	Studio Art Fall Studio Art Spring			R/H Media Arts
Physical Education (0.5 credits/year)	PE 9 Fall PE 9 Spring	PE 10-12 Fall PE 10-12 Spring	PE 10-12 Fall PE 10-12 Spring	PE 10-12 Fall PE 10-12 Spring
Health (0.5 credits)		Health		
Elective (3.5 credits)		Woodworking	CTE (BOCES) Early Childhood 1st year (3.0 credits)	CTE (BOCES) Early Childhood 2nd year (3.0 Credits)
22 credits total	6.0 credits	6.5 credits	6.5 credits	7.5 credits

4 Year Planning & Course Request Worksheet

NYS Regents Graduation Requirements	9th Grade	10th Grade	11th Grade	12th Grade
English (4 credits)				
Social Studies (4 credits)				
Math (3 credits)				
Science (3 credits)				
World Language (1 credit)				
Fine Art (1 credit)				
Physical Education (0.5 credits/year)				
Health (0.5 credits)				
Elective (3.5 credits)				
22 credits total				

The Courses I am selecting to take during the 2023-24 school year are:

1_____ 4_____ 7_____

2_____ 5_____ Optional Zero Period

3_____ 6_____ _____

Recommendation Waiver Form - Academic Year 2025-2026

Dear Students and Caregivers,

By submitting this form, you are electing to **override** a **course level recommendation** that a teacher has made for your student. Please understand that we will honor your preference, but **we cannot guarantee a seat back into the originally recommended course if a level change is requested**.

We value you, our partners in education, and ask that you carefully consider your child's course requests. In order for us to honor your request, please return this form to the Student Services office at Ithaca High School, by **May 1, 2024.**

Date: _____

Student Name: _____

Course Recommendation: _____

Course Requested: _____

Student Signature	Date	Caregiver Signature	Date
Counselor Signature	Date	Principal Signature	Date

Course requests **must be finalized by May 1, 2025**

Course selection changes after the **May 1, 2025** deadline are not permitted. However, IHS understands that there are sometimes unforeseen circumstances that may require a change of schedule. If you believe your situation applies, the following is the process to follow for your request to be considered.

Schedule Changes Protocol

1. Initiation of Change

A. *Student or Parent/Caregiver* initiates change.
   i. Student is given a change form by a counselor (see next page) who screens for reasons. The following are **NOT** valid reasons:
      - Want a different teacher.
      - Want to be with friends.
   ii. Student returns completed form to counselor.
      a. If there is *positive* consensus the counselor may proceed to step 4.
      b. If there is *negative* consensus the student is informed of denial by the counselor.
      c. If there does not appear to be consensus, the counselor may, at their discretion, proceed to Step 2 and try to seek consensus.

B. *Staff* initiates change (Teacher, Administrator, Department Leader, etc.).
   i. Staff contacts appropriate counselor and details reasons for change.
   ii. Counselor proceeds to Step 2.

2. Investigation of Change - Building Level

A. Counselor contacts teachers and department leaders. Explains reasons for change, discusses mechanics of change, solicits approval, conditions, etc. This should be a single email thread so all responses are viewed.
B. Teachers, department leaders, etc. respond in a timely fashion.
C. Counselor determines consensus and proceeds to Step 3,

3. Investigation of Change - Family

A. Counselor contacts family and student to get final approval.
   i. YES - proceed to step 4,
   ii. NO - process ends or, at discretion, counselor can return to step 2.

4. Implementation of Change

A. Any pending issues "must return textbook," "must return calculator," "must submit plan for learning missed material," should be processed *before* change is finalized.
B. Counselor sends out notification email to all concerned parties.

Deadlines:

Adds (only in the first two weeks of the class)
Level Changes (before first marking period ends- for year long courses) (before five-week mark - semester courses)
***Drops** (before second semester for year long courses) (before first ten weeks for semester courses)
*with approval of School Counselor following review of graduation requirements

Course/Level Change Request Form

Provide the information requested below. Next, ask the people listed below to complete their section. When it is complete, bring the form to your counselor who will upload this form into your Schooltool notes.

Student Name:_____ **Date:**_____

Change requested: Current Course:_____

Drop **Add** **Level Change** Requested Course:_____

Reason(s) for requested change:_____

_____

_____

If this is a level change request, please indicate with a check mark which of the following you have done to improve your grade. (you must have done some of these before a change will be considered)

	Meet regularly with teacher for help		Attend AIS lab
	Work with tutor		Participate in class, ask questions
	Work with study group of peers		Complete all homework assignments
	Other:		

Parent/Caregiver Approval

Signature_____ **Returned course materials: Yes / No**

Print Name_____ **Notified New Course Teacher: Yes / No**

Current Teacher Approval **Teacher Comments**

Signature_____ _____

Print Name_____ _____

Department Leader Approval **Department Leader Comments**

Signature_____ _____

Print Name_____ _____

This section to be completed by Student Services office only

School Counselor Approval **Reviewed Grad Requirements**
Yes **No**

Signature_____ **Processed Update in SchoolTool**

Print Name_____ **Yes** **No**

Course Offerings by Department

This Ithaca High School Program of Studies is designed to engage students in social-emotional, physical, and academic growth, for success in both college and careers. Ithaca High School **does not** recognize online courses as a replacement for core coursework without written approval, prior to enrollment, by the Principal, or his/her designee. Ithaca High School **does not** recognize summer camp experiences (ex. Johns Hopkins, CNY), extracurricular experiences, or supplemental instruction at home, as replacement for the coursework outlined by Ithaca High School and the state of New York.

Contains: Department grids, highlighting each department's course offerings, and the detailed course descriptions.

ENGLISH DEPARTMENT

Department Leaders:
Rebecca Gergely
email: rgergely@icsd.k12.us
Lauren Norkus
email: lauren.norkus@icsd.k12.ny.us

The Ithaca High School English program is designed to help students develop skills in using the arts of listening, speaking, reading, and writing in order to confront, assimilate, and communicate experience. To help students use language effectively and fully appreciate the oral and written expression of others, the English Language Arts program teaches students how to gain information, to discover meaning, to understand logical relationships, and to make judgments through critical listening, reading, and viewing; to speak, write, and solve problems creatively; to communicate emotions, ideas, opinions, values, experiences, and information; to discover both the power and the beauty of literature as a mirror of human experience, reflecting human motives, conflicts, values, and traditions.

TC3 CONCURRENT ENROLLMENT

The English department offers classes for credit from TC3 (Tompkins Cortland Community College): English 101/102. No tuition or textbook fees are charged. Credits transfer to all SUNY colleges and many private institutions.

ADVANCED PLACEMENT (AP)

The English department offers both English 11 AP Language and Composition and English 12 AP Literature and Composition. Both courses provide an opportunity to earn college credit at participating universities if a student achieves a range of accepted scores on the end of the year AP exam. Both courses require students to write extensively and both provide substantial writing instruction. A national exam with a fee is highly encouraged for completion of both courses. Fee waivers are available for students who qualify. English 11 AP Language and Composition primarily studies non-fiction texts (essays, biographies, historical, scientific, and philosophical works), while English 12 AP Literature and Composition primarily studies texts of fiction (novels, plays, short stories, and poetry).

ENGLISH 12 ELECTIVE YEAR

Students may choose either one full-year course or two semester-long elective courses in order to satisfy their English 12 requirement for graduation. (See the options listed below).
Please note that extensive reading and writing work will be done in all English 12 courses, no matter what their topic focus.
English 12 courses are open to underclassmen as well; however, **seniors have priority** in course placement as outlined below:
1. Seniors earning English 12 credit
2. Seniors seeking elective credit
3. Underclassmen seeking elective credit

YEAR-LONG COURSES

+English 12 WISE
English 12 Digital Media
+English 12 AP Literature and Composition
+English 101/102 (dually enrolled thru TC3)

+ = an NCAA Approved Course

SEMESTER-LONG COURSES

+African American Studies	+ The Literature of Baseball
+ Creative Writing	Readers' Workshop
+Dystopian / Utopian Visions	+ Speech and Debate
Environmental Literacy	+ Women in Literature
+Film Studies	

+ = an NCAA-Approved Course

English Department - Course Sequence

NYS Course Requirements (4 credits)	Options Available	Prerequisites	NCAA	TC3 Credit
English 9	English 9	Completed English 8	X	
English 10	English 10	Completed English 9	X	
English 11	English 11	Completed English 10	X	
	AP Language	Completed English 10	X	
English 12 1 Full-Year Course	English 12 WISE	Completed English 11	X	
	English 12 English Digital Media	Completed English 11		X
	AP Literature	Completed English 11	X	X
	AP English 101/102	Completed English 11	X	X
English 12 Semester-Long Courses (All Semester-Long Courses are R/H)	African American Studies		X	
	Creative Writing		X	
	Women and Literature		X	
	The Literature of Baseball		X	
	Film Studies		X	

	Environmental Literacy			
	Readers' Workshop			
	Dystopian and Utopian Visions		X	
	Speech and Debate		X	

Combined Credit Classes - Students will select credit type during the first marking period. Students and families should talk to teachers and counselors about which workload for each type of credit is right for them.

By Recommendation ½ Elective Credit	Literacy 9-12			
Placed or requested No Credit	Reading & Writing Lab	Need-based support with English skills and classwork.		

ENGLISH 9

Level: Regents/Honors
NCAA: Approved
Credit: 1
Prerequisites: English 8
Course Content: Students will read a variety of foundational literature across cultures to seek to answer the essential question: How can we use narratives to understand ourselves, others, and the world?
Core works may include: *Of Mice and Men, Persepolis, David & Goliath, Things Fall Apart, and Othello or Julius Caesar.*
The course may be taken at the regents or honors level. Honors students will be required to complete differentiated readings and assignments.
Workload/Homework: A minimum of six major works or literary units will be studied. Students will complete written projects, including a research paper, and will participate in oral discussions, presentations, Socratic Seminars, and independent reading. Ten-week assessments will be determined by a combination of class participation, homework, classwork, projects, test, and quiz grades.

ENGLISH 10

Level: Regents/Honors
NCAA: Approved
Credit: 1
Prerequisites: English 9
Course Content: English 10 provides instruction in reading, writing, listening, speaking, and literary analysis. The course will consist of a study of texts that will guide students in answering questions such as: To what extent do our experiences influence our identity? What forces in our society challenge our ability to shape our own identity and destiny? And what can individuals do to resist those forces? Throughout the year, students will study a variety of authors, viewpoints, and experiences through a range of literature that offer deep exploration of these questions in different contexts. Core works and core experiences include *Macbeth* by William Shakespeare, the works of Latinx author Elizabeth Acevedo; including *The Poet X*, *With The Fire On High*, and others, and a Speculative Fiction unit (containing novels, short stories, and films on dystopian, utopian, and science fiction themes and questions.)
Teaching methods include a combination of individual, small group and large group activities, along with direct instruction. Students will conduct research and engage in a combination of class participation, writing assignments, projects, tests, and quizzes. Honors students will be required to complete additional readings and assignments.
Workload/Homework: A minimum of 7 major works or literary units will be studied. Students will complete written projects and will participate in oral discussions and presentations. Ten-week assessments will be determined by a combination of class participation, writing assignments, projects, and test and quiz grades. Approximately 3 hours of homework will be assigned each week at the Regents level, with approximately 5 hours assigned at the Honors Level.

ENGLISH 11

Level: Regents/Honors
NCAA: Approved
Credit: 1
Prerequisite: English 10
Course Content: English 11 provides instruction in reading, writing, listening, speaking, critical thinking, and literary analysis. Students will read selected works of American literature such as *A Raisin in the Sun*, *Narrative of the Life of Frederick Douglass*, various selections from Transcendentalist authors, *Into the Wild, Darkroom,* and other selections from the American canon as well as supplemental informational texts, essays, poetry, and short stories. **Students will prepare for and take the January NYS Regents Exam in English Language Arts, a requirement for graduation**.
Workload/Homework: Approximately 4 to 6 major works or literary units will be studied. Students will complete written projects and will participate in oral discussions and presentations. Ten-week assessments will be determined by a combination of formative and summative assessments including writing assignments, projects, and test and quiz grades. Satisfactory completion of all summative assessments is required for course credit. Approximately 3 hours of homework will be assigned each week.
Regents/Honors Designation: Students may elect to earn honors credit or regents credit for this course. All students will do the same work, while students electing honors credit will have supplementary assignments throughout the course, such as extended readings, papers, projects, or presentations. Additionally, honors work will be graded more stringently. As you make your choice, keep in mind that honors level classes are weighted more favorably on student transcripts than regents courses. At a later date, you will be asked to choose which level of credit you will work toward. Please ask the department leader if you have any questions about choice of credit

AP LANGUAGE AND COMPOSITION

Level: AP/Elective
NCAA: Approved
Credit: 1
Prerequisites: English 10
Course Content: AP Language and Composition provides advanced instruction in reading, writing, listening, speaking, and literary analysis. Students will read classic and contemporary works of American literature as well as selected essays, poetry, and short stories. Teaching methods include a combination of direct instruction paired with individual, small group, and large group activities. This is a writing intensive course. **In January, students will prepare for and take the NYS Regents Exam in English Language Arts, a requirement for graduation. Students may also sit for the AP exam in May.**
Workload/Homework: Students will complete a minimum of 6 major writing assignments as well as additional projects and presentations. Ten-week assessments will be determined based on class participation, homework, short writing assignments, major assessments, and test and quiz grades.

AP LITERATURE AND COMPOSITION

Level: AP
NCAA: Approved
Credit: 1
Prerequisites: English 11
Course Content: English 12 AP Literature and Composition provides highly advanced instruction in literary analysis through reading, writing, speaking, and listening activities. Students will read literature spanning many regions of the world and multiple time periods. Students will also study literary criticism and critical lenses. They will be expected to be independent and self-directed in their inquiry into multiple modes of texts. Students who enroll in this course should also be confident in their essay-writing skills. Teaching methods include a combination of individual, small group, and large group activities.
Workload/Homework: A minimum of eight major works or literary units will be studied, as well as introductory literary theory and criticism. Students will be expected to read extensively outside of class, including both class texts and independent study texts. Students may choose to take the AP exam in May.

ENGLISH 101/102

Level: AP/College – Students who wish to earn TC3 credit in English 101 must meet two of the following three criteria prior to enrolling in the course: acquire an English grade-point average of 80 or higher, a passing score on NYS English Regents exam in ELA, and/or a teacher recommendation.
NCAA: Approved
Credit: 1-year IHS credit + 6 TC3 credits..
Prerequisites: For English 101, a passing score on the English Regents exam and an 80 average or higher in English 11 or a teacher recommendation. For English 102 a final grade of 73 or higher in English 101.
Course Content: English 101 (Semester 1) develops and refines student written communication through the study and practice of writing across the academic disciplines. Students learn to support their ideas with authoritative information from credible sources and to recognize audience, purpose, and bias. Emphasis is placed on the process of writing and not just outcome. Students engage in challenging texts of diverse information to develop critical thinking skills. Some sections may center on a theme. ENGL 101 fulfills the written component of the SUNY General Education Written and Oral Communication Knowledge and Skills Area
English 102 (Semester 2) provides a comprehensive introduction to the major aspects of four genres of literary expression: short fiction, drama, poetry, and prose. Students will respond critically to readings of different historical and cultural contexts through class discussion, various projects, and written evidence-based literary analysis. These contexts will include different worldviews, politics, classes, ethnicities, races, ability, genders, or sexual orientations. Special attention will also be given to the power of voice in literature, in relation to issues of sustainability. ENGL 102 fulfills the SUNY General Education. Diversity: Equity, Inclusion, and Social Justice and Humanities Knowledge and Skills Areas.
Workload/Homework: Long-term assessments include mid-term and final papers for each semester. Homework will be assigned daily to reflect and train students for the potential rigors of a true, college-level reading-intensive literature analysis course.

ENGLISH DIGITAL MEDIA

Level: Honors/Regents – Students will select honors (for TC3 college credit) or Regents credit during the first marking period.
NCAA: Not Approved
Credit: 1 Year English Credit
Prerequisites: English 11
Course Content: This course offers a basic, practical, hands-on introduction to creating media for consumption in the digital world. While practicing various forms of formal writing, students will also learn the theoretical knowledge of basic media production. Students will gain the tactile and artistic skills to design and produce edited material while also learning to analyze the artistic choices made by others. Students will become thoughtful and critical consumers of all media and will use programs such as Adobe Premiere Pro, Adobe Photoshop, and Adobe InDesign to create their own media.
Workload/Homework: Students will be expected to express themselves creatively, to work independently and in groups, and to meet strict deadlines. Homework will be assigned daily.

ENGLISH 12 WISE: INDIVIDUALIZED SENIOR EXPERIENCE

WISE Program Facilitator : Rebecca Gergely
email: rgergely@icsd.k12.ny.us

Level: Honors/Regents – Students will select honors or regents' credit during the first marking period.
NCAA: Approved
Credit: 1
Prerequisites: English 11
Course Content: In this course, students seek to answer: Where have I been, where am I going, and what impact do I hope to make in this life? Our readings will include literary works such as *The Things They Carried*, *Wild*, *Mountains beyond Mountains*, *Their Eyes Were Watching God,* and a selection of poetry, essays, and short stories, so as to explore questions about journeying, truth, service and self. Focused skill development includes: analyzing diction, using narrative techniques, incorporating evidence, conducting research, and delivering a presentation.
First Semester class meets daily. Assignments and assessments include: personal narrative (college app essay), daily journaling, critical reading, reading quizzes, mini-research project, literary analysis, peer conferencing, creative project, and Socratic Seminar, as well as second-semester project planning.
Second Semester, project season (8 hours/week):

- Keep daily journals on project activities
- Meet weekly with a mentor
- Attend WISE weekly class

- Demonstrate topic research, hands-on activities, and meeting with community members in effort to achieve project goals
- Complete additional class assignments as occasionally required.

Workload/Homework: During the first semester, students will balance larger reading/journal writing/research assignments over a longer period of time in order to strengthen time management skills. Students should expect to devote at least 3 hours a week to work outside of class in the first semester. Once the independent project begins, a minimum of 8 hours/week of project-related work is required.

AFRICAN AMERICAN STUDIES

Level: Honors/Regents – Students will select Honors or Regents' credit during the first marking period.
NCAA: Approved
Credit: ½
Prerequisites: English 11
Course Content: African American Studies at IHS hopes to toss sand in the gears of conformity. This class will arm and empower students to: deconstruct the language, histories, and narratives that surround and inform our ideas of "us", to better understand why our individual and shared lives can feel worlds apart in the same country. This class will provide a foundation of counternarratives to the idea of the "American" identity; reconstruct a different understanding of our country's past, present, and future, and also both dream of and shape our future. In African American Studies **we construct** a community and a country we can better exist within.
Workload/Homework: Much of the classwork is done in class, with some reading outside of class, and with longer assignments given twice a quarter.

CREATIVE WRITING

Level: Honors/Regents – Students will select Honors or Regents' credit during the first marking period.
NCAA: Approved
Credit: ½
Prerequisites: English 11
Course Content: This course is for those students interested in telling stories about themselves and others. Students will write extensively, using their journals for practice writing, and will draft, revise and polish a personal narrative, short story, and multiple forms of poetry.
Workload/Homework: Homework will be assigned daily. A portfolio is the final project.

CREATIVE WRITING ZERO PERIOD

Level: Honors/Regents – Students will select Honors or Regents' credit during the first marking period.
NCAA: Approved
Credit: ½
Prerequisites: English 11
Course Content: This course is for those students interested in telling stories about themselves and others. Students will write extensively, using their journals for practice writing, and will draft, revise and polish a personal narrative, short story, and multiple forms of poetry.
Workload/Homework: Homework will be assigned daily. A portfolio is the final project.

UTOPIAN/DYSTOPIAN VISIONS

Level: Honors/Regents – Students will select Honors or Regents' credit during the first marking period.
NCAA: Approved
Credit: ½
Prerequisites: English 11
Course Content: What is a utopia and what would it take to attain it? Is there perhaps a utopia in Ithaca? Or, with GPS tracking, driverless cars, and eugenics are we already living in a dystopian world? If you love reading, speculative fiction, participating in discussions, and making connections in literature to the weird world around you, sign up for this elective!
This course will critically examine our current society in comparison to multiple utopian and dystopian texts. From the origin of Sir Thomas More's term *utopia* to AfroFuturism, this broad genre offers many diverse texts.
Maybe you have already encountered some classic core dystopian works (Fahrenheit 451, Parable of The Sower, Brave New World, 1984, The Giver, etc.) and liked what you read? A survey of dystopian short stories will lead into an exploration of short and feature length films (ie. Potentially *Wall-E, Zootopia, the Matrix, Pleasantville* for example). We will examine how often and easily this genre extends to the screen. With much choice offered, there will be multiple novels to read for book groups and independent reads. You will create a potential utopia, design a creative project relating to your choice of utopian or dystopian novel, do much critical thinking and journaling, and even try your hand at writing a dystopian piece of fiction. Texts like Ursula LeGuinn's "The Ones Who Walk Away from Omelas", EM Forrster's "The Machine Stops", Kurt Vonnegut's "Harrison Bergeron", and Margaret Atwood's The Handmaid's Tale are sure to stay with you long after this course. If you like fiction that is strangely real at times, this course is for you.
Workload/Homework: Homework will be assigned daily. A project and portfolio will be the final.

ENVIRONMENTAL LITERACY

Level: Honors/Regents – Students will select Honors or Regents' credit during the first marking period.
NCAA: Not Approved
Credit: ½
Prerequisites: English 11

Course Content: This course is for students looking to explore their relationship to the environment. If you love being outside, camping, gardening, or cooking, are unsure of your role in fighting climate change, or if you just want to know more about the world around you, take this course!
In this course, students will work to become "environmentally literate" by learning, reading, and writing about their role within the natural world in order to create meaningful change. Students will encounter texts concerning how to read the environment and develop skills in combining scientific research, nonfiction, and creative writing. Texts will include both creative writing (fiction, nonfiction, memoir) and research papers/scientific texts. In addition to class-wide texts and concepts, students will choose one or more topics to focus on in preparation for their final project. Finally, students will develop and implement a project that uses the concepts of the course to make real-world change in their immediate environment.
Concepts discussed may include climate change and climate activism, electric cars and mass transit, food systems and access, farming and agriculture, environmental racism, economics, and indigenous ways of knowing and connecting with the land, among many others. Class will be outside as much as weather permits. Bring a jacket and let's get to work!
Workload/Homework: Homework will be assigned daily. A project and portfolio will be the final.

FILM STUDIES

Level: Honors/Regents – Students will select Honors or Regents' credit during the first marking period.
NCAA: Approved
Credit: ½
Prerequisites: English 11
Course Content: This course develops student's understanding of the history and analysis of film. The course currently takes a specific view around authors and movements that have either provided an evolving foundation for the art form, or have been overlooked. Specifically, the course looks at the legacy of Black filmmakers from the 1920s to today, from Oscar Micheaux to Ava Duvernay and Jordan Peele, and how African American voices have been integral to American Film history, in parallel to international filmmakers from Germany, France, Japan, Algeria, and China. The course will develop literary analysis skills, film history knowledge, and film grammar knowledge.
Workload/Homework: In-class viewings are the primary method of access texts, with written analysis at home for deeper understanding and dialogue. Students present on their thinking and skills quarterly with self-chosen films to discuss.

FILM STUDIES-ZERO PERIOD

Level: Honors/Regents – Students will select Honors or Regents' credit during the first marking period.
NCAA: Approved
Credit: ½
Prerequisites: English 11
Course Content: This course develops student's understanding of the history and analysis of film. The course currently takes a specific view around authors and movements that have either provided an evolving foundation for the art form, or have been overlooked. Specifically, the course looks at the legacy of Black filmmakers from the 1920s to today, from Oscar Micheaux to Ava Duvernay and Jordan Peele, and how African American voices have been integral to American Film history, in parallel to international filmmakers from Germany, France, Japan, Algeria, and China. The course will develop literary analysis skills, film history knowledge, and film grammar knowledge.
Workload/Homework: In-class viewings are the primary method of access texts, with written analysis at home for deeper understanding and dialogue. Students present on their thinking and skills quarterly with self-chosen films to discuss.

ENGLISH 12 - THE LITERATURE OF BASEBALL

Level: Honors/Regents – Students will select Honors or Regents' credit during the first marking period.
NCAA: Approved
Credit: ½
Prerequisites: English 11
Course Content: This course will examine the roots of our national pastime to discover why it remains a constant in society. It will provide an introduction into the literature of the game, starting with the early years of baseball and continuing on to the present era. The units will be focused on universal themes and a student does not need to have a knowledge of baseball in order to take the class. The basics on rules and history will be covered prior to reading the novels.
Workload/Homework: Students will complete nightly reading of texts such as: *The Natural* by Bernard Malamud, *Damn Yankees* by Douglass Wallop, *Shoeless Joe* by W. P. Kinsella, *Fences* by August Wilson, and *Moneyball* by Michael Lewis. Students will also work on a research project with the National Baseball Hall of Fame, complete interviews with former players, write literary essays for the texts, and virtually visit with Dr. Ray Doswell of the Negro Leagues Museum in Kansas City, MO.

READERS' WORKSHOP

Level: Honors/Regents – Students will select Honors or Regents' credit during the first marking period.
Credit: ½
Prerequisites: English 11
Course Content: Do you love to read, but never have the time? Are you interested in reading books *you* choose for English credit? This is the course for you. Students will choose and read books from a variety of genres including: fiction, nonfiction, biography, and poetry, as well as critical literature reviews of the works/authors of their choosing.
Workload/Homework: Learning activities will include daily journal entries, in-class reading time, short presentations, research/informational/creative projects, seminars, and analytical essays.

SPEECH AND DEBATE

Level: Honors/Regents – Students will select Honors or Regents' credit during the first marking period.
NCAA: Approved
Credit: ½
Prerequisites: English 11
Course Content: If you enjoy debating, argumentation, or are looking to improve your public speaking skills, then this course is for you! The skills that are learned in this elective are useful and apply to success in areas such as the professional world, college, and your personal lives. When we speak or argue, we act and perform throughout our lives for many audiences, whether it be telling a story or persuading an employer that you should be hired. If you are interested in acting, playing with words and rhetoric, arguing, improving your powerpoint skills, exploring pertinent issues, storytelling, or simply want to gain confidence in speaking in front of others, this course is for you. Additionally, this course focuses on a social reconstructive lens which allows for us to explore the importance of speech and how it has been and can be used as a tool for change.
In this course, students will construct and prepare for various types of speeches and debates to hone their unique style and writer's voice. You will examine expert orators, speeches of different genres, and types of debates, and discover your own style by writing in different genres and audiences. You will be able to write persuasive, narrative, research, and argumentative, as well as political speeches. You will be able to participate in both informal and formal debates that are done independently and on teams, in which you will also learn how to respond to others effectively. We will have daily speaking practice in groups and independently to help you become comfortable in your oral presentation skills, improve on the spot thinking, and improve your flexibility in many skills necessary in speaking. In most instances, students may choose their topics. In addition to class-wide texts and concepts, students will choose one topic to focus on in preparation for a final project. Finally, students will present a speech that uses the concepts of the course to make real-world change in their immediate community.
Workload/Homework: There are occasional assignments to be completed outside of class which will mostly consist of practicing and preparing for speeches, debates, and speaking drills. There is one debate you will prepare for outside of class. You will be assigned larger assignments which you will be given class time to complete. Whatever you do not finish in class is expected to be completed by the deadline.

WOMEN IN LITERATURE

Level: Honors/Regents – Students will select Honors or Regents' credit during the first marking period.
NCAA: Approved
Credit: ½
Prerequisites: English 11
This course is designed for students interested in the broad and diverse history of women's experiences including BIPOC, LGBTQIA+, and people with disabilities as demonstrated in literature, poetry and art. Texts will include poetry, short stories, and novels, both classic and contemporary. Students will be introduced to a history of women's literature and will learn methods of literary criticism, such as gender critique, in order to practice advanced writing skills. The course will explore essential questions such as: How are women portrayed in literature throughout history and what are the consequences? How has the perspective of women writers changed throughout time and how do texts demonstrate these changes? What is unique about women's experiences and the way they choose to write about them?
Workload/Homework: Homework will be assigned daily. Engagement in reading material and respectful dialogue with peers is essential to success.

LITERACY 9-12

By Recommendation

Level: N/A
Prerequisites: N/A
Credit: ½ Elective credit *****NOT English credit
Description: This course is designed for students to engage in direct, comprehensive support in developing literacy skills. This course is based on a hybrid of Really Great Reading and other pedagogical models. Enrollment can last for a quarter, a semester, or longer as needed.

READING AND WRITING LAB

Assigned at Five-Week Intervals

Course Content: This academic support lab provides an inviting atmosphere in which students can receive assistance in building listening, speaking, reading, and writing skills through small-group and individual instruction in order to pass state-mandated examinations and be successful in their core academic classes

ENGLISH as a NEW LANGUAGE (ENL)

Department Leader: Jennifer Johnson
email: jjohnson2@icsd.k12.ny.us

The Ithaca High School English as a New Language (ENL) program welcomes students from all over the world at all levels of English language proficiency. Our goal is to ensure academic success as well as social and emotional well-being for all of our English Language learners (ELs) in order to graduate from high school. We provide integrated services/co-teaching to meet the needs of our ELs as well as ENL stand-alone classes for our beginning, intermediate, and advanced students (levels Entering, Emerging, Transitioning, and Expanding). The purpose of co-teaching is to make content comprehensible, pacing appropriate, and to focus on academic language objectives in the context of content-area learning. This approach is beneficial to all students, ELs and native speakers of English. In stand-alone ENL classes, English Language learners receive more targeted support based on their English language needs and primary language background. English language learners are capable of reaching the highest standards given enough support and time. Students in our ENL Program are provided with differentiated and carefully scaffolded activities and assessments to help improve and develop academic English language skills in reading, writing, listening, and speaking and at the same time, master academic content. To measure their growth in the English language, ELs take The New York State English as a Second Language Achievement Test (NYSESLAT) yearly in order to determine their level of English language proficiency. Once a student reaches the level of Proficient/Commanding, the district is still required to support former ELs for an additional two years.

English as a New Language Department - Course Descriptions

Recommended Grade	NYS Course Requirements	Options Available	Prerequisites	NCAA	TC3 Credit
9, 10	This course is offered to English Language Learners whose proficiency levels are **Entering** or **Emerging.**	**ENGLISH as a NEW LANGUAGE (ENL) I** (Section 1: 9th/10th graders)	NYSESLAT OR NYSITELL		
9, 10	This single-period course is offered to English Language Learners whose proficiency levels are **Transitioning** or **Expanding**	**ENGLISH as a NEW LANGUAGE (ENL) II** (Section 1: 9th/10th graders)	NYSESLAT OR NYSITELL		
9, 10	1- Credit English	**ENL Literacy**	NYSESLAT OR NYSITELL		
9, 10, 11, 12		**ENL Support Lab**	NYSESLAT OR NYSITELL		
11, 12	This course is offered to English Language Learners whose proficiency levels are **Entering** or **Emerging.**	**ENGLISH as a NEW LANGUAGE (ENL) I** (Section 2: 11th/12th graders)	NYSESLAT OR NYSITELL		
11, 12	This single-period course is offered to English Language Learners whose proficiency levels are **Transitioning** or **Expanding**	**ENGLISH as a NEW LANGUAGE (ENL) II** (Section 2: 11th/12th graders)	NYSESLAT OR NYSITELL		
11, 12	1- Credit English	**ENL Literacy**	NYSESLAT OR NYSITELL		

ENGLISH as a NEW LANGUAGE (ENL) I

Credits: 2 Credits - Full Year
Level: This double-period course is offered to English Language Learners whose proficiency levels are Entering, Emerging or Low Transitioning.
*This course is divided into two sections. One for grades 9-10 and another for grades 11-12.
Prerequisites: NYSITELL or NYSESLAT
Course Content: This course provides both social and academic English language instruction that will allow the students to acclimate to the school environment as well as U.S. culture. The students will engage in reading, writing, listening, and speaking activities that parallel their respective English language proficiency levels and the content of their grade-level English Language Arts (ELA) class.
The students will meet in a small group setting that will also allow one-on-one time with the ENL teacher.
Homework/workload: To be determined by the teacher

ENGLISH as a NEW LANGUAGE (ENL) II

Credit: Full year 1 Credit
Level: This single-period course is offered to English Language Learners whose proficiency levels are High Transitioning or Expanding.
*This course is divided into two sections. One for grades 9-10 and another for grades 11-12.
Prerequisites: NYSITELL or NYSESLAT
Course Content: This course provides academic English language instruction in reading, writing, listening, and speaking through the content of their grade-level English Language Arts (ELA) curriculum. Methods include a combination of individual, small group, and large group activities.
Homework/workload: To be determined by the teacher.

ENL LITERACY

Credit: Full year 1 English Credit
Level: This single-period course is offered to English Language Learners whose proficiency levels are Entering, Emerging, and Transitioning.
Prerequisites: IRLA, NYSITELL or NYSESLAT
Course Content: ENL Literacy utilizes the American Reading Company's IRLA Toolkits to engage ELs with comprehensible texts and writing for authentic purposes, enabling them to catch up to grade expectations more rapidly than when less systematic instructional approaches are used. The class aims to develop students' academic English literacy, including phonemic awareness, phonics, vocabulary, comprehension, fluency, and writing. Methods include a combination of individual and small group activities.
Homework/workload: Daily independent reading is expected.

ENL SUPPORT LAB

The goal of ENL Support Lab at IHS is to monitor and support English language learners (ELs) - both current and former ENL students and international students - academic language development and progress in the content areas of social studies, science, English, and math.
Additionally, ENL Support Lab aims to provide a safe and culturally responsive space for ELs that meets their unique socio-emotional needs and where they feel comfortable learning from one another, taking risks, and building community.

FINE AND PERFORMING ARTS DEPARTMENT

ART-MUSIC-THEATER
Department Leader: Ursula Hilsdorf
email: ursula.hilsdorf@icsd.k12.ny.us

All students must complete one unit of fine arts credit for graduation.

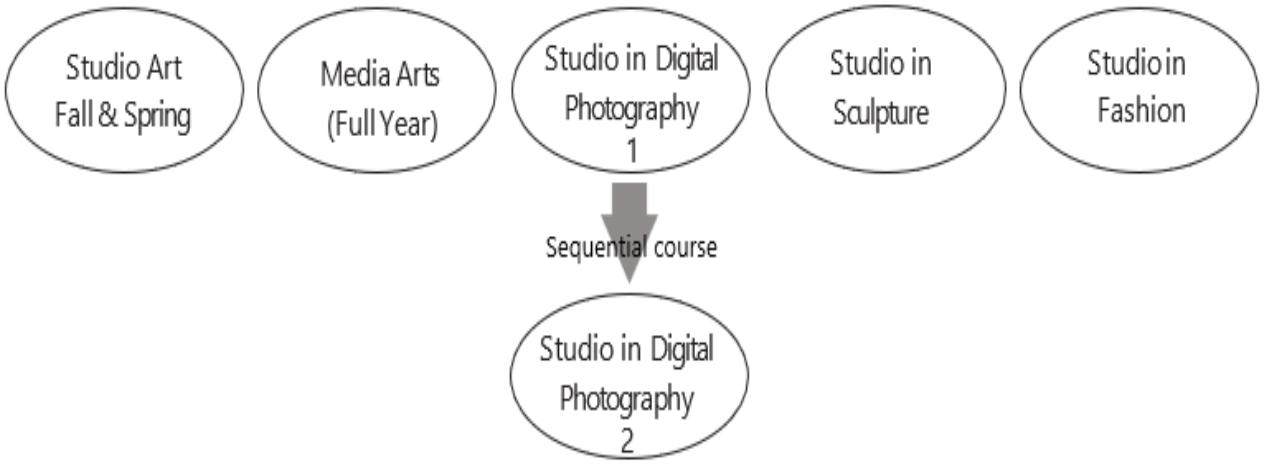
ART

The primary goal of the Art Department is to provide our students with a program of creative instruction, which allows each individual the opportunity to acquire the knowledge and skills necessary to express ideas through the visual arts. In addition to the integration of literacy skills, our program focuses on the artistic process of critical thinking and problem solving; art as a way of knowing ourselves and the world around us. Students also engage in a broader application of their skills through partnerships with the larger community, as well as, cross-discipline and grade level collaboration. We hope to assure that our students have every chance to realize their own potential as unique individuals with significant ideas to express.
NOTE: Students must take the introductory course before taking an advanced course.

FINE ARTS COURSE SELECTIONS MAP

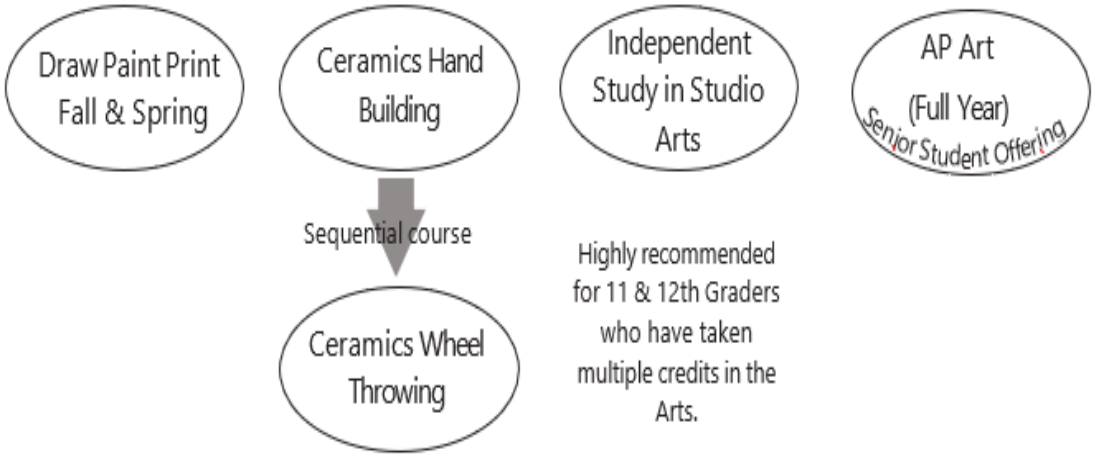
Entry Level Courses

These courses do not require a prerequisite and can be taken by 9-12th graders
1 credit of entry level courses will satisfy the art credit for graduation



Elective Courses

Students need a total of 1 credit (from courses above) to take Elective Arts Courses



Art Department - Course Sequence/ Choices

Recommended Grade	NYS Course Requirements (1 credit)	Options Available	Prerequisites	NCAA	T3C Credit
9, 10, 11, 12	Full Year Course 1 credit *Fulfills-NYS Art Credit Requirements	**Media Arts** (Occasional homework, primarily lab-based)	None Can be taken for Technology or Art Credit		
9, 10, 11, 12	Semester course ½ credit *Fulfills NYS Art Credit Requirements	**Studio Art Fall**	None		
9, 10, 11, 12		**Studio Art Spring**	None		
9, 10, 11, 12		**Studio in Fashion**	None		
9, 10, 11, 12	Semester course ½ credit *Fulfills NYS Art Credit Requirements	**Studio in Digital Photography 1**	None		
9, 10, 11, 12		**Studio in Digital Photography 2**	Passed Studio in Digital Photography 1		
9, 10, 11, 12		**Studio in Sculpture**	None		
10, 11, 12	Semester course ½ credit Elective Courses	**Draw Paint Print Fall**	Passed 1 credit of studio courses		
10, 11, 12		**Draw Paint Print Spring**	Passed 1 credit of studio courses		
10, 11, 12		**Ceramics Handbuilding**	Passed 1 credit of studio courses		
10, 11, 12		**Ceramics Wheel Throwing**	Passed Ceramics Handbuilding		
10, 11		**Independent Study in Studio Arts**	Completion of an intermediate/materials specific course. Encouraged to speak with department leader to see if course will be a good fit.		
11, 12	Full Year Course 1 Credit Elective Course	**AP Studio in Art**	Passed at least 1 credit of fine arts. Encouraged to speak with department leader to see if course will be a good fit.		

MEDIA ARTS

Level: Regents/Honors – Students will select Honors or Regents' credit during the first marking period.
Credit: 1 Credit*
***Student elects to take the course for 1 Technology or Visual Art Credit**
Prerequisites: None
Course Content: Media Arts is an innovative collaboration, co-taught by a Visual Art and Technology teacher. Students will create artwork via film, television, video, the internet, interactive technologies, and transmedia storytelling. This is a hands-on introduction to the principles of design and design thinking as it applies to Media Arts. Students will be using programs from the Adobe Creative Cloud suite including Premiere Pro, Photoshop, Illustrator, and InDesign. Students will become thoughtful and critical consumers of all media while learning the proper selection and use of industry standard equipment. Students will also learn about the history and cultural development of media arts and how to analyze the artistic choices made by others. This is an ideal course to help students develop a visual/technical portfolio or to further their education in a media field.
This course satisfies the Fine Arts requirement.
Workload/Homework: Students will be expected to express themselves creatively, to work independently and in groups, and to meet strict deadlines. Occasional homework; may vary throughout the course.

STUDIO ART FALL
STUDIO ART SPRING

Credit: ½ credit, semester
Prerequisites: none
Course Content: This course will introduce you to studio fundamentals and how to think, talk, and write about art. Experience a variety of media and techniques (pencil, pen, ink, paint, charcoal, pastel, watercolor, 3D media, and printmaking) while developing individual style and creative problem-solving skills. Students are guided through both individual and collaborative projects in a process of inquiry and experimentation, purposeful play, developing craft, and art criticism. Visiting artists, community venues, and exhibits will expand the classroom/studio landscape. Open to all levels of skill. Studio Art Fall and Spring curriculum differ so that students can take both courses to fulfill a fine arts credit if they wish. **This course fulfills ½ credit towards the Fine Arts graduation requirement.**
Workload/Homework: as per instructor

STUDIO IN FASHION

Credit: Semester ½ Credit
Prerequisite: None
Course Content: This is an exciting introductory course focusing on fashion design and illustration. Students will learn fashion figure proportions, color theory, composition, media exploration, fashion illustration techniques, and style development. Students will be encouraged to think outside the box. **This course fulfills a ½ credit of the Fine Arts graduation requirement.**
Workload/Homework: as per instructor

DRAW, PAINT, PRINT Fall
DRAW, PAINT, PRINT Spring

Credit: Semester ½ Credit
Prerequisites: 1 credit of studio courses
Course Content: Students are encouraged to develop, explore, and expand on the drawing and painting concepts introduced in Studio Art, using media such as pencil, charcoal, pastels, pen and ink, watercolor, marker, and printmaking techniques. Assignments may include: still life drawing, portraiture, figure drawing, printmaking, and graphic or abstract design.
Workload/Homework: as per instructor

CERAMICS HANDBUILDING

Credit: Semester ½ Credit
Prerequisites: 1 credit of studio courses
Course Content: An introduction to clay and basic hand-building techniques will be explored that are necessary to understand the ceramic art making process. Students will create ceramic work through hands-on, self-driven projects that connect their interests and ideas to their making. Students will also have opportunities to share their work in a professional setting, explore current events and artists in the field to increase appreciation and understanding of the art world . This class is great for the student who doesn't mind getting messy and enjoys working with their hands.
Workload/Homework: No homework is given outside of class unless the student does not complete coursework in class.

CERAMICS WHEEL THROWING

Credit: Semester ½ Credit
Prerequisites: Ceramic Hand-building Prerequisite.
Course Content: This course is an introduction to pottery-making and wheel throwing as a way of creating functional ceramic art. Students will build on their skills in hand-building and continue to explore ceramic artists and build on their understanding of clay processes through form and surface design and glazing techniques. Be willing to get a little messy.
Workload/Homework: No homework is given outside of class unless the student does not complete coursework in class.

STUDIO IN SCULPTURE

Credit: Semester ½ Credit
Prerequisite: None
Course Content: This course is designed to develop skills of working three dimensionally in sculptural problem-solving and aesthetics. Students will work with a variety of materials including plastic and hard mediums: plaster, stone, metal, clay, plastic, wire, papier mâché, and found objects. Students will also be introduced to techniques and historical importance of mask making, figure sculpture, abstract works, and mixed media construction. Students will research individual artists and works by master artists. Students will study and analyze work from a variety of cultures, medias and time periods.
This course will fulfill ½ credit towards the Fine Arts graduation requirement.
Workload/Homework: as per instructor

STUDIO IN DIGITAL PHOTOGRAPHY 1

Credit: Semester ½ Credit
Prerequisite: None
Course Content: Learn the basics of digital camera shooting, composition and visual communication! This fast-paced course will introduce students to the digital camera as a tool for image-making. The Elements and Principles of Art will serve as the foundation for learning to make images with a digital camera.
Students will learn to use the digital camera in full manual mode, meaning that they will be MAKING pictures, as opposed to TAKING them. Students will learn the basics of Adobe Photoshop and post production software of Lightroom to further express their ideas, aesthetics, and values. Local professional artists/photographers will visit and share their approach to this exciting 21st century media. This course will serve as a great foundation for those students interested in pursuing further digital photography and film photography techniques. Time outside of class is required for shooting images on a regular basis. **This course fulfills ½ credit of the Fine Arts graduation requirement.**
Workload/Homework: as per instructor

STUDIO IN DIGITAL PHOTOGRAPHY 2

Credit: Semester ½ Credit
Prerequisite: Studio in Digital Photography 1
Course Content: This course builds upon the technical and compositional skills developed in Digital Photography 1 and applies them to more conceptual artistic endeavors. Students will create original and unique artwork through digital photography. Projects might include portraiture, figurative work, collage, and thematic series, all with an emphasis on applying the Elements and Principles of Art to digital photography. This course will offer expanded exploration of Adobe Photoshop and post production software of Lightroom techniques to manipulate and alter images. Assignments will provide many opportunities for self-expression, communication, and making meaning in your work. Guest artists/photographers will visit to further students' understanding of photography as an expressive medium. Time outside of class is required for shooting images on a regular basis.
NOTE: Students will be allotted the photo paper necessary to complete their class work, based on the current district budget. Students may need to supplement these supplies with their own purchases/contributions.
This course fulfills a full credit of the Fine Arts graduation requirement.
Workload/Homework: as per instructor

INDEPENDENT STUDY IN ART

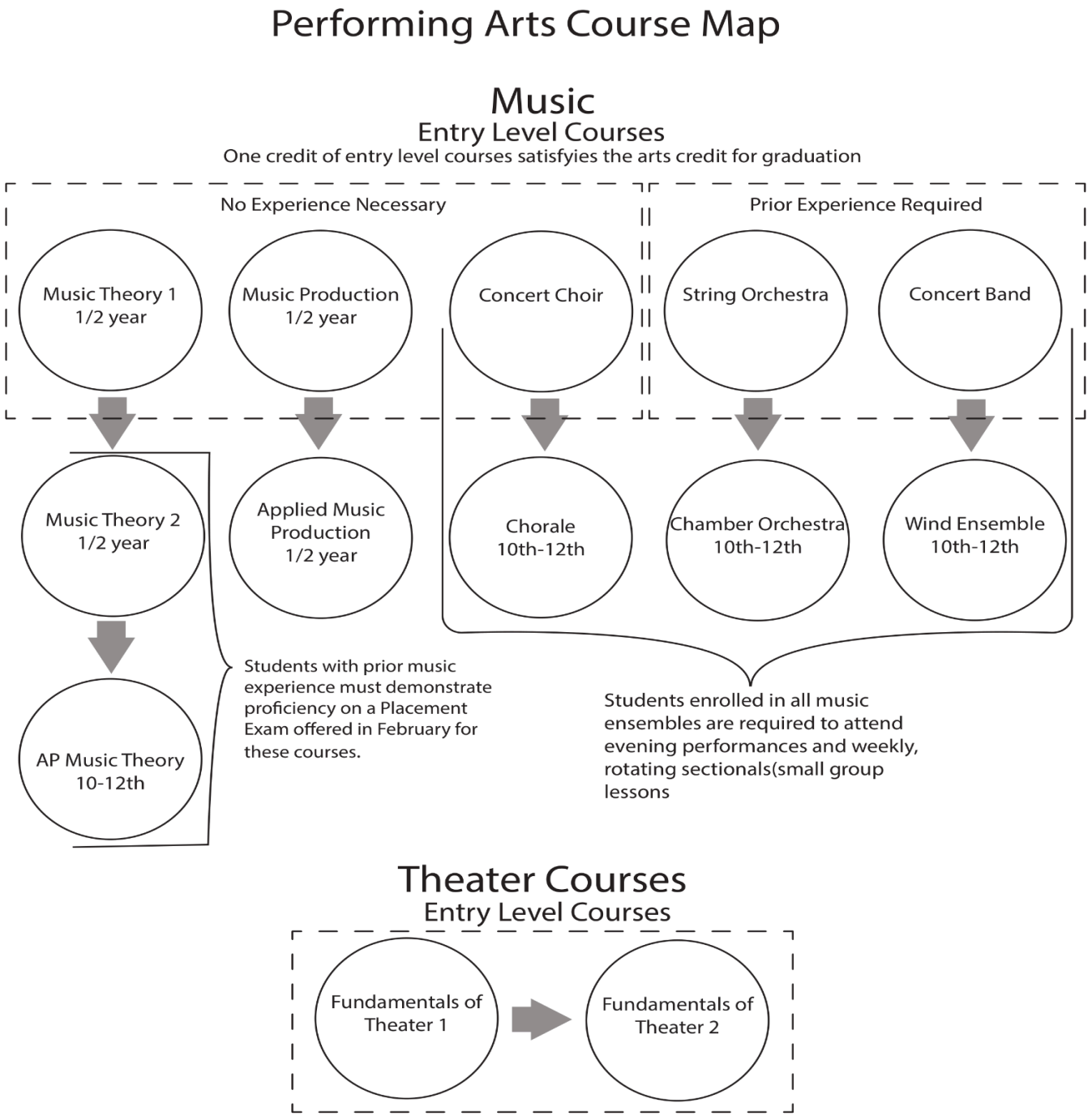
Credit: ½ to 1 Credit
Prerequisites: Completion of at least one credit of an intermediate class although it is highly recommended to have completed at least 2 credits in art.
Course Content: This course is intended for the student who has taken multiple credits in arts and wants to pursue further development of their creative skills in a self driven setting. The course runs alongside AP Art, enabling the student to develop their creative expression in a community of students with similar interests. Students will develop goals that are documented in a process portfolio to show growth and expression in the material(s) of their choosing. This course is great for a student who needs to prepare a portfolio for higher education or apprenticeship programs. It is also a great course to prepare for AP art. Students may take this for a full year or semester.

AP ART (2D, 3D & Drawing)

Credit: Full Year 1 Credit
Prerequisite: Permission of instructor
Course Content: This course is intended for seniors who appreciate art and artmaking and want to continue developing art skills and concepts in a self-driven manner. Throughout the year, students will build a portfolio that shares their artmaking journey of a concept/idea that drives the creation. The portfolio (2D design, 3D, or drawing) will be submitted to the AP College Board as the exam for the course.
This course will also help prepare students who may be interested in pursuing higher level education in the art field through portfolio preparation and skill development. It also is an amazing opportunity to be around other individuals with similar interests that can support and inspire each other in their creative endeavors.

MUSIC

Music at Ithaca High School is a comprehensive program providing experiences in listening, performing, and composing. A variety of courses are offered to develop within each student the ability to appreciate, understand, create, perform, and criticize with discrimination music of all styles and periods. The program of music instruction is designed to meet the needs of students pursuing a career in music education or performance as well as those wishing to pursue the study of music as a leisure time activity. The courses offered allow students to: 1) satisfy the Regents fine arts requirement; 5 credits to replace years 2 and 3 of language. 2) prepare students who intend to major in music in college.



Music Department - Course Sequence/Choices

Recommended Grade	NYS Course Requirements (1 credit)	Options Available	Prerequisites	NCAA	T3C Credit
9, 10, 11, 12	Full year course 1 credit *Fulfills NYS Art Credit Requirement	Concert Band	Previous experience in a Middle School band program or by audition.		
10, 11, 12		Wind Ensemble	Students in grades 10-12 with at least 1 year of experience in concert band based on the director's recommendation.		
9, 10, 11, 12		String Orchestra	Open to students in grades 9-12 with previous experience in a middle school orchestra program or by audition.		
10, 11, 12		Chamber Orchestra	Open to students in grades 10-12 with at least 1 year of experience in String Orchestra and director recommendation.		
9, 10, 11, 12		Concert Choir	Students in Grade 9 and 10th-12th graders new to IHS Choir Program.		
10, 11, 12		Chorale	Students in Grades 10-12 with at least one year in IHS Concert Choir OR Permission of Instructor.		
9, 10, 11, 12	½ credit, semester	Music Theory 1	None		
10, 11, 12		Music Theory 2	Music Theory 1 or instructor recommendation based on placement exam.		
10, 11, 12	Full year course 1 credit Elective Course	AP Music Theory	Music Reading fluency. Successful completion of Music Theory 2 or passing Entrance exam.		
9, 10, 11, 12	Semester course ½ credit *Fulfills NYS Art Credit Requirement	Music Production	None		
9, 10, 11, 12		Applied Music Production	Music Production		
9, 10, 11, 12	Semester course ½ credit *Fulfills NYS Art Credit Requirement	Fundamentals of Theater 1	None		
9, 10, 11, 12		Fundamentals of Theater 2	Intro to Fundamentals of Theater 1 or previous participation in a major production.		

CONCERT BAND

Credit: Full Year 1 Credit
Entrance requirements: Open to students 9-12 with previous experience in a middle school band program or by audition.
Course Content: The Concert Band meets daily all year during a class period. The Band is open to all woodwind, brass, and percussion players. While everyone is accepted into the Band, an audition for seating is required. The Concert Band rehearses and performs a wide variety of band literature. Attendance at weekly group lessons/sectionals is required. Private lessons are strongly encouraged. Students are required to participate in all concerts. Satisfies one unit of fine arts credit required for graduation

WIND ENSEMBLE

Credit: Full Year 1 Credit
Prerequisite: Students in grades 10-12 with at least one year in concert band and recommendation from the instructor.
Course Content: The Wind Ensemble meets daily all year during a class period. This advanced ensemble is open to highly motivated woodwind, brass, and percussion students based on director's recommendation. The group will rehearse and perform a variety of advanced wind literature. Attendance at weekly group lessons/sectionals is required. Private lessons are strongly encouraged. Students are required to participate in all concerts. Satisfies one unit of fine arts credit required for graduation.

STRING ORCHESTRA

Credit: Full Year 1 Credit
Prerequisite: Open to students in grades 9-12 with previous experience in a middle school orchestra program or by audition.
Course Content: The String Orchestra meets daily all year during a class period. The ensemble studies a wide variety of orchestral literature from many time periods, cultures, and genres. All string players are accepted into the orchestra and a seating audition is required. In addition to daily rehearsals, attendance at weekly group lessons is required. Private lessons are strongly encouraged. Students are required to participate in all concerts. Satisfies one unit of fine arts credit required for graduation.

CHAMBER ORCHESTRA

Credit: Full Year 1 Credit
Prerequisite: Open to students 10-12 with at least one year of experience in String Orchestra and Director's recommendation.
Course Content: The Chamber Orchestra meets daily all year during a class period. This advanced ensemble is open to highly motivated string students based on an audition. Woodwind, brass, and percussion players may audition for placement and will rehearse with the orchestra on given scheduled days. The Chamber Orchestra will rehearse and perform a variety of advanced orchestral literature, both string and symphonic. Attendance at weekly group lessons/sectionals is required in addition to daily orchestra rehearsals. Private lessons are strongly encouraged. Students are required to participate in all concerts. Satisfies one unit of fine arts credit required for graduation.

CONCERT CHOIR

Credit: Full Year 1 Credit
Entrance Requirements: Students in Grade 9 and 10th-12th graders new to IHS Choir Program
Course Content: In this course, students will experience the joy, confidence, and community that is cultivated through group singing. Students will study healthy vocal techniques related to posture, breathing, and tone production, as well as basic musicianship skills including music reading, singing in harmony, understanding music terms, and identifying music symbols. Students will do this through the study of choral and vocal music spanning a variety of genres, time periods, and styles. Weekly rotating sectionals (small group voice/musicianship instruction), and concerts are a requirement for participation in this course.

CHORALE

Credit: Full Year 1 Credit
Entrance Requirements: Students in Grades 10-12 with at least one year in IHS Concert Choir OR Permission of Instructor
Course Content: In this course, highly motivated singers will experience the joy, confidence, and community that is cultivated through group singing. Students will study healthy vocal techniques including posture, breathing, and tone production. They will cultivate intermediate to advanced musicianship skills, especially those related to independent music reading, music concepts/fundamentals, and harmonization. Students will do this through the study of advanced choral and vocal music spanning a variety of genres, time periods, and styles. Weekly rotating sectionals and extra-curricular concerts are a requirement for participation in this course.

EXTRACURRICULAR

LIBERA VOCE
Open to any interested low-voice singer (tenor-bass) in the school. A basic understanding of music-reading is helpful but not required. Libera Voce is a club that rehearses once a week after school. Consistent attendance and commitment are expected. Ideal for students who love to sing in choir but cannot fit Concert Choir/Chorale into their academic schedule. Extra-curricular concerts are an expectation for participation in this ensemble.

BELLA VOCE
Open to any interested treble-voice singer (soprano-alto) in the school. A basic understanding of music-reading is helpful but not required. Bella Voce is a club that rehearses once a week after school. Consistent attendance and commitment are expected. Ideal for students who love to sing in choir but cannot fit Concert Choir/Chorale into their academic schedule. Extra-curricular concerts are an expectation for participation in this ensemble.

MUSIC THEORY 1

Credit: ½ credit, 1st Semester
Prerequisite: A basic understanding of music fundamentals.
Course Content: Students will develop basic skills, knowledge, and fluency pertaining to music terminology and notation. Students will learn how to better read music and understand musical concepts like rhythm, scales, keys, and more. They will develop necessary aural skills through singing, listening, and dictation exercises. This course can fulfill a half-credit of the fine arts requirement.

MUSIC THEORY 2

Credit: ½ credit, 2nd semester
Level: Honors
Prerequisite: Music Theory 1 or instructor recommendation based on placement exam.
Course Content: Students will develop intermediate skills, knowledge, and fluency pertaining to music terminology, notation, harmonization/chords, composition, and music analysis. Students will study musical scores, compose and harmonize melodies, and develop aural skills through singing, listening, and dictation exercises. This course can fulfill a half-credit of the fine arts requirement.

AP MUSIC THEORY

Credit: Full Year 1 Credit
Prerequisite: Successful completion of Music Theory 2 or passing Entrance exam.
This course is intended for highly motivated, musically skilled students committed to a serious study in music theory. Music reading fluency and proficiency on a primary instrument (strings, wind, percussion, voice, or piano) is expected. It is ideal for students who plan to pursue a college degree in music.
Course Content: This course follows the College Board curriculum for AP Music Theory and focuses on the practices, theory, and composition of music from Western Europe from approximately 1600-1800. While the aural and analytical skills learned are commonly applied to music from that specific time and place, music from a variety of genres will be used to teach and build those skills. Specific topics include: diatonic chords and cadences, 4-part voice leading and composition, phrase structure, harmonizing a melody, non-chord tones, key relationships, melodic and harmonic dictation, and sight singing.

MUSIC PRODUCTION

Credit: Semester ½ credit
Prerequisite: None
Course Content: Students utilize music software to compose electronic music in a number of genres including hip-hop, electronic dance, music, dubstep, and avant-garde. Students will learn to use Reason software, a professional music program with full mixing capabilities, samplers, drum machines, synthesizers, effects, and sound processors to complete assignments ranging from creating beats to stylistic pieces.
Workload/Homework: as per instructor

APPLIED MUSIC PRODUCTION

Credit: Semester ½ credit
Prerequisite: Music Production
Course Content: Students further their development of electronic music design in a number of genres including hip-hop, electronic dance, music, dubstep, and avant-garde utilizing Reason software. Students also learn how to apply their knowledge through field study examples and visiting guest artists.
Workload/Homework: as per instructor

THEATER

FUNDAMENTALS OF THEATER 1

Credit: Semester ½ Credit
Prerequisites: None
Course Content: This course is designed to provide an understanding, appreciation, and knowledge of technique, and of the creative, personal, and practical aspects of theater production. Students will participate in a variety of exercises and projects to develop their skills in improvisation, acting, playwriting, and directing, with an emphasis on performance. Students enrolling in the course will be expected to act and perform their work for their peers.

FUNDAMENTALS OF THEATER 2

Credit: ½ credit, semester
Prerequisites: Fundamentals of Theater 1 or previous participation in a major production.
Course Content: This course is designed to provide a laboratory setting for students to investigate the personal, creative, and technical aspects of theater production. This is an in-depth examination of theater performance. Students will be given opportunities to focus on acting, playwriting, or directing, and should expect a final product to be performed for an audience. Students may choose to explore playwriting and directing in depth, but will be expected to act and perform as well.

MATHEMATICS DEPARTMENT

Department Leader: David Pepe
email:dpepe@icsd.k12.ny.us

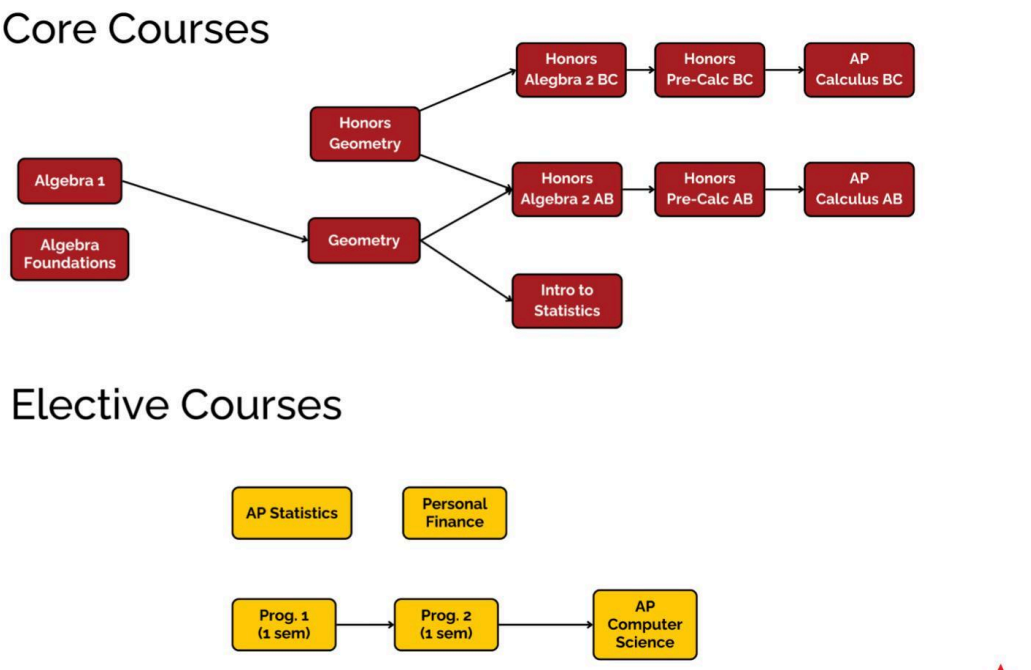
The mathematics course offerings are designed to help students develop the necessary competencies for success on the NYS Common Core exams. In addition, we strive to instill a sense of the beauty and logical structure of mathematics. The elective courses are designed to be taken in addition to other mathematics courses.

Online Courses: The Math Department does not recognize any online courses as acceptable replacements for core classroom offerings. We also do not recognize summer camps (ex. Johns Hopkins CTY programs) as suitable alternatives for core courses. We *do* accept previously approved alternatives to our Programming 2 elective to satisfy the prerequisite for AP computer science. (See department leader for specific requirements).

Doubling-up in Math: Students who have **not** previously accelerated in mathematics may take Geometry and Algebra 2 concurrently; this situation requires recommendation of their current teacher and approval of the department leader. Students who are 'doubled up" are required to maintain a minimum average of 80 in each course. (See department leader for specific requirements.)

MATHEMATICS DEPARTMENT - Course Sequence

High School Mathematics



MATH - CORE COURSES

ALGEBRA FOUNDATIONS

Level: Support
NCCA: Not approved
Credit: Full Year 1/2 Credit – Meets every other day
Recommendation: For students who are enrolled in Algebra 1 and would also benefit from extra support. This course is also recommended for students who received a score of Level 1 on the Math 8 assessment.
Course Content: This course is aligned with the student's Algebra 1 course, so topics and exercises can be practiced with concentrated support. Emphasis is placed on developing confidence in doing mathematics and in improving math reasoning and communication skills.
Workload: Lessons are designed around the most important ideas being covered in Algebra-1; with reteaching, pre-teaching, practice, and one-to-one support as needed. Students can also use this class to complete Algebra-1 assignments with extra support, along with time for revisions and test corrections. Students are expected to attend and try their best. Classes are kept small and meet every other day.
Homework: There is no homework in this class.

ALGEBRA 1

Level: Regents
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisite: Math 8 or Foundations Concurrent Enrollment
Course Content: The topics in this course are based on the Common Core and include linear algebra, statistics, coordinate geometry, polynomials, exponential, and quadratic functions. Students will develop an understanding of broadly useful ideas from algebra and statistics. They will utilize linear, quadratic and exponential functions to model and solve diverse problems. Marking period grades are primarily based on homework, quizzes, and tests. **All students will take the Algebra 1 Common Core state assessment in June.**
Homework: Students can expect to spend about 30 minutes or less on homework each night.

GEOMETRY – ZERO PERIOD

Level: Regents
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisite: Algebra 1
Course Content: The topics in this course include coordinate geometry, parallel lines, triangles, quadrilaterals, circles, proofs, trigonometry, and constructions. The curriculum in this course is aligned with the Common Core Standards.
Workload: Homework is given every night. Good note-taking skills are a must. Emphasis is on logical thinking and writing proofs. Students do individual and group work. Marking period grades are based on project, quiz, and test grades. **Students are expected to take the Common Core Geometry state assessment in June.**
Homework: Students can expect to spend about 20 minutes on homework each night.

GEOMETRY

Level: Regents
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisite: Algebra 1
Course Content: The topics in this course include coordinate geometry, parallel lines, triangles, quadrilaterals, circles, proofs, trigonometry, and constructions. The curriculum in this course is aligned with the Common Core Standards.
Workload: Homework is given every night. Good note-taking skills are a must. Emphasis is on logical thinking and writing proofs. Students do individual and group work. Marking period grades are based on project, quiz, and test grades. **Students are expected to take the Common Core Geometry state assessment in June.**
Homework: Students can expect to spend about 20 minutes on homework each night.

HONORS GEOMETRY

Level: Honors (ends in a NYS Regents Exam as well)
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisite: Final grade of 85 or better in Algebra 1 and recommendation of teacher.
Recommendations: This course is intended for students with a strong interest and perseverance in mathematics. The course work is rigorous and progresses at a brisk pace. Students need to have good note-taking skills and be self-motivated.
Course Content: The course includes all standard geometry topics as well as non-Euclidian geometry, conics and additional topics in each unit. Students will also make use of computers and geometrical software. Each lesson is taught in a rigorous way with challenging problems assigned and independent thinking expected. An emphasis is placed on student discovery and development of abstract concepts and principles.
Students will take the required Regents Common Core Geometry assessment in June plus a supplemental final. **Students will also take a local final exam**.
Homework: Students can expect to spend 30-45 minutes on homework each night.

HONORS ALGEBRA 2AB

Level: Honors (ends in a NYS Regents Exam as well)
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisite: Honors Geometry or grade of at least 85 in both Geometry and Algebra 1, or concurrent enrollment in Geometry (with permission of department leader).
Course Content: The emphasis in this course is on advanced algebra topics. Topics include functions, logarithms, imaginary numbers, probability, and statistics.
Workload: This course builds on – and delves deeper into - the mathematical concepts and methods developed in Algebra 1 and Geometry. Homework is assigned each day and its careful completion is an important part of the course. Marking period grades are based primarily on tests and quizzes. **Students are expected to take the New York State Algebra 2 Common Core assessment in June.**
Homework: Students can expect to spend 30-45 minutes on homework each night.

ADVANCED HONORS ALGEBRA 2BC

Level: Honors (ends in a NYS Regents Exam as well)
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisite: Honors Geometry educator recommendations, and high achievement with Honors Geometry material. Students in this course should have obtained a minimum final average of 87 in IHS Honors Geometry. This course is intended for students with a strong interest and perseverance in math.
Course Content: The course includes all Algebra 2 topics but the presentation and emphasis are more abstract, and more difficult problems are assigned and discussed. Extra enrichment is embedded in the curriculum in units such as probability and trigonometry.
Workload: The teaching method is lecture-style combined with individual and small cooperative group work. Homework is assigned daily, and its careful completion is an important part of the course. Marking period grades are based mainly on test and quiz grades**. Students will take the required state Common Core Algebra 2 assessment in June, plus a supplemental honors final.**
Homework: Students can expect to spend about 30-45 minutes on homework each night.

INTRODUCTION TO STATISTICS

Level: Regents (does not end in a NYS Regents Exam)
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisite: Successful completion of Geometry
Course Content: This course will teach you how to critically interpret, analyze, and understand the data that we are exposed to on a daily basis. The topics in this algebra-based course include mathematical modeling, regression, sampling strategies, studies and experiments, probability models, and inference procedures.
Workload: The teaching method is lecture and classroom discussion combined with individual and collaborative group work. Students will use the skills developed throughout the course to plan and conduct their own surveys and experiments. Consistent attendance and homework completion are essential for success in this course.
Homework: Students can expect to spend about 20-30 minutes per night on homework and for it to regularly include reading and writing assignments.

HONORS PRECALCULUS AB

Level: Honors (does not end in a NYS Regents Exam)
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisite: 80 in Honors Algebra 2 AB or BC
Course Content: Students are expected to have mastered the concepts and skills presented in the previous three math courses. All material is covered at a demanding level which will provide the rigorous background needed for a study of Calculus. The course is a challenging one with new and advanced topics introduced regularly.
Workload: Homework is assigned daily, and its careful completion is an important part of the course. The final exam is a department final. ***This class has concurrent enrollment with TC3.**
Homework: Students can expect to spend 20-30 minutes on homework each night.

ADVANCED HONORS PRECALCULUS BC

Level: Honors (does not end in a NYS Regents Exam)
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisite: Advanced Honors Algebra 2 BC or final grade in the 90's in Algebra 2 AB plus summer work on selected topics.
Course Content: This course is designed for highly motivated and interested mathematics students who have completed three math courses at the honors level and are preparing to take BC level Advanced Placement Calculus in high school or its equivalent in college. The course includes a rigorous treatment of advanced algebra including series and sequences, limits, two- and three-dimensional coordinate systems, curve and surface sketching, functions, theory of polynomials, exponential, logarithmic and trigonometric functions, and introductory calculus topics.
Workload: The teaching method is a combination of lecture, discussion, projects, and group activities. The course is fast paced and rigorous with new and advanced topics introduced each day. Homework is assigned daily. Marking period grades are based mainly on test scores and projects. The final exam is a department final. ***This class has concurrent enrollment with TC3.**
Homework: Students can expect to spend 20-30 minutes on homework each night.

AP CALCULUS AB

Level: AP
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisite: Honors Precalculus AB or BC
Course Content: This course follows the syllabus of the national Advanced Placement Calculus program and covers material equivalent to the first semester of calculus at most universities. Topics covered include derivatives and integrals of the elementary functions, with applications.
Workload: The course is designed for students with a grade of at least an 85 in Precalculus AB, who are willing to work hard during their senior year. The teaching method is lecture-style combined with individual class work, projects, and work in small groups. The course is a challenging one with new and advanced topics introduced each day. Homework is assigned daily and its careful completion is an important part of the course requirement. Marking period grades are based on a combination of quiz grades, test grades, class work, and brief projects. A midterm exam is given during the school exam period in January. **All students in the course are highly encouraged to take the Advanced Placement test, AB level in May.** Students are expected to complete a project after the AP exam.
Homework: Students can expect to spend 30-45 minutes on homework each night.

AP CALCULUS BC

Level: AP
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisite: Advanced Honors Precalculus BC. Students need an extended background in precalculus mathematics as well as prior work with limits, continuity, derivatives, and other topics in first semester calculus.
Course Content: This course fulfills the requirements of the national Advanced Placement Calculus program and is equivalent to a full-year sequence in calculus at most universities. Topics in the course include derivatives, curve sketching, maximum/minimum problems, related rates, integrals, exponential and trigonometric functions, infinite series, and differential equations.
Workload: The teaching method is lecture and classroom discussion combined with individual class work and work in small groups. The course is very challenging with new advanced topics introduced each day. Homework is assigned daily and its careful completion is an important part of the course requirement. Marking period grades are based on a combination of quiz grades, test grades, and group projects. A midterm exam is given during the school exam period in January. **All students in the course are highly encouraged to take the Advanced Placement test, BC level, in May**. Students are expected to complete a project after the AP exam.
Homework: Students can expect to spend 30-45 minutes on homework each night.

MATH – ELECTIVES
*(can count as a math credit or elective credit)

AP STATISTICS

Level: AP
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisite: Geometry *Although the suggested prerequisite is Geometry, students who have completed Algebra 2 will be better prepared for the demands of AP Statistics.
Course Content: AP Statistics is equivalent to a one-semester introductory college course in statistics. Such a course is typically required for college majors such as social sciences, health sciences, and business. Science, engineering, and mathematics majors usually take an upper-level calculus-based course in statistics, for which the AP Statistics course is effective preparation. The purpose of this course is to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. We will learn from real data that describes the world around us and explore how that data can inform critical current social issues. Content includes graphical displays of data, measures central tendency and variation; correlation; experimental design, probability, modeling, random variables; the normal, t-and chi-square distributions, confidence intervals, and hypothesis testing. The total workload and level of difficulty reflect the fact that this is a college level course.
Workload: The workload and level of difficulty reflect the fact that this is a college level course. The teaching method is lecture and class discussion combined with student projects and group work. Students will plan and conduct their own surveys and experiments using computer data analysis software and graphing calculators in analyzing and writing reports on the results. Students can expect homework to regularly include reading and writing assignments. Marking period grades are based on quizzes, exams, reports on investigative tasks, and projects. **All students in the course are highly encouraged to take the AP Statistics exam in May.** Students are expected to complete a project after the AP exam.
Homework: Students can expect to spend 30-45 minutes on homework each night.

PERSONAL FINANCE

Level: Regents or Honors (does not end in a NYS Regents Exam but dual credit is available through TC3)
NCAA: Not Approved
Credit: Full Year 1 Credit
Prerequisites: Successful completion of two math credits. One of the math credits should be Algebra 1. Previous successful completion of a Regents exam in either Algebra, or Geometry, or Algebra 2.
Course Content: This course prepares students to plan and manage their personal finances effectively. The course focuses on creating and maintaining a budget, understanding credit ratings, comparing different types of investments, evaluating different types of loans, etc. Students will learn the importance of understanding economic decisions and asking

questions until they can evaluate the impact of financial decisions.
Workload: The teaching method combines individual and group work. Consistent attendance and homework completion are essential for success in this course. Students will take the Personal Finance department final in June.
***This class has concurrent enrollment with TC3**. There is potential to earn honors credit for this course.
Homework: Students can expect to spend 20 minutes on homework each night.

INTRODUCTION TO PROGRAMMING 1

Level: Regents (does not end in a NYS Regents Exam)
NCAA: Approved
Credit: Semester ½ credit
Prerequisite: Algebra 1
Course Content: This is a hands-on course designed to give students an enjoyable and rewarding entry-level experience in computer programming. Students will program in Python language in a cloud-based IDE using school chromebooks. Grades are based on projects, lesson assignments, quizzes, and miscellaneous exercises as assigned. The final exam may be a department exam and/or a project. All coursework is completed during class.
Workload: Syntax, Functions, Control Flow, Lists, Loops, Strings, Modules, Dictionaries, Files, Classes, and Function Arguments.
Homework: There is no homework in this class, other than working in the lab outside of class to keep up with assigned projects when necessary

INTRODUCTION TO PROGRAMMING 2

Level: Honors (does not end in a NYS Regents Exam)
NCAA: Approved
Credit: Semester ½ Credit
Prerequisite: A grade of 85 or better in Introduction to Programming 1 or permission of department leader.
Course Content: This course is the prerequisite for the Advanced Placement Computer Science course. The language of the course is Java. Students complete hands-on programming assignments in a cloud-based IDE using school chromebooks. Grades are based on projects, programming assignments, and miscellaneous exercises as assigned. The final exam may be a department exam and/or a project. All coursework is completed during class.
Workload: Introduction to object-oriented programming--objects, classes, references and methods; basic language constructs-variables, types, operators, and control structures; program design, testing, and debugging; strings; arrays; array lists and iterators.
Homework: There is no homework in this class, other than working in the lab outside of class to keep up with assigned projects when necessary.

AP COMPUTER SCIENCE

Level: AP
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisite: Grade of 85 or better in Introduction to Programming 2 or permission of instructor and department leader.
Course Content: This course fulfills the requirements of the national Advanced Placement Computer Science program and is equivalent to a semester sequence in computer science at most universities. The approach is object-oriented programming. Topics include objects and classes, inheritance and polymorphism, program design and testing, strings and arrays, recursion and analysis and efficiency of algorithms. Advanced data structures such as stacks, queues, and linked lists will be covered after the AP Exam.
Workload: Most of the class time is used for lecture/ discussion and computer lab assignments. Grades are based on tests, large programming projects, and miscellaneous coursework as assigned. Students will program in Java, using Eclipse and BlueJ, both free downloads. All **students are highly encouraged to take the Advanced Placement Computer Science test in May.**
Homework: Students can expect to spend up to 5 hours of home computer work per week.

AIS (ACADEMIC INTERVENTION SERVICES) FOR MATH

Level: all levels
Assigned: as needed
Course Content: Academic Intervention Services are here to help students who are struggling to achieve the Common Core learning standards as determined by the New York State assessments in math. Any student who fails a required NY State assessment or who is struggling in a course they need in order to graduate may receive AIS. The Math Department provides these services as a separate class within a student's schedule to support and supplement learning in their primary math course. AIS may be scheduled for as little as 5 weeks depending upon a student's need.

PHYSICAL EDUCATION & HEALTH DEPARTMENT

Department Chair & Master Educator: Josh Chase
email: jchase@icsd.k12.ny.us

Physical Education Department - Course Sequence

Recommended Grade	NYS Course Requirements	Options Available	Prerequisites	NCAA	TC3 Credit
9	¼ credits are earned per semester for a total of eight semesters (grades 9-12). This accumulates to 2 units of credit necessary to receive a diploma	**9th Grade Physical Education**	Students entering grade 9 until graduation must earn the equivalent of two units of credit in physical education to be eligible to receive a diploma.		
10, 11, 12	¼ credits are earned per semester for a total of eight semesters (grades 9-12). This accumulates to 2 units of credit necessary to receive a diploma	**10th,11th,12th Grade Physical Education**	Students entering grade 9 until graduation must earn the equivalent of two units of credit in physical education to be eligible to receive a diploma.		
9, 10, 11, 12	¼ credits are earned per semester for a total of eight semesters (grades 9-12). This accumulates to 2 units of credit necessary to receive a diploma	**Unified Physical Education**	Physical Education teacher, CSE, administrator, or school counselor.		
10, 11, 12	¼ credit	**Lifeguarding Course**	Students must be 15 yrs. old on or before start of course. Can only take one time during high school career. Cannot already hold a Lifeguard Certification.		
10, 11, 12	¼ credit	**Aquatics**	Students entering grade 9 until graduation must earn the equivalent of two units of credit in physical education to be eligible to receive a diploma.		
10, 11, 12	¼ credit	**Yoga & Self Care for Everybody**			
10, 11, 12	½ credit	**Online Health Course**	Enrolled in Yoga & Self-Care for Everyone.		
10, 11, 12	½ credit Required	**Health Education**	None		
10, 11, 12	¼ credit	**Physical Education for the Student Athlete – Zero Period**	A student athlete must be a bona fide student of the High School represented and **must be taking at least four subjects including Physical Education** according to New York State Public High School Athletic Association.		
10, 11, 12	¼ credit	**Personal Fitness and Wellness**	Students entering grade 9 until graduation must earn the equivalent of two units of credit		

			in physical education to be eligible to receive a diploma.		
10, 11, 12	¼ credit	**Outdoor Education Program Overview**	Students entering grade 9 until graduation must earn the equivalent of two units of credit in physical education to be eligible to receive their diploma.		
10, 11, 12	¼ credit	**Yoga for Fitness**	Students entering grade 9 until graduation must earn the equivalent of two units of credit in physical education to be eligible to receive their diploma.		

9th GRADE PHYSICAL EDUCATION

Level: 9th grade Physical Education
Credit: ¼ credit per semester
One-quarter (¼) credits are earned per semester for a total of eight semesters (grades 9-12). This accumulates to 2 units of credit necessary to receive a diploma.
Prerequisites: Students entering grade 9 until graduation must earn the equivalent of two units of credit in physical education to be eligible to receive a diploma.
Course Content: The content of the 9th grade Physical Education Program consists of the following activities: fitnessgram assessments, team passing sports, net/wall activities, personal performance, outdoor activities, striking/fielding, dance/aesthetics, target sports, and aquatics.
Workload/Homework: Minimal

10th, 11th, & 12th GRADE PHYSICAL EDUCATION

Level: 10th, 11th, and 12th grade Physical Education
Credit: ¼ credit per semester
Prerequisites: Students entering grade 9 until graduation must earn the equivalent of two units of credit in physical education to be eligible to receive a diploma. One-quarter (¼) credits are earned per semester for a total of eight semesters (grades 9-12). This accumulates to 2 units of credit necessary to receive a diploma. A student, who completes all diploma requirements in fewer than eight semesters, is not required to continue enrollment in high school for the sole purpose of meeting the physical education requirements.
Course Content: The content of the 10th, 11th, and 12th grade Physical Education Program consists of the following activities: fitnessgram assessments, team passing sports, net/wall activities, personal performance, outdoor activities, aquatics, striking/fielding, dance/aesthetics, and target sports.
Workload/Homework: Minimal

UNIFIED PHYSICAL EDUCATION
(1 & 2 Semester Course)

Level: 9th, 10th, 11th, and 12th and APE Students
Credit: ¼ credit per semester
Prerequisites: Recommendation by Physical Education teacher, CSE, administrator, or school counselor
Course Content: This course is for students who are interested in working closely with students with disabilities, considering a career path in special education, physical education/wellness, or who are involved in Special Olympics. Unified Wellness combines general education students with students with disabilities to work in a one-on-one physical education/health setting. Similar to a Unified Sports model, students will work together, targeting skill progression at the appropriate pace and level. This class will meet every other day. Selected general education students may choose to participate either one or two semesters. General education students will be assessed based on collaboration, communication, responsibility, and leadership.
Workload/Homework: Minimal

LIFEGUARDING COURSE

Cap - 10 students per class, two classes offered each semester.
Level: 10th, 11th, and 12th High School
Credit: ¼ credit per semester
Prerequisites: The candidate must be 15 years of age on or before the start of the course session. The candidate can only take the Lifeguarding course one time throughout 9-12 grade. **Candidates should not already have a prior Lifeguard Certification certificate**. *A swim test will be provided in June for next year's candidates to know where they stand with their swimming competency. This will ensure the student is a proficient swimmer to complete the course or can prepare for the swim test in the future.*

- Swim 300 yards continuously using each of the following strokes for at least 100 yards: Front, Crawl, and Breaststroke.
- Starting in the water, swim 20 yards using front crawl or breast stroke, surface dive 10 feet, retrieve a 10 lb. object, return to the surface, swim 20 yards back to the starting point with the object, and exit the water without using a ladder or steps, within 1 minute, 40 seconds.
- Tread water using only legs for 2 minutes. The American Red Cross Lifeguarding certificate will be presented, and upon successful completion, the students will receive American Red Cross certification in Lifeguard Training, CPR for the Professional Rescuer, and Automated External Defibrillator.

Course Description: The American Red Cross Lifeguarding course is designed to teach participants the knowledge and skills needed to prevent and respond to aquatic emergencies. The course content and activities prepare participants to recognize and respond quickly and effectively to emergencies and prevent drownings and injuries.
Course Expectations: Students will:

- Perform two CPR demonstrations for the Professional Rescuer certification.
- Apply lifeguard training skills to three scenarios.
- Score at least 80% on three written exams.
- Earn Lifeguard Certification.
- Earn CPR for the Professional Rescuer Certification and AED Certification.
- Read one related book or 100 pages of technical reading.
- Complete professional training hours.
- Be responsible for Physical Education concepts and additional instruction provided throughout the course.
- Pay $35.00 Certification fee. *(certification fee will be covered in cases of need)

YOGA and SELF-CARE for EVERY BODY - PHYSICAL EDUCATION COURSE

Level: 10th, 11th, & 12th High School
Credit: ¼ credit per semester
Prerequisites: None
Course Content: Students will learn how to balance all aspects of their health and reduce stress and anxiety through yoga, mindfulness, and self-care practices. Students will learn various types of yoga, breathing methods, centering practices, relaxation techniques, how to manage their emotions and stress levels, and more to help them in school and beyond!

ONLINE HEALTH EDUCATION COURSE (ASYNCHRONOUS)

Must be enrolled in Yoga & Self-Care for Every Body class

Level: 10th, 11th & 12th
High School Credit: ½ credit per semester
Prerequisites: None
Course Content: Students enrolled in the Yoga & Self Care for Every Body course have the option of taking the Online Health (asynchronous) course to earn their Health Education and Physical Education credits at the same time (dual course). The same units, topics, information and skills will be taught as the in-person Health Education course.
Students will be responsible for checking Canvas weekly for Health assignments/projects and keeping track of due dates. Good organization and time management skills are highly recommended! In-person and online office hours will be available, but not mandatory. *Students MUST have a passing grade in Yoga & Self Care for Every Body and Online Health Education (asynchronous) to earn both their Physical Education and Health Education credits.*
Workload/Homework: About 1-2 hours per week

HEALTH EDUCATION

Level: 10th, 11th, & 12th High School
Credit: ½ credit, 1 semester
Prerequisites: None
Course Content: This class meets New York State mandates and is an overview of health issues pertinent to high school students. Health Education is a required course for graduation. The Health Education skills taught will include decision-making, communication, refusal skills, relationship, and self-management skills which will be practiced with the goal of achieving health literacy. A health literate individual is someone who is a critical thinker, a responsive citizen, an effective communicator, and a lifelong advocate of health. The content of the curriculum is fact-based and current health issues will be discussed to give students the knowledge and skills to make healthy, responsible decisions throughout their lifetime.
Health is a dynamic subject, and the curriculum must adjust knowledge about the various areas of health. Units will include but are not limited to: wellness, emotional and mental health, fitness and nutrition, substance use, human sexuality, and relationships. Guest speakers will be used to provide students with additional information on certain topics. Students will complete various projects such as: skits, slideshow presentations, brochures/pamphlets, research projects, oral presentations, personal health plans, and a parenting project (Ready-or Not Tot dolls and Empathy Belly Pregnancy Simulator). Written options will also be offered. The written options will require work at home. Students are encouraged to be creative and projects individualized. Some class time is spent in the library computer lab to familiarize students with internet searches, electronic databases, reliable resources, and the ability to research health topics and create slideshow presentations.
Teaching methods will include a combination of individual and group activities/projects, class discussions, debates, videos, and lecture. Students will be graded on the following: class participation, in-class assignments, and projects. This class will also include a final research project in place of a final exam.
***Students and parents are advised that, if at any time, religious or personal beliefs are compromised, they have the right to petition for alternative units of study to complete those portions of mandated requirements.**
Workload/Homework: Varies per unit; less than 1 hour

AQUATICS-PHYSICAL EDUCATION

Level: 10th, 11th, & 12th grade Physical Education
Credit: ¼ per semester
Prerequisites: Students entering grade 9 until graduation must earn the equivalent of two units of credit in physical education to be eligible to receive a diploma.
One quarter (¼) credits are earned per semester for a total of eight semesters (grades 9-12). This accumulates to 2 units of credit necessary to receive a diploma. A student, who completes all diploma requirements in fewer than eight semesters, is not required to continue enrollment in high school for the sole purpose of meeting the physical education requirements.
Course Content: Offered to grades 10-12 students who already know how to swim, who love to swim, and who enjoy being in and around water. Examples of activities offered in this elective are: swimming for fitness, water games, water safety, and how to safely use personal watercraft such as kayaks and SUPs.

PHYSICAL EDUCATION FOR THE STUDENT ATHLETE

Level: 10th, 11th, 12th grade Physical Education
Credit: ¼ credit per semester
Prerequisites: A student athlete must be a bona fide student of the High School represented and must be taking at least four subjects including Physical Education according to New York State Public High School Athletic Association. Students entering 9th grade must earn the equivalent of two units of credit in physical education to be eligible to receive a diploma. One-quarter (¼) credits are earned per semester for a total of eight semesters (grades 9-12). This accumulates to 2 units of credit necessary to receive a diploma. A student, who completes all diploma requirements in fewer than eight semesters, is not required to continue enrollment in high school for the sole purpose of meeting the physical education requirements.
Students that sign up for this course should be interested in or participating in the ICSD Athletic Program.
Course Content: The content of the Physical Education for the Student Athlete course consists of the following activities: pre-season training, in-season training, pre/post contest workouts, injury prevention, cardiovascular conditioning, strength training, team passing, net/wall, personal performance, outdoor activities, aquatics, and others.

PERSONAL FITNESS AND WELLNESS

Level: 10th, 11th, and 12th Grade Physical Education
Credit: ¼ credit per semester
Prerequisites: Students entering grade 9 until graduation must earn the equivalent of two units of credit in physical education to be eligible to receive a diploma.
One quarter (¼) credits are earned per semester for a total of eight semesters (grades 9-12). This accumulates to 2 units of credit necessary to receive a diploma.
A student, who completes all diploma requirements in fewer than eight semesters, is not required to continue enrollment in high school for the sole purpose of meeting the physical education requirements.
Course Content: Students will have the necessary knowledge and skills to establish and maintain physical fitness, participate in physical activity, and maintain personal health. Students will know the components of personal wellness, establish a personal profile with fitness/wellness goals, and engage in appropriate activities to improve or sustain their fitness.

OUTDOOR EDUCATION PROGRAM OVERVIEW

Level: 10th, 11th, and 12th grade Physical Education
Credit: ¼ credit per semester **May only take the course 1 time**
Prerequisites: Students entering grade 9 until graduation must earn the equivalent of two units of credit in physical education to be eligible to receive their diploma.
Course Description: The Outdoor Education class is designed to teach participants the skills needed and how to safely participate in outdoor recreation. Some topics may include, shelter building, fire building, water purification, orienteering, snowshoeing, knot tying, outdoor cooking, and more.
Workload/Homework: Minimal

YOGA FOR FITNESS

Level: 10th, 11th, & 12th High School
Credit: ¼ credit per semester **May only take the course 1 time**
Prerequisites: Students entering grade 9 until graduation must earn the equivalent of two units of credit in physical education to be eligible to receive their diploma
Course Content: Students will learn the fundamentals of yoga practice and how it impacts their health and wellness.
Students will learn various types of yoga, breathing methods, and relaxation techniques. The purpose of this course is for students to gain an understanding about how yoga can improve their cardiovascular endurance, muscular endurance, muscular strength, flexibility, and their overall health and well-being.
Workload/Homework: Minimal

SCIENCE DEPARTMENT

Department Leader: Arti Jewett
Email: arti.jewett@icsd.k12.ny.us

To gain a better appreciation for and understanding of the world in which they live, students should become involved with the concepts, skills, ideas, and knowledge appropriate to science. They should learn how to think scientifically to critically analyze the world around them. The high school science courses are conceptually oriented with a strong emphasis on the application of scientific skills and reflective thinking for solving problems.

THE FOLLOWING SKILLS ARE COMMON TO ALL SCIENCE COURSES:

ORGANIZATIONAL SKILLS:

- Complete and turn in homework in a timely manner.
- Complete and turn in laboratory reports in a timely manner.
- Keep an organized notebook or binder of all class and laboratory materials.
- Come to class each day with the necessary materials.
- Be responsible for knowing assignments and making up missed work following an absence.

LABORATORY AND FIELD WORK REQUIREMENT:

- Recognize the role of observation and experimentation in the development of scientific theories.
- Be familiar enough with laboratory and field work to ask appropriate questions and select correct avenues to obtain solutions to problems.
- Develop the skills to perform laboratory and fieldwork. (See specific content areas).
- Communicate the results obtained in the field and laboratory.
- Utilize technology effectively.
- Use appropriate lab safety procedures.

REASONING

- Identify and formulate problems and choose multiple avenues to search for solutions.
- Think critically.
- Draw evidence from a variety of resources (written, verbal, and graphic) to support one's conclusion.
- Distinguish opinion from fact.
- Set goals and develop priorities consistent with the course of study.
- Be a life-long learner, demonstrate a positive work ethic, and accept responsibility for one's learning.

COMMUNICATION

- Represent one's knowledge in a variety of forms (concept maps, graphic, verbal, written, and multimedia).
- Communicate scientific information in a technical manner.
- Listen and understand.
- Use computers and appropriate software for collection and retrieval of information, word processing, modeling, simulations, and networking with other resources of information.
- Research and compose a technical paper according to a given format.

MATHEMATICS SKILLS

- Create tables and graphs appropriate to the data collected.
- Interpret data presented in tabular and graphical forms.
- Make mathematical relationships to describe scientific analysis and problem-solving.
- Perform simple mathematical calculations such as averaging.
- Use computer programs to analyze data, such as averaging, rounding, and estimating, and to perform statistical tests such as T-tests or chi-square when appropriate.
- Estimate reasonable answers.
- Use and evaluate mathematical formulas.

Science Department - Course Sequence

Recommended Grade	NYS Course Requirement 3 credits - must include 1 life science & 1 physical science & 1 lab science	Course Offerings **"Hours of homework/week" refers to the approximate amount of time students should expect to spend completing assignments and studying**	Prerequisites	NCAA	TC3 Credit
Full Year Courses - 1 Credit					
9	1 credit Life Science	**Living Environment (Biology) Regents/Honors Level** 0.5 - 1 hour of homework/week	No prerequisites. This course is required for all 9th grade students at Ithaca High School	X	
10, 11	1 credit Physical Science	**Earth Science Regents/Honors Level** 1 - 1.5 hours of homework/week	• Has taken Biology or is concurrently enrolled • Successfully completed at least one year of high school math	X	
10, 11	1 credit Physical Science	**Principles of Chemistry 101** 1.5 - 2.5 hours of homework/week	• Fulfilled Regents Science exam requirement • Passed Algebra I • Have taken R/H Biology & R/H Earth Science	X	X
10, 11	1 credit Physical Science	**Chemistry Honors Level** 2.5 - 3.5 hours of homework/week	• Passed at least two Regents Science exams • Successful completion of R/H Biology & R/H Earth Science • Successful completion of Algebra I	X	
10, 11	1 credit Physical Science	**General Physics 104** 1.5 - 2.5 hours of homework/week	• Have taken R/H Biology & R/H Earth Science • Passed at least one Regents Science exam • Successful completion of Algebra I	X	X
10, 11	1 credit Physical Science	**Physics Honors Level** 3 hours of homework/week	• Passed Algebra 1 • Passed R/H Biology & R/H Earth Science • Passed at least two Regents Science exams	X	
11, 12 *10th graders may be placed by recommendation of counselors and department leader	1 credit Physical Science	**Science For Life (Applied Science)** 0.5 - 1 hour of homework/week	• May be taken as a 3rd science course • Have taken R/H Biology and R/H Earth Science • 10th graders who haven't taken Earth Science may be placed by counselor & department leader recommendation		

AP Full Year Courses - 1 Credit					
11, 12	1 credit Physical Science	**AP Chemistry** 5 hours of homework/week	• Successfully completed two years of high school math • Successfully completed both R/H Biology and R/H Earth Science and passed both Regents exams 10th grade students who want to take AP Chemistry must take an assessment. These students must meet the above prerequisites. See Frequently Asked Questions for more information.	X	
11, 12	Can apply towards 3rd credit	**AP Environmental Science** 5-6 hours of homework/week	• Passed R/H Biology, R/H Earth Science, and Honors/AP/Chem 101 • Passed at least two science Regents exams	X	
11, 12	1 credit Life Science	**AP Biology** 5 hours of homework/week	• Passed R/H Biology, R/H Earth Science, and Honors/AP/Chem 101 • Passed at least two science Regents exams	X	X
11, 12	1 credit Physical Science	**AP Physics 1** 6 hours of homework/week	• Completed R/H Biology and R/H Earth Science • Passed at least 2 science Regents exams and at least 2 math Regents exams • Students should be enrolled in pre-calculus or calculus concurrently	X	
11, 12	1 credit Physical Science	**AP Physics C** 5-7 hours of homework/week	• Completed R/H Biology and R/H Earth Science • Passed at least 2 science Regents exams and at least 2 math Regents exams • Concurrently enrolled in AP Calculus BC	X	

Half Year Elective Courses - 0.5 credit

Half Year Electives are for 11th and 12th Graders

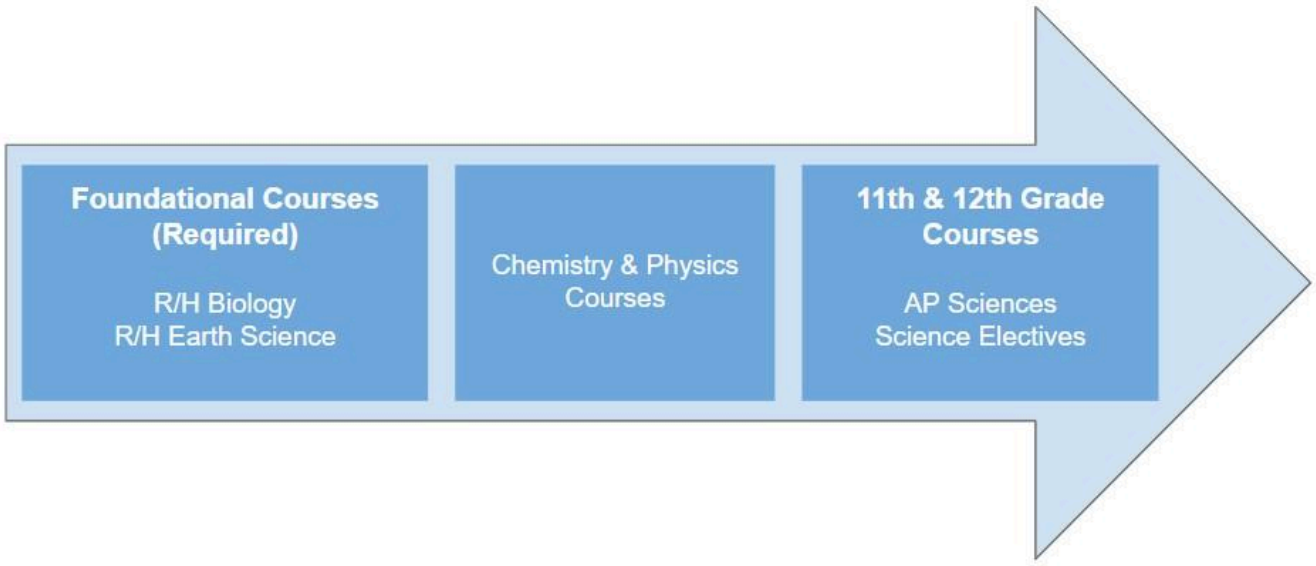
NOTE: 10th graders can only take these elective courses if there is room available after 11th & 12th grade students have enrolled AND if they: 1) have met all prerequisites, 2) are also enrolled in a laboratory science course, 3) have a lunch or free period scheduled every day in addition to their course load.

11, 12	Can apply towards 3rd credit	**Zoology: Evolution and Diversity of Animals** 1.5 - 2.5 hours of homework/ week	• Completed R/H Biology and R/H Earth Science • Passed at least one Science Regents examination • In 11th or 12th grade (see note at the beginning of the section regarding 10th graders)	**X**	
11, 12	Can apply towards 3rd credit	**Zoology: Vertebrate** 1.5 - 2.5 hours of homework/ week	• Completed R/H Biology and R/H Earth Science • Passed at least one Science Regents examination • In 11th or 12th grade (see note at the beginning of the section regarding 10th graders)	**X**	
11, 12	Can apply towards 3rd credit	**Marine Biology** 1.5 - 2.5 hours of homework/ week	• Completed R/H Biology and R/H Earth Science • Passed at least one Science Regents examination • In 11th or 12th grade (see note at the beginning of the section regarding 10th graders)	**X**	
11, 12	Can apply towards 3rd credit	**Oceanography** 1.5 - 2.5 hours of homework/ week	• Completed R/H Biology and R/H Earth Science • Passed at least one Science Regents examination • In 11th or 12th grade (see note at the beginning of the section regarding 10th graders)	**X**	
11, 12	Can apply towards 3rd credit	**Biological Forensics: Biology of the Crime Scene Investigation** 1-2 hours of homework/week	• Completed R/H Biology and R/H Earth Science • Passed at least one Science Regents examination • In 11th or 12th grade (see note at the beginning of the section regarding 10th graders)	**X**	
11, 12	Can apply towards 3rd credit	**Physical Forensics: Physical Science of the Crime Scene Investigation** 1-2 hours of homework/week	• Completed R/H Biology and R/H Earth Science • Passed at least one Science Regents examination • In 11th or 12th grade (see note at the beginning of the section regarding 10th graders)	**X**	
11, 12	Can apply towards 3rd credit	**Astronomy** 1-2 hours of homework/week	• Completed R/H Biology and R/H Earth Science • Passed at least one Science Regents examination • In 11th or 12th grade (see note at the beginning of the section regarding 10th graders)		

11, 12	Can apply towards 3rd credit	**Sustainable Agriculture** 1-2 hours of homework/week	• Completed R/H Biology and R/H Earth Science • Passed at least one Science Regents examination • In 11th or 12th grade (see note at the beginning of the section regarding 10th graders)		X
11, 12	Can apply towards 3rd credit	**Food Science** 1-2 hours of homework/week	• Completed R/H Biology and R/H Earth Science • Passed at least one Science Regents examination • In 11th or 12th grade (see note at the beginning of the section regarding 10th graders)		

Other Science Courses

9, 10, 11, 12	Flexible Scheduling No Credit	**Academic Intervention Services (AIS) for Science**	Need-based support with Science skills and classwork.		



R/H BIOLOGY

Level: Regents/Honors
NCAA: Approved
Credit: Full year 1 credit
Prerequisites: None. This course is required for all 9th-grade students. Students should be concurrently enrolled in a math course at Ithaca High School.

Course Content: This course is meant to prepare students for the NYS Living Environment Regents exam as well as other Honors and AP-level science courses as future options at Ithaca High School. Students will study concepts in ecology, biochemistry, cell biology, human anatomy and physiology, genetics, DNA, and evolution. *Students will complete a minimum of 1200 minutes of laboratory experience to be eligible for the NYS Regents exam.*
Homework and Workload:

- Double periods are scheduled every other day to accommodate the 1200-minute lab requirement mandated by New York State.
- Instructional strategies will include lectures, laboratory investigations, research, demonstrations, oral presentations, outside speakers, fieldwork, projects, and cooperative learning activities.
- In addition to the minimum lab requirement of 1200 minutes, students taking the course for honors credit will need to complete honors-specific assignments and assessments independently.
- Student performance will be assessed using labs, projects, and tests. Students will take the NY State Regents Living Environment Exam at the end of the course. Work outside of class will consist mainly of finishing class work, reading assignment feedback, reviewing for assessments, and catching up after absences. The amount of time spent doing work outside of class will vary based on student engagement during class time.

EARTH SCIENCE

Level: Regents/Honors
NCAA: Approved
Credit: Full year 1 credit
Prerequisites: This course is recommended primarily for 10th-grade students who have:

- Passed the R/H Biology course and passed the Living Environment Regents Exam
- Successfully completed at least one year of high school math.

Students enrolling who have not met these recommended criteria should expect to invest extra time and energy outside of class time to be successful in this course.

Course Content: Students will complete a comprehensive examination of earth systems, using applications of biology, chemistry, and physics to analyze earth phenomena. Topics will include concepts in map skills, minerals and rocks, weathering and erosion, plate tectonics, the inferred structure of the earth, volcanoes, seismology, earth history and paleontology, meteorology and climate, earth in space, astronomy, and seasonal changes. *Students will complete a minimum of 1200 minutes of satisfactory laboratory experience to be eligible for the NYS Regents exam.*
Homework and Workload: The course covers the NYS Earth Science Regents Core Curriculum.

- Double laboratory periods every other day to accommodate the state-required 1200-minute lab requirement.
- Emphasis is placed on developing laboratory skills, improving writing and reading in the science content area, and developing study skills such as note-taking and research methods.
- Instructional strategies may include small group instruction, independent lab work, lecture format, library research, cooperative learning activities, and speakers.
- In addition to the minimum lab requirement of 1200 minutes, honors students will need to successfully complete the honors-specific labs, homework assignments, and assessments.
- Students will be assessed during the year on labs, homework, classwork, quizzes, and tests. This course culminates in a NYS Regents exam.
- Homework expectations average 20 minutes a night for 3 to 4 days per week.

PRINCIPLES OF CHEMISTRY 101

Level: Regents (does not end in NYS Regents Exam)
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisites: This course will fulfill graduation requirements for a NYS Core Curriculum, third-year science course. However, this course will not culminate in a Regents exam. This course is recommended for students who:

- have taken Biology and Earth Science prior to taking this course. Earth Science may be taken concurrently with this class.
- have passed at least one NYS Regents Science exam
- have passed Algebra I

Course Content: This course is a concurrent Tompkins Cortland Community College course. Successful students will earn 4 credits of chemistry through Tompkins Community College. This course studies the basic principles of chemistry. Measurement, atomic structure, bonding, chemical formulas, the mole concept, equations, and stoichiometry are developed and examined. This course is practical-based and incorporates real-world issues and problems. Quantitative laboratory experiments are integral to this course. Experiments utilize and reinforce the principles studied and require considerable student attention.

Students cover the same material covered at TC3 but take a year to complete what TC3 completes in one semester. Successful students earn 4 credit hours of college-level chemistry. There is no cost associated with this credit. All students register with TC3 in January and have the option at that time to register for credit or for audit status. Students opting to audit the course still earn high school credit but will not receive college credit nor will their grade appear on any college transcript as it would if they registered for credit**.**

Homework and Workload:

- This course follows the curriculum developed at Tompkins Cortland Community College. The final exam for this course is locally generated.
- This is a broad-based approach to chemistry that will involve problem-solving, lab experiments, group work, and discussion. Instructional strategies include lectures, lab experiments, discussions, video studies, and computer research. Classwork includes labs, projects, lectures, homework and note-taking, and assessments of student understanding.
- Homework should take about 20-30 minutes per night approximately 4 times per week. Homework may include reading, taking notes from the text, writing detailed lab reports, and project work.
- Students will be assessed on homework completion, lab reports, quizzes, tests, and projects. Students need to successfully complete laboratory reports, reflecting a minimum of 1200 minutes for the year, by June 1st of the testing year in order to qualify for NYS Core Curriculum course credit.

HONORS CHEMISTRY

Level: Honors
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisites: This course is recommended for students who have:

- Passed at least two Regents Science exams
- successfully completed R/H Biology & R/H Earth Science
- Successfully completed Algebra I. Students should be able to confidently manipulate equations.

Course Content: This course will fulfill graduation requirements for a NYS Core Curriculum science course. This course involves a study of the principles which govern the structure and properties of matter. Topics include: matter and energy, atomic structure, bonding, the periodic table, mathematics of chemistry, kinetics, equilibrium, acids and bases, redox and electrochemistry, organic chemistry, and nuclear chemistry.

Homework and Workload:

- The Regents Chemistry Syllabus is used as a guide with considerable enrichment to the core topics. Students are expected to be able to relate topics and knowledge from previous science and math courses to material being studied in chemistry. The treatment of topics is based on experiments and often involves considerable math. Practical applications of chemical principles are emphasized.
- Instructional strategies include lab experiments, lectures, group work, discussions, and videos.
- Assessments include lab reports, tests, quizzes, projects, and the Regents Exam (optional).
- Students may choose to take the State Regents Exam in Chemistry at the end of the course. Students need to successfully complete laboratory reports, reflecting a minimum of 1200 minutes for the year, by June 1st of the testing year in order to qualify to take the Regents Exam. Written laboratory reports are mandated by the State of New York and must be kept on file for entrance into the Regents Exam.
- Homework should take an average of 30-45 minutes per night. Homework includes reading and completing lab reports, problem sets, worksheets, and project work.

GENERAL PHYSICS 104

Level: Regents (does not end in NYS Regents Exam)
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisites: This course will fulfill graduation requirements for a NYS Core Curriculum, third-year science course. However, this course will not culminate in a regent's exam. Students wishing to take the NYS Physics Regents Exam should enroll in Honors Physics.
This course is recommended for students who have:

- Successfully completed both R/H Living Environment Biology and R/H Earth Science
- Passed at least one NYS Regents Science exam
- Passed Algebra I

This course offers college credit and the expectation is that students are prepared for taking a course involving post-high school levels of work in the classroom and for homework.
Course Content: This course is a concurrent Tompkins Cortland Community College (TC3) CollegeNow course and follows the curriculum developed at TC3. Successful students will earn 4 credits of physics through TC3. There is no cost associated with these credits. Students will learn to understand concepts relating to motion, statics, dynamics, conservation of momentum, work, conservation of energy, rotation, waves, thermodynamics, fluids, vibrations, and sound. Students will use and create mathematical models and solve problems for the topics above using geometry, algebra, and trigonometry.

Homework and Workload:

- Homework for this course should take the typical student about 20-30 minutes/night. Homework may include problem-solving, reading, taking notes from the text, writing detailed lab reports, and project work.
- This is a broad-based approach to physics that will involve problem-solving, lab experiments, group work, and discussion. Instructional strategies include lectures, lab experiments, discussions, video studies, and computer research.
- Classwork includes labs, projects, lectures, homework, note-taking, and assessments of student understanding.
- Students will be assessed on homework completion, lab reports, quizzes, tests, and projects.
- As part of the TC3 CollegeNow requirement, students will take a final exam. This course does not culminate in a NYS Regents Exam.

HONORS PHYSICS

Level: Honors
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisites: This hands-on physical science course is recommended for students.

- who have successfully completed Biology and Earth Science
- who are skilled or interested in mathematics and have completed Algebra I.
    - Students should be able to confidently manipulate equations and perform calculations
- who have passed the NYS Earth Science and Living Environment Regents exams
- who can acquire basic factual information and organize their work independently

Students who have not met these recommended criteria should expect to invest extra time and energy to be successful in this class.
Course Content: This hands-on course conforms to the NYS Regents curriculum for Physics. Topics include vectors, motion, projectiles, forces, momentum, energy, waves, electricity, magnetism, and modern physics. Instructional strategies used in this course emphasize the mathematical modeling of real-life problems.
Students will create treasure maps to explore vectors, use computer probes to study motion, fire rockets to learn about projectile motion, take elevator rides to investigate forces, design a bungee cord for an egg to learn about energy, analyze the wave motion of Slinkys, and build circuits to learn about electricity.

Homework and Workload:

- Written laboratory reports are mandated by the State of New York and must be kept on file for entrance into the Regents exam.
- Homework requires about 3 hours per week outside of class. Assignments will include readings, written homework, and laboratory reports.
- Quizzes and tests determine the major part of the grade, with labs and homework assignments counting as 40%. Students can expect quizzes every week or two and one- or two-unit tests per marking period.
- Students need to successfully complete laboratory reports, reflecting a minimum of 1200 minutes for the year, by June 1st of the testing year in order to qualify to take the Regents Exam.

SCIENCE FOR LIFE (APPLIED SCIENCE)

Level: Regents (does not end in NYS Regents Exam)
Credit: Full Year 1 Credit
Prerequisites: This course is recommended for 11th and 12th grade who have passed at least one full-year science course and have taken both R/H Living Environment Biology and R/H Earth Science. Students who have not completed Earth Science may take the course with recommendations by counselors and the Science Department leader.
Course Content: This course will fulfill graduation requirements for NYS Core Curriculum, third-year science course. However, this course will not culminate in a Regents exam. This is a topics-based science course exploring the connections between real-world issues and classroom science. The emphasis will be on applying the processes of science, interpreting data and research, and advancing scientific literacy to understand the role of science in our everyday lives. Career connections will be emphasized.
The course covers the concepts of food chemistry and safety, cosmetics, water and sewage treatment, household electrical safety, alternative energy and sustainable design, vehicle safety and design, and environmental justice. Incorporated into these major topics are the fundamentals of chemistry, physics, and biology, with additional discussion of art, policy, and history to provide context.
Homework and Workload:

- Homework requires about 30-60 minutes per week outside of class.
- A final project is required.
- Emphasis is placed on developing laboratory and modeling skills, improving writing and reading in the science content area, and developing study skills such as note-taking and research methods.
- Instructional strategies include model-making, lab experiments, lectures, group work, critical thinking, projects, presentations, discussions, videos, and computer research.
- Varied assessments of student understanding are used throughout the year such as presentations, library research, tests, and group projects. The final evaluation is based on both a portfolio project and a teacher-written final exam.

ADVANCED PLACEMENT (AP) COURSES (GRADES 11-12)

AP CHEMISTRY

Level: AP
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisites: AP Chemistry is recommended for 11th and 12th-grade students who:

- are self-motivated and have a strong interest in the chemical and biological sciences and related college majors
- have successfully completed two years of high school math
    - Students should be able to confidently manipulate equations and perform calculations
- have completed foundational science courses (Biology and Earth Science) at the honors level

10th-grade students who meet the prerequisites but who have not taken a previous Chemistry course must take an assessment before being registered for the class. (See Department Leader for more information.).
Course Content: This course follows the Advanced Placement Chemistry program and is the equivalent of a full-year sequence in chemistry at most universities. Topics include stoichiometry, reactions, atomic structure, bonding, thermodynamics, phases of matter, solutions, kinetics, equilibrium, acid-base chemistry, and electrochemistry.
Homework and Workload:

- This course follows the Advanced Placement Chemistry program. The Advanced Placement Chemistry Exam, administered by the Education Testing Service in May, is highly encouraged as part of the course.
- Students are expected to complete a problem set every night and its careful completion is considered essential to mastering the content. Assignments are expected to take up to 1 hour to complete.
- The teaching method is lecture, as well as classroom discussion, small group work, and lab work. The course is very challenging with new topics introduced almost every day.
- Homework is required nightly and is essential for success in the course.
- Quizzes are given regularly (2-4 per week). Tests are given at the end of each 2-4 week unit. Marking period grades are based on a combination of homework, labs, quizzes, and tests.
- A midterm exam is given in January. All students in the course are highly encouraged to take the Advanced Placement exam in May. In addition, a locally generated final exam (based on the AP exam) is given before the highly encouraged exam. Students are expected to complete a final project after the exam.
-

AP ENVIRONMENTAL SCIENCE

Level: AP
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisites: Students enrolling should be 11th & 12th grade students who are able to:

- read and comprehend college-level texts
- acquire basic factual information independently
- think critically and conceptually
- organize work independently
- Students enrolling in this course should have completed Earth Science, Biology, and Chemistry with a grade of an 85 or better.

AP Environmental Science is especially recommended for 11th or 12th-grade students who are self-motivated, highly interested in environmental issues, and have a solid background in the sciences.
Course Content: This is a college-level course based on the Advanced Placement curriculum for Environmental Science. AP Environmental Science investigates the interface between humans and the natural world. It draws from a range of sciences (geology, biology, chemistry, biochemistry, ecology, meteorology, oceanography, climatology, etc.) as well as many of the social sciences (economics, public policy, geography, law, politics, etc.). The goal of the course is to provide students with the principles, concepts, and methodologies necessary to understand the interrelationships of natural systems, to identify, analyze, and evaluate the risks of environmental problems, and to examine possible solutions to these problems. Long-term, in-class projects include composting in the classroom, in-class landfills, and engineering design projects. Instructional strategies include lectures, small group research and project work, lab activities, student presentations, and long-term investigations.
Homework and Workload:

- Students should expect to work at least 5-6 hours per week outside of class to complete projects, labs, and homework assignments.
- Students are highly encouraged to take the Advanced Placement exam administered in May. Most of the 4th quarter grade is based on the culmination of several yearlong investigations to be completed after the AP exam.

AP BIOLOGY

Level: AP
NCAA: Approved
Credit: Full year 1 credit
Prerequisites: This course is taught at the college level and is designed for 11th & 12th grade students who:

- are self-motivated and have a strong interest in the biological sciences and related college majors.
- have successfully completed R/H Biology and R/H Earth Science, and have passed the associated NYS Regents Exams
- have successfully completed Chemistry 101, Honors Chemistry, or AP Chemistry

Students who have not met the above criteria are not recommended to take this course.
Course Content: The curriculum is designed to facilitate the investigation of the interface between humans and the natural world. The curriculum draws from a range of sciences including geology, chemistry, cellular biology, biochemistry, genetics, gene regulation, bioethics, recombinant DNA, ecology, biotechnology, plant and animal physiology, anatomy, evolution, and human systems.
The goal of the course is to provide students with the principles, concepts, and methodologies necessary to understand the interrelationships of living systems, to identify, analyze, and evaluate scientific studies, and develop the ability to develop and test hypotheses and provide a foundation for extended coursework at the college level.
Homework and Workload:

- This course follows the Advanced Placement Biology program. The Advanced Placement Biology Exam, administered by Education Testing Service in May, is highly encouraged as part of the course.
- This course is offered for 8 credits through TC3's CollegeNow program (4 in the Fall and 4 in the Spring). The credits are free and optional.
- A midterm exam is given in January, and a final exam is given in June, in keeping with the TC3 CollegeNow requirements. Students are expected to complete a final project after the exam.
- This is a college-level course based on the Advanced Placement Biology curriculum which requires the ability to synthesize existing information and be able to apply this information in new problem-solving situations.
- Instructional strategies include lectures, small group research and project work, lab activities, student presentations, and long-term investigations.
- This course is intended to have the students develop an understanding of biology as a dynamic science and to encourage the students to learn how to analyze and synthesize information and to develop curiosity and respect for the natural world. Other goals are to have students understand more advanced laboratory techniques, to become comfortable presenting oral reports to their classmates, to learn to think scientifically, and to develop into responsible scientifically literate citizens.
- Students are assessed on tests, projects, and lab reports.
- Students should expect to work at least 5 hours per week outside of class to study and to complete projects and labs.

AP PHYSICS 1

Level: AP
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisites: The course is taught at the college level and is designed for 11th and 12th-grade students who:

- are self-motivated and who have a strong interest in science and math
- are enrolled in Pre-calculus or Calculus concurrently
- have successfully completed R/H Biology and R/H Earth Science, and have passed the associated NYS Regents Exams

Students who have not met the above criteria are not recommended to take this course.
Course Content: This is an introductory, algebra-based, college-level course, geared toward students with a strong interest in the sciences. Topics include those typically covered in the first one and a half semesters in a college physics course. The course emphasizes foundational physics principles, scientific practices, and conceptual, analytical reasoning. Topics of study will include mechanics (motion, energy, periodic motion, work, and rotation). Other topics of interest to the students in the class such as magnetism, optics, and modern physics are discussed after the AP exam in May. There will be an emphasis on applying the foundations of physics to problem-solving in a broad range of areas including biology, medicine, sports, the animal world, and engineering. Students are expected to be self-motivated and be able to:

- read and comprehend college-level texts
- acquire basic factual information independently
- think critically and conceptually
- organize work independently

Homework and Workload:

- This is a college-level course that follows and enhances the Advanced Placement Physics 1 curriculum. All students will prepare to take the AP Physics 1 exam. The exam is optional but highly recommended.
- Students can expect to spend 6 hours on homework per week. Students are expected to work at a concerted pace throughout the year.
- Instructional strategies include lectures, class discussions, labs, group work, and exploratory activities. There will be a series of seminars given by researchers at Cornell University after the AP Exam.
- Students will be assessed using Standards-based grading with options for re-assessments on an individual basis. Assessments include homework, group problem-solving, laboratory work, tests, quizzes, and a final project. There will be a midterm exam.

AP PHYSICS C

Level: AP
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisites: This course is designed for 11th and 12th-grade students who are concurrently enrolled in AP Calculus BC or have completed a prior calculus course. The course is recommended for students with a strong interest in physics, chemistry, or engineering, and excellent grades in science and math. Students must have taken Biology and Earth Science before taking this course.
Course Content: This is an introductory, calculus-based, college-level course, geared toward students with a strong interest in physics, chemistry, or engineering. Topics include those covered in the first two semesters in a college physics/engineering program including mechanics (motion, energy, periodic motion, work, and rotation) and electricity & magnetism.
Homework and Workload:

- This is a fast-paced, college-level course that follows the Advanced Placement Physics C curriculum. Students need to be highly capable of independent work.
- Students can expect to spend 5-7 hours on homework per week. Students are expected to work at a concerted pace throughout the year.
- Instructional strategies include lectures, class discussions, labs, group work, and shorter exploratory activities.
- Students will be assessed using Standards-based grading with options for re-assessments on an individual basis. Assessments include homework, group problem-solving, laboratory work, tests, quizzes, and a final project. There will be a midterm exam.
- All students are highly encouraged to take the AP Physics C tests for Mechanics and Electricity & Magnetism given by the College Board in early May. There will be a series of seminars given by researchers at Cornell University after the AP Exam. An independent three-week project will be completed in the last quarter.

HALF-YEAR ELECTIVE COURSES (GRADES 11-12)

ASTRONOMY

Level: Regents (does not end in NYS Regents Exam)
NCAA: Not Approved
Credit: Semester ½ Credit
Prerequisites: Astronomy is an elective (non-core) course that is recommended for 11th or 12th grade students who

- have a strong interest in space exploration
- have completed Biology and Earth Science
- have successfully passed at least one Regents examination and want to continue their study of science.

Course Content: This course is designed to provide a non-technical overview of basic astronomy topics. The emphasis is on exploration and creativity, and students are encouraged to draw inferences using data. The course includes daytime and nighttime sky viewing, computer simulations, equipment training, and modeling.
The topics addressed are the structure of our solar system, galaxy, and the universe; properties and origins of stars, moons, and planets; night sky phenomena and constellations visible in upstate NY; the history, tools, and methods of astronomy; space exploration missions, the search for extraterrestrial life, and astrobiology.
Homework and Workload:

- Students should expect to work 1-2 hours a week outside of class to complete projects, labs, and homework assignments.
- Instructional strategies include modeling, simulations, daytime and nighttime sky viewing, discussions, individual and small group research, guest speakers, and student presentations.

ZOOLOGICAL SCIENCE

The Zoological Science course is divided into two half-credit courses: Evolution & Diversity of Animals and Vertebrate Zoology. Both may be taken for a full credit, or each semester may be taken individually for a half credit.
Prerequisites: Zoology is an elective (non-core) course that is recommended for 11th or 12th-grade students who

- have a strong interest in animals and biology and are committed to completing this third/fourth-year course.
- have completed Biology and Earth Science
- have successfully passed at least one Regents examination and want to continue their study of science.

Note: Students who need a full credit in science must take both half-credit courses to complete the graduation requirement for a third year of science. This course counts as an elective science class toward graduation. It does NOT fulfill the graduation requirement for the NYS Core Curriculum (this course does not have a lab period).
Course Content: Students will study animal population dynamics, ecology and evolution of animals, animal diversity, comparative anatomy and physiology of animals, animal behavior, and animal use in society.
Homework and Workload:

- Zoology meets every day for a single period.
- Students should expect to work 1.5-2.5 hours a week outside of class to complete projects, labs, and homework assignments.
- Students without a strong background in biology must be prepared to spend extra time and energy to be successful in this course.
- Students will be required to create a zoology binder and maintain it throughout the entire course.
- Instructional strategies include inquiry labs and hands-on activities, dissections, field studies, lectures, individual and small group research and project work, and student presentations.
- Homework for this course will include two to three assignments per week. These assignments will take 20-30 minutes a night.

EVOLUTION & DIVERSITY OF ANIMALS

Level: Regents (does not end in NYS Regents Exam)
NCAA: Approved
Credit: Semester ½ Credit
This semester of the Zoological Science course focuses on what it means to be an animal (what characteristics are common to all animals), the evolutionary history of the Animal Kingdom, and the great diversity of animals. As a result of this course, students will appreciate the wide range of form and function within the Animal Kingdom, and understand how anatomy and physiology relate to the unique ecological role and evolutionary history of major invertebrate phyla. Only a very small percentage of animals are furry and warm-blooded. Come explore the bizarre and unique world of invertebrates – the truly weird animals among us.

VERTEBRATE ZOOLOGY

Level: Regents (does not end in NYS Regents Exam)
NCAA: Approved
Credit: Semester ½ Credit
This semester of the Zoological Science course focuses on Vertebrates – animals with backbones. Each of the major vertebrate classes (Fish, Amphibians, Reptiles, Birds, and Mammals) will be considered from the point of view of a taxonomist (defining characteristics and diversity), a paleontologist (evolutionary history and relation to other vertebrate classes), a morphologist (anatomy and physiology of major systems), and an ecologist (habitats, interactions with other organisms and behavior). Think of your favorite type of animal – it's probably a vertebrate.

MARINE SCIENCE

The Marine Science course is divided into two half-credit courses: Marine Biology and Oceanography. Both may be taken for a full credit, or each semester may be taken individually for a half credit. The individual semesters are not sequential.
Prerequisite: Marine Science is an elective (non-core) course open to all students and is recommended for 11th or 12th-grade students who

- have a strong interest in the study of Marine Sciences
- have completed Biology and Earth Science
- have successfully passed at least one Regents' examination

NOTE: Students who need a full credit of science must take both half-credit courses to complete the graduation requirement for a third year of science. This course counts as an elective science class toward graduation. It does NOT fulfill the graduation requirement for the NYS Core curriculum (this course does not have a lab period).
Course Content: Marine Science will be of particular concern with the growing interest in global climate change, regional implications of shoreline erosion, loss of marine habitat, and increased occurrences of hurricanes.
Homework and Workload:

- The curriculum for this course is locally developed.
- Students will have the opportunity to take advantage of the local environment including Fall Creek and Cayuga Lake.
- Students will actively participate in various laboratory investigations including setting up and maintaining a marine environment, observing marine life, and measuring the physical aspects of the ocean environment.
- A "hands-on" approach will be used as students will complete inquiry labs, field studies, and individual and group projects.

MARINE BIOLOGY

Level: Regents (does not end in NYS Regents Exam)
NCAA: Approved
Credit: Semester ½ Credit
Course Content: This portion of the Marine Science program will focus on marine life in various marine ecosystems, seeking to increase an understanding of the ecological significance and evolutionary relationships and commercial value of marine organisms. Groups of organisms to be covered include Plankton, Cnidarians, Mollusks, Echinoderms, Gastropods, Fishes, and Marine Mammals. Students will understand the impact that humans have made on marine species and what conservation efforts have been made to preserve them. This course will involve an intensive study of marine organisms and habitats and combines classroom and field studies.
Homework and Workload:
Homework for this course will include two to three assignments per week. These assignments will take 20-30 minutes a night.

OCEANOGRAPHY

Level: Regents (does not end in NYS Regents Exam)
NCAA: Approved
Credit: Semester ½ Credit
Course Content: This course will investigate concepts and topics about our ocean and the local aquatic ecosystems including Fall Creek and Cayuga Lake. It is a culmination of both the Earth Science and Living Environment curricula, with emphasis on one of the world's largest and most undiscovered frontiers. Students will be studying the interaction of the earth's ocean with the environment with a focus on the physical environment in which marine organisms exist. Topics to be covered include the chemistry of water, ocean temperature and vertical stratification, ocean floor features, currents and tides, wave formation, seamounts, and reef formation.
Homework and Workload:
Homework for this course will include two to three assignments per week. These assignments will take 20-30 minutes a night.

FORENSIC SCIENCE

The Forensic Science course is divided into two half-credit courses: Biological Forensics and Physical Forensics. Both may be taken for a full credit, or each semester may be taken individually for a half credit. The individual semesters are not sequential.

Prerequisite: Forensics is an elective (non-core) course open to all students and is recommended for 11th or 12th-grade students who

- have completed Biology and Earth Science
- have a strong interest in the study of Forensic Science
- have successfully passed at least one Regents examination and want to continue their study of science.

Note: Students who need a full credit in science must take both half-credit courses to complete the graduation requirement for a third year of science. While teaching on the Regents' level, this course counts as an elective science class toward graduation. It does NOT fulfill the graduation requirement for the NYS Core curriculum (this course does not have a lab period).

Course Content: This course will introduce the science and techniques used in forensic science and crime scene investigation. Students will use investigative techniques to collect and preserve evidence in laboratory settings and crime scenes.

Homework and Workload:

- These courses meet every day for a single period.
- Students should expect to work 1-2 hours a week outside of class to complete projects, labs, and homework assignments.
- Lectures, group activities, lab work, case studies, and guest speakers will be used to teach students the basics of forensics.
- Lab practical and mock crime scenes will be used to determine student mastery of topics.

BIOLOGICAL FORENSICS: THE BIOLOGY OF CRIME SCENE INVESTIGATION

Level: Regents **(**does not end in NYS Regents Exam)
NCAA: Approved
Credit: Semester ½ Credit
Course Content: This semester of the forensics course will focus on the science of crime scene investigation involving biological evidence. Units of study will include the study of eyewitness and expert testimony, DNA analysis, fingerprinting and fingerprint analysis, hair evidence, and pollen evidence. Time allowing, other topics may include death and autopsy, anthropology, odontology, entomology, blood typing, and criminal profiling.

PHYSICAL FORENSICS: THE PHYSICAL SCIENCE OF CRIME SCENE INVESTIGATION

Level: Regents (does not end in NYS Regents Exam)
NCAA: Approved
Credit: Semester ½ Credit
Course Content: This semester of the forensics course will focus on the science of crime scene investigation involving chemistry, physics, and earth science. Units of study include evidence collection and reporting, arson and fire, crime and accident reconstruction, fiber and textiles, drugs, handwriting analysis, casts and impressions, soil and sand, ballistics and firearms, and blood spatter analysis.

SUSTAINABLE AGRICULTURE

Level: Regents (does not end in NYS Regents Exam)
NCAA: Not Approved
Credit: Semester ½ Credit
Prerequisite: This course is an elective (non-core) course that is recommended for 11th or 12th grade students who

- have completed Biology and Earth Science
- have a strong interest in food production in modern agricultural systems, botany, and ecology.
- have successfully completed at least two Regents Core Science courses.
- have successfully passed a chemistry course and want to continue their study of science.

Course Content: This course is a concurrent Tompkins Cortland Community College (TC3) CollegeNow course and follows the curriculum developed at Tompkins Cortland Community College. Successful students will earn 3 credits through Tompkins Community College. This course is designed to provide students with a basic understanding of soil fertility, garden tillage and cultivation, propagation of crops from seed, greenhouse management, transplanting and direct seeding, irrigation, cover crops, compost production, management of insects, disease and weeds, and social and environmental issues in modern agriculture. Students should expect occasional readings outside of class while working on projects in the school garden. Students will be involved in all aspects of the production, harvesting, and marketing of vegetables and flowers that are grown in a high tunnel on the IHS campus.

Homework and Workload:

- Sustainable Agriculture will meet every single day for a single period.
- Students should expect to work 1-2 hours a week outside of class to complete assignments.
- Students without a strong background in science must be prepared to spend extra time and energy in order to be successful in this course.
- Lectures, group activities, lab work, and research projects will be used.
- Lab activities and projects will be used to determine student mastery of topics.

FOOD SCIENCE

Level: Regents (does not end in NYS Regents Exam)
NCAA: Not Approved
Credit: Semester ½ Credit
Prerequisite: Food Science is an elective (non-core) course that is recommended for 11th or 12th-grade students who

- have completed Biology and Earth Science
- have a strong interest in the reactions and methods that are used in the production and preparation of food.
- have successfully completed at least two Regents Core Science courses.
- have passed a chemistry course and want to continue their study of science.

This course counts as an elective science class toward graduation. It does NOT fulfill the graduation requirement for the NYS Core curriculum (this course does not have a lab period).
Course Content: This course is designed to provide students with a basic understanding of ingredients and techniques that are used to make the food we enjoy. Topics to be explored include our sense of taste, fermentation, egg-based foods, yogurt and cheese-making, and molecular gastronomy. The role of chemistry in cooking will be highlighted by studying bottled water, emulsifications, flash points of oils, and Maillard reactions. Students will be engaged in the creation of a food product at least once a week.
Homework and Workload:

- Food Science will meet every day for a single period.
- Students should expect to work 1-2 hours a week outside of class to complete assignments.
- Students without a strong background in chemistry must be prepared to spend extra time and energy in order to be successful in this course.
- Lectures, group activities, lab work, and research projects will be used.

AIS (ACADEMIC INTERVENTION SERVICES) FOR SCIENCE

Flexible Scheduling
Credit: None
Recommendations: This resource is recommended for students who need support completing work for any science class. Emphasis is placed on completing missing lab work so that students will meet eligibility requirements for the NYS Regents examinations in science. The science help room can be accessed by any student during their lunch or free period. Although attendance is voluntary, classroom teachers may also recommend that a student attend the science help room to complete specific assignments or receive help with specific skills.
Course Content: Students can receive help with the following:

- Completing laboratory analysis questions and writing laboratory reports. (It may also be possible for the student to complete the lab procedure in the AIS room.)
- Completing homework assignments. Students can receive re-teaching on relevant topics to better enable them to complete these assignments.
- Completing make-up tests or quizzes.
- Organizational skills
- Note-taking skills
- Test-taking skills

SOCIAL STUDIES DEPARTMENT

Department Leader: Phil Jordan
email: pjordan@icsd.k12.ny.us

Social Studies Department - Course Sequence

Recommended Grade	NYS Course Requirements	Options Available	Prerequisites	NCAA	TC3 Credit
9	Global 1 (Social Studies - full year course)	**Global 1 Regents/Honors Level** (1-3 hours of homework/ week depending on level)	None	X	
10	Global 2 (Social Studies - full year course)	**Global 2 Regents/ Honors level** (1-3 hours of homework/ week depending on level)	Students should have passed Global History 1.	X	
		AP European History (5 hours of homework/ week)	Students should have completed Global History 1 with a grade of 90 or higher and/or be recommended by their 9th grade teacher, have excellent reading and writing skills, and have the ability to do extensive independent work.	X	
11	US History (US History - full year course)	**US History Regents Level** (½ -1 hour of homework/ week)	Students should have passed Global History 1&2.	X	
		US History Honors Level (3 hours of homework/ week)	Students should have passed Global History 1 and 2 with a grade of 85 or better and/or be recommended by their 10th grade teacher and be able to do extensive independent work.	X	
		AP US History (5-6 hours of homework/ week)	Students should have passed Global History 1 and 2 with a grade of 85 or better and/or be recommended by their 10th grade teacher, have excellent reading and writing skills, and be able to do extensive independent work.	X	
12 (Must take both courses)	Participation in Government (½ year course)	**Participation in Government** *9 hours community service (40 minutes homework/ week)	Students should have completed the first three years of the Social Studies sequence.	X	
	Economics (½ year course)	**Economics Regents Level** (1 hour of homework/ week)	Students should have completed the first three years of the Social Studies sequence.	X	
		Economics Honors Level (2-3 hours of homework/ week)	Students should have completed the first three years of the Social Studies sequence. Students should have excellent reading and writing skills, be recommended by their 11th grade teacher, and be able to do extensive independent work.	X	

Social Studies Department - Course Electives

Recommended Grade	NYS Course Requirements	Options Available	Prerequisites	NCAA	TC3 Credit
10*, 11, 12	elective	**AP Human Geography** (*4-5 hours of homework a week)	Students should have completed Global 1 & 2 with a grade of 85 or higher and/or be recommended by their teacher.. Students should have excellent reading and writing skills as well as have the ability to do extensive independent work.	X	
10*, 11, 12	elective	**AP Psychology** (*expect approximately 5 hours of homework a week)	Students should have completed Global 1 & 2 with a grade of 85 or higher and/or be recommended by their teacher. Students should have excellent reading and writing skills as well as have the ability to do extensive independent work.	X	
10*, 11, 12	elective	**Indigenous Studies** (*approximately 1 hour or less of homework a week)	Students should have completed 9th grade		

10** - ***Electives may be open to qualified students in 10th grade. Interested 10th graders should discuss this option with their school counselor, department chair, and parents/caregivers.

GLOBAL HISTORY I

Level: Regents/Honors
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisites: None
Course Content: This course provides an overview of the geography and history of the world from Ancient Civilizations to approximately 1750. Global History 1 is part one of the required two-year Global History sequence. Students will be expected to read and analyze primary and secondary sources and to analyze and interpret historical trends, developments and events. Students will decide whether to take the course for regents or honors credit after the first five weeks.
Homework/Workload: While homework time will vary by week, unit, and student skill level, students taking the course for honors credit can expect approximately 2-3 hours of homework a week; students taking the course for Regents' credit can expect approximately 1 hour of homework a week.

GLOBAL HISTORY 2

Level: Regents/Honors
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisites: Students must have taken and passed Global History I
Course Content: The course begins with a snapshot of the geography and history of the world at 1750 and then chronologically surveys the development of global civilizations and regions to the present. Students will be expected to read and analyze primary and secondary sources and to interpret historical trends, developments and events. At the conclusion of the first five weeks, students will decide whether to complete the course for honors or regents' credit. The June New York State Regents Examination in Global History will be the final examination in this course. This examination will cover the content of Global History 1 and 2.
Homework/Workload: While homework time will vary by week, unit, and student skill level, students taking the course for Honors credit can expect approximately 2-3 hours of homework a week; students taking the course for Regents' credit can expect approximately 1 hour of homework a week.

AP EUROPEAN HISTORY

Level: AP
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisites: Students should have completed Global History 1 with a grade of 90 or higher, have a high degree of interest in history, be willing and able to do extensive independent work, and be recommended by their 9th grade teacher.
Course Content: This course focuses on developing the ability to apply historical thinking skills to learn about the past and to think critically about modern European history from approximately 1450 to the present. Seven themes provide areas of investigation throughout the course. These require historical thinking about continuity and change over time and comparisons among historical developments across time and place. Students are highly encouraged to take the AP exam in May, as well as the NYS Regents exam in Global History.
Homework/Workload: Substantial homework will be assigned almost daily and will require a minimum of 5 hours each week.

UNITED STATES HISTORY - Regents

Level: Regents
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisites: Students should have passed Global History 1 and 2.
Course Content: This is a survey course in the history of the United States from pre-colonial times to the present with primary focus on the Constitution and the 19 th and 20th centuries. This course is designed to prepare students for the NYS Regents Exam in US History and Government, which also serves as the final exam for the course
Homework/Workload: While homework time will vary by week, unit, and student skill level, students can expect approximately ½ to 1 hour of homework a week.

UNITED STATES HISTORY - Honors

Level: Honors
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisites: Students should have earned a minimum of an 85 or better in Global History I and 2, have excellent reading and writing skills, be willing and able to engage in extensive independent work, and be recommended by their 10th grade teacher.
Course Content: This is a survey course in the history of the United States from pre-colonial times to the present with primary focus on the Constitution and the 19th and 20th centuries. This course is designed to prepare students for the NYS Regents Exam in US History and Government, which also serves as the final exam for the course.
Homework/Workload: While homework time will vary by week, unit, and student skill level, students can expect approximately 3 hours of homework a week

AP UNITED STATES HISTORY

Level: AP
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisites: Students should have earned a minimum of an 85 or better in Global History 1 and 2, or AP European History, have passed the regents exam in Global History, have excellent reading and writing skills, be willing and able to engage in extensive independent work, and be recommended by their 10th grade Social Studies teacher.
Course Content: AP US History is a college-level course that surveys the political, economic, diplomatic, intellectual, and social forces that shaped the United States. Students will analyze primary sources, research and write about historical issues and develop a critical understanding of the history of the United States. Students are highly encouraged to take the AP US History Exam in May
Homework/Workload: While the amount of time devoted to homework will vary by week, unit, and student skill level, students can expect approximately 5-6 hours of homework a week.

PARTICIPATION IN GOVERNMENT

Level: Regents/Honors (does not end in a NYS Regents Exam)
NCAA: Approved
Credit: Half Year ½ Credit
Prerequisites: Completion of the first three years of the social studies sequence.
Course Content: The goal of the course is to educate students about the role of citizens in our democratic society and to encourage active participation by students in their communities. Topics include local government, democratic principles, planning and development, media literacy, criminal justice, racism, wealth inequality, and current national and international events/issues.
Participation is the cornerstone of the course since it is policy and discussion based. The course includes several field trips.
Homework/Workload: Attending a government meeting and performing at least 9 hours of community service is required. In addition to the community participation requirements, students should expect one or two 20-minute homework assignments per week.

ECONOMICS - Regents

Level: Regents (does not end in a NYS Regents Exam)
NCAA: Approved
Credit: Half Year ½ Credit
Prerequisites: Completion of the first three years of the social studies sequence.
Course Content: This course is an introduction to macroeconomics, microeconomics, and the role of the United States in the world economy. This course is for students who have average reading and writing skills.
Homework/Workload: The amount of homework will vary by week, unit, and student skill level- approximately 1 hour per week.

ECONOMICS - Honors

Level: Honors (does not end in a NYS Regents Exam)
NCAA: Approved
Credit: Half Year ½ Credit
Prerequisites: Completion of the first three years of the social studies sequence, have excellent reading and writing skills, and be able and willing to do extensive independent work.
Course Content: This course is an introduction to macroeconomics, microeconomics, personal finance, and the role of the United States in the world economy. The course is taught at the college preparatory level.
Homework/Workload: The amount of homework will vary by week, unit, and student skill level- approximately 2-3 hours per week.

ELECTIVES

AP HUMAN GEOGRAPHY

Level: AP
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisites: Students should have completed Global History 1 and 2 with a grade of 85 or higher, have excellent reading and writing skills, and be willing and able to do extensive independent work.
Course Content: AP Human Geography provides an introductory college-level examination of the impact of human activity on the surface of the earth. Students are exposed to the patterns and processes that have shaped human understanding, use, and alteration of the earth's surface within a global context. Students learn about the methods and tools geographers use in their science, while examining human social organization and its environmental consequences. Students are highly encouraged to take the AP Human Geography Exam in May.
Homework/Workload: While homework time will vary by week, unit, and student skill level, students can expect approximately 4-5 hours of homework a week.

AP PSYCHOLOGY

Level: AP
NCAA: Approved
Credit: Full Year 1 Credit
Prerequisites: Students should have successfully completed the requirements for 9th and 10th grade social studies and should be entering their junior or senior year. In the event of over-enrollment, preference will be given to seniors.
Course Content: The Advanced Placement Psychology syllabus is based on the suggested curriculum of the College Board. Students will be introduced to the systematic and scientific study of the behavioral and mental processes of human beings and other animals. Students are exposed to the psychological facts, principles and phenomena associated with each of the major subfields within psychology. They also learn about, and apply, the methods psychologists use in their theory and practice. Students are highly encouraged to take the AP Psychology Exam in May.

Homework/Workload: While homework time will vary by week, unit, and student skill level, students can expect approximately 5 hours of homework a week.

INDIGENOUS STUDIES

Level: Regents
NCAA: Not Approved
Credit: Semester ½ Credit
Prerequisites: Successful completion of 9th Grade Global History.
Course Content: This one semester course will introduce students to various Indigenous nations, communities, and individuals across the land that we now call the United States. We will begin by recognizing and looking into the history and continued presence of the Haudenosaunee people in our region. We will then explore a selection of other Indigenous groups' history, culture, land stewardship, and more. The course will blend history and modern issues, purposefully centering the knowledge and voices of many different Indigenous people to learn their stories. In a mindful examination of the ways in which Indigenous groups and individuals have responded to the historical and contemporary effects of colonialism, we will engage with a variety of sources from Indigenous experts, conduct community outreach, and bring in guest speakers. The course is open to students in grades 10- 12, but priority will be given to 11th and 12th grade students.
Homework/Workload: up to 1 hour a week.

AIS SOCIAL STUDIES

Level: All levels
Assigned: As needed, reviewed every 5 weeks
Prerequisites: Recommendation by social studies teacher or score below 65 on NYS Regents Exam in Global History or American History.
Course Content: This course is designed for students who need additional support in their social studies classes. It focuses on preparing students for the NYS Global History or United States History and Government Regents Exam. Students who need extra support in their social studies classes may be enrolled in the class to ensure their success. However, students do not need to be enrolled in the class to attend, and can drop-in at any time for help.

SPECIAL EDUCATION DEPARTMENT

Department Leader: Dawn Thurmond
email: dawn.thurmond@icsd.k12.ny.us
Educator for Inclusion & CSE Chair: Margie Shaw
email: margaret.shaw@icsd.k12.ny.us
CSE Chair Phone: (607) 274-2130

Ithaca High School offers a Continuum of Special Education Services for School Age Students with Disabilities for a student with an Individual Education Plans. 504 Accommodation Plans for students who have a documented disability that substantially impacts performance in classes are also handled through this office.

Continuum of Special Education Services:

Declassification Support Services
Accommodations that may be provided to students after those students have been declassified by the CSE.

Transitional Support Services
Temporary services (maximum of one year) provided to a classified student moving toward greater academic independence/declassification.

Consultant Teacher

Direct Service - In the context of a general education class, a special education teacher provides specially designed instruction to students with disabilities.

Indirect Services – This service can be delivered in a variety of ways, including consultation, team-teaching, or hybrid method by a special education teacher with a general education classroom teacher to facilitate modifying instructional methods to meet the needs of classified students in the classroom setting.

Resource Room (non-credit bearing)
Special Education teachers provide specialized supplementary instruction in a small group setting.

Support Lab This course is designed for any student in need of skills necessary to be successful at the high school level. The structure of the class is designed to provide instruction and support with time management, organization, and study habits as well as support in content area classes. This course is helpful for incoming freshmen.

Secondary Transition Program
Level: Grades 9-12+
Credit: Full year, non-credit bearing
Prerequisites: Students must be New York State Alternate Assessment (NYSAA) eligible.
Course Content: Students in the STP classes learn about social skills, functional life skills, job skills, and academics. General education content is taught through a modified curriculum designed to meet students at their ability level with high interest materials. Job skills are also taught in the program in conjunction with a Job Developer from Challenge Workforce Solutions. Students have opportunities to participate in general education high school classes as appropriate for their individual interests and needs.

Students also have the opportunity to participate in vocational programming in the Career and Tech Program-Career Skills and World of Work program, as appropriate, after attending the high school for two years. Students in this program are working toward a Skills and Achievement Credential.
Homework/Workload: Due to the specialized nature of the lessons, most work will be completed during the school day. Minimal homework is assigned for this program. Students are always encouraged to practice the skills they are learning all the time.

Specialized Service Professionals:

School Social Worker: School Social Workers help students to achieve academic achievement in a variety of ways. Among services, they offer individual and group counseling, family support, and classroom consultations. They connect students and families with community resources and provide crisis intervention.

School Psychologist: Responsible for supporting students and families with testing, accommodations, counseling, behavioral interventions, and special education concerns.

TECHNOLOGY & ENGINEERING EDUCATION DEPARTMENT

Department Leader: Scott Breigle
email: sbreigle@icsd.k12.ny.us

With a focused sequence in Technology & Engineering Education, students have the means to link their years in high school with those in post-secondary educational programs or employment. High paying careers in the fields of communication, construction, electricity/electronics, manufacturing, and engineering are all obtainable with the right academic preparation and the hands-on skills offered through a Technology Education sequence.
Several courses offered may be used for fulfilling Fine Arts requirements (Technical Drawing, Architectural Drawing, Graphic Communications, Printing Technology, and Design and Drawing for Production). Due to the hands-on laboratory-based nature of these courses and specialized equipment most work is completed during school hours. Courses will occasionally have homework but it will vary throughout the school year.

Technology and Engineering Course Selections**

Recommended Grade	NYS Course Requirements	Options Available	Prerequisites	NCAA	TC3 Credit
9, 10, 11, 12	*Fulfills Fine Art Credit	**Design and Drawing For Production (DDP)** (Homework 30 min, 2-3 night/week)	None		X
9, 10, 11, 12	*Fulfills Fine Art Credit	**Media Arts** (Occasional homework, primarily lab-based)	None Can be taken for Technology or Art Credit.		
9, 10, 11, 12		**Woodworking** (Occasional homework, primarily lab-based)	None		
9, 10, 11, 12		**Consumer Automotive** (Occasional homework, primarily lab-based)	None Recommended for students looking at attending CTE Auto Body/Tech programs.		
9, 10, 11, 12		**Architectural Design** (Occasional homework, primarily lab-based)	None Recommended for students looking at attending CTE programs.		X
9, 10, 11, 12	Combine	**Graphic Design and Product Development** (Occasional homework, primarily lab-based)	None		
11, 12		**Driver's Education** (Occasional homework, primarily lab-based)	NYS Driver's Permit or License *16 yrs of age. **Attendance Mandatory classes to receive NYS Certificate for insurance purposes.		
9, 10, 11, 12		**Media and Video Production** (Occasional homework, primarily lab-based)	None		
9, 10, 11, 12		**Television Studio Production** (Occasional homework, primarily lab-based)	None		
11		**Digital Electronics (DE) Honors Level** (Homework 30 min, 2-3 night/week)	No course prerequisite, PLTW sequence recommended but not required. Concurrent enrollment in college preparatory mathematics (ex Alg 2 or higher.) **Strongly recommended Concurrent enrollment in Principles of Engineering (POE).		X RIT & TC3 Credit Aval.
9, 10, 11, 12		**Introduction to 3D Printing Regents Level** (Occasional homework)	None		
9, 10, 11, 12		**Unmanned Aircraft Systems (DRONES) Regents Level** (Occasional homework)	None		

Working toward **Advanced Designation Regents Diploma**? ** A five-credit sequence in technology or engineering may be substituted for the two additional credits of LOTE needed.

DESIGN AND DRAWING FOR PRODUCTION (DDP)

Level: Regents (TC3 college credit available)
Credit: 1 Credit
Prerequisite: None, open to all students
Course Content: DDP is an introductory course, with content focused on critical thinking and creative problem-solving skills using the design process.
Students focus on the application of visualization processes and tools provided by modern, state-of-the-art computer hardware and software (Inventor), with emphasis placed upon the concept of developing a 3-D model or solid rendering of an object. The course will emphasize the design development process of a product and how a model of that product is produced, critiqued and improved, using a computer-aided design system. Specific skills introduced in this course may include sketching, geometric construction, auxiliary views, dimensioning technique, and technical lettering. Various design and prototyping processes will be explored including 3D printing, CNC, and laser cutting. As a foundation class, the thinking and organizational skills learned in this class can be an asset throughout the high school experience. Discussion of possible career opportunities will also be a focus in the course.
This course satisfies the Fine Arts requirement.
Homework/Workload: Varies – typically 30 minutes 2-3 nights a week.

MEDIA ARTS

Level: Regents/Honors – Students will select Honors or Regents' credit during the first marking period.
Credit: 1 Credit*****
***Student elect to take the course for 1 Technology or Visual Art Credit**
Prerequisites: None
Course Content: Media Arts is an innovative collaboration, co-taught by a visual art and technology teacher.
Students will create artwork via film, television, video, the internet, interactive technologies, and transmedia storytelling. This is a hands-on introduction to the principles of design and design thinking as it applies to Media Arts. Students will be using programs from the Adobe Creative Cloud suite including Premiere Pro, Photoshop, Illustrator, and InDesign. Students will become thoughtful and critical consumers of all media while learning the proper selection and use of industry standard equipment. Students will also learn about the history and cultural development of media arts and how to analyze the artistic choices made by others. This is an ideal course to help students develop a visual/technical portfolio or to further their education in a media field.
This course satisfies the Fine Arts requirement.
Workload/Homework: Students will be expected to express themselves creatively, to work independently and in groups, and to meet strict deadlines. Occasional homework; may vary throughout the course.

WOODWORKING

Level: Regents (does not end in a NYS Regents Exam)
Credit: Semester ½ Credit
Prerequisites: None
Course Content: This is a class for students who want to learn how to build useful items from wood. No experience is required. Emphasis is placed on learning safe use of tools and machines through the construction of several projects selected and designed by the student. Skills developed in this class will be useful as lifetime skills around the home, for recreational activities, and/or for pre-vocational skills/exploration.
Homework/Workload: Occasional homework, it may vary throughout the course.

CONSUMER AUTOMOTIVE

Level: Regents (does not end in a NYS Regents Exam)
Credit: Semester ½ Credit
Prerequisites: None
Course Content: This is a course for anyone interested in automobiles or any motorized vehicles. Included are activities that will help a consumer avoid fraud and get the most for their money when dealing with automobiles. Activities include: car maintenance, car care, tune ups, brake repair, lubrication, cooling systems, tire and body care, and small engines. Students who are interested in automotive trades or who intend on furthering their education at the Career and Tech Center should consider taking this course.
Homework/Workload: Occasional homework, it may vary throughout the course.

ARCHITECTURAL DESIGN

Level: Regents (does not end in a NYS Regents Exam)
Credit: Semester ½ Credit
Prerequisite: None
Course Content: Students learn the basics of residential architectural design. The primary emphasis will be the use of drafting equipment to develop and read house plans that are used in construction and architecture. During the course, students will design a home and produce a complete set of drawings including floor plans, elevations, kitchen perspectives, and plot plans. Students will have hands-on experience with the role computer-aided drafting plays in this industry. Students who are interested in interior design, architecture, residential construction, or who intend on furthering their education at the Career and Tech Center should consider taking this course.
Homework/Workload: Occasional homework, it may vary throughout the course.

GRAPHIC DESIGN & PRODUCTION DEVELOPMENT

Level: Regents (does not end in a NYS Regents Exam)
Credit: Semester 1 Credit
Prerequisite: None
Course Content: In this class students learn to use computer hardware and software, and production equipment as it relates to graphic design. Experiences are provided in basic computer operation, animation, page layout, image creation, and the use of digital cameras. Students learn industry standard programs in the Adobe Creative Cloud Suite. Students will select materials, and use equipment, to process and produce offset, screen printed, and vinyl graphics. Students will create take home products such as t-shirts, stickers, and other graphic based materials. Some of these projects will also be mass produced using conventional printing techniques.
This course would be of great benefit to any student interested in a career related to the graphic design and printing industries. Anyone involved with IHS publications such as The Tattler, or the IHS Yearbook should seriously consider this course.
Homework/Workload: Occasional homework, it may vary throughout the course.

DRIVER EDUCATION

Level: Regents (does not end in a NYS Regents Exam)
Credit: Semester ½ Credit
Prerequisite: You must have your NYS Learner Permit or License, and be 16 years of age before the first day of class.
Course Content: Good driving habits start in the classroom. Students will have experience driving a vehicle as well as in a classroom setting to go over instructional practices of the rules of the road. Mandatory attendance in all classes is required to earn course credit and receive the NYS certificate for insurance purposes. Students must be at least 16 years of age to enroll in this course and must have a learner permit or junior license to be enrolled in the class. Behind the wheel practice outside of class is crucial for student success.
Homework/Workload: Occasional homework, it may vary throughout the course.

MEDIA AND VIDEO PRODUCTION

Level: Regents/Honors (does not end in a NYS Regents Exam)
Credit: 1 Credit, (4 TC3 dual-credits and Work-Based Learning Credit available)
Prerequisite: None
Course Content: Have you ever wondered how your favorite shows, podcasts, movies, or YouTube channels were created? Content creation is what this class is about. Media and Video Production will give you the opportunity to work with professional grade video equipment and software - you would even have access to the school's state of the art television studio. This course will give you all of the tools to be able to create your very own content, have a leg up on your peers in college, or even just have fun learning and making unique pieces of media. Students that have taken classes like this use their skills to create funny videos with their friends, make great projects for other classes, create videos for their YouTube channel, or make films to enter competitions around the country. You will learn how to use programs in the Adobe Suite such as Photoshop, Premiere Pro, Audition, and Illustrator. Our projects encompass everything from audiobooks and podcasts, short films, advertisements, graphic design, general photo editing, and making TV show segments. If you feel intimidated by the thought of using professional grade equipment, have no fear because this is an introductory course where you will learn everything from the ground up.
Homework/Workload: Occasional homework, it may vary throughout the course. Homework would typically involve getting footage or taking pictures outside of class.

TELEVISION STUDIO PRODUCTION

Level: Regents/Honors (does not end in a NYS Regents Exam)
Credit: 1 Credit
Prerequisite: None
Course Content: This is a course that will give students the opportunity to work in an industry-standard TV studio, as well as create a weekly magazine style school show. Students will be working with the high school and greater Ithaca community to produce the show. The course will introduce students to the basic skills required in all aspects of television production, including camera and studio operation, field equipment and production, and multi camera directing, at the same time emphasizing the latest production techniques and technology, such as audio workstations, and non-linear editing.
Homework/Workload: Occasional homework, it may vary throughout the course.

DIGITAL ELECTRONICS (DE)

Level: Honors (does not end in a NYS Regents Exam)
Credit: 1 Credit (TC3 dual-credit available) (RIT college credit available)
Prerequisite: Concurrent enrollment in college preparatory mathematics (ex. Algebra 2 or higher)
Recommendation: Students are strongly encouraged to also enroll in Principles of Engineering.
Course Content: Digital Electronics is a course of study in applied digital logic. The course is patterned after the first semester course in Digital Electronics taught in two- and four-year colleges. Students will study the application of electronic logic circuits and devices and apply Boolean logic to the solution of problems. Such circuits are found in watches, calculators, video games, computers, and thousands of other devices. The use of smart circuits is present in virtually all aspects of our lives and its use is increasing rapidly, making digital electronics an important course of study for a student exploring a career in engineering/engineering technology. Using industry standard software, students will test and analyze simple and complex digital circuitry.
Homework/Workload: Varies - Typically 30 minutes 2-3 nights a week.

INTRODUCTION TO 3D PRINTING

Level: Honors (does not end in a NYS Regents Exam)
Credit: Semester ½ Credit
Prerequisite: None
Course Content: The next industrial revolution is all about personal fabrication, and it's happening now. 3D printing is poised to unlock the potential in every person to create, innovate, and fabricate. It's already transforming manufacturing; soon it will change the world. This course is designed to prepare students for current and emerging careers in those fields. Students will begin their careers equipped with practical 3D printing experience and a critical eye for the technology's advantages and limitations. From there, the possibilities are theirs to explore more.
Upon course completion, students will be able to:

- Produce a fully functional moving part in a single print.
- Explain current and emerging 3D printing applications in the manufacturing field.
- Understand the advantages and limitations of each 3D printing technology.
- Evaluate scenarios and recommend the appropriate use of 3D printing technology.
- Identify opportunities to apply 3D printing technology for time and cost savings.

Homework/Workload: Occasional homework, it may vary throughout the course.

DRONES - UNMANNED AIRCRAFT SYSTEMS

Level: Honors (does not end in a NYS Regents Exam)
Credit: Semester ½ Credit
Prerequisite: None
Course Content: This is an introductory course to the world of aviation as it pertains to unmanned aircraft systems, or drones. Students will learn the basics of what drones can do, the fun and responsible uses for them, and how they can be utilized in certain industries. This course will help to create an understanding of drones, how they can serve the community, and how to apply them to different careers. Students will learn the basics of flying within the FAA laws as well as how to get the most out of a drone for videography and photography applications.
Homework/Workload: Occasional homework, it may vary throughout the course.

Project Lead the Way

A Partnership for America's Future
A Pre-Engineering Program

MISSION:
Project Lead the Way's (PLTW) mission is to prepare students for the global economy. PLTW accomplishes this through world-class curriculum, high-quality professional development, and an engaged network.

OVERVIEW:
Project Lead the Way (PLTW) is the leading provider of rigorous and innovative STEM (science, technology, engineering and math) education curricular programs used in schools. As a 501(c)(3) charitable organization, PLTW exists to prepare students for the global economy through its world-class curriculum, high-quality professional development, and an engaged network of educators, students, universities, and professionals. PLTW's comprehensive curriculum has been collaboratively designed by PLTW teachers, university educators, engineering and biomedical professionals, and school administrators to promote critical thinking, creativity, innovation, and real-world problem-solving skills in students. The hands-on, project-based program engages students on multiple levels, exposes them to areas of study that they typically do not pursue, and provides them with a foundation and proven path to college and career success. More than 4,700 schools in all 50 states and the District of Columbia are currently offering PLTW courses to their students.

RESULTS:

- PLTW alumni are studying engineering and technology at five to ten times the average rate of all students.
- PLTW students have a higher retention rate in college engineering, science, and related programs than other students in those areas.
- 97% of PLTW seniors intend to pursue a four-year degree or higher, whereas the national average is 67%.
- 80% of PLTW seniors say they will study engineering, technology, or computer science in college, whereas the national average is 32%.
- PLTW students achieve significantly higher scores in reading, mathematics, and science than Career and Technical Education (CTE) students in the same schools in similar CTE fields.

PATHWAY TO ENGINEERING (PTE):

Intended for 9th - 12th graders, this explores the design process and links STEM principles to relevant problem-solving activities. PTE courses complement traditional mathematics and science courses and can serve as the foundation for STEM-centered or specialized academics. PTE is designed to prepare students to pursue a post-secondary education and careers in STEM-related fields. PTE is a five-course technology program designed to help students explore technology-related careers and to prepare them for two- and four-year college technical degree programs. Each class is taught in a laboratory setting using state-of-the-art technology equipment and software. Instruction is generally one-third theory and two-thirds application, sometimes involving mentors from industry and colleges. Class activities focus on problem-solving requiring students to work in teams to generate solutions. Students have the option to earn college credit, when possible, through college articulation agreements, offering a seamless link between high school and college. Due to the hands-on laboratory-based nature of these courses and specialized equipment most work is completed during school hours. Courses will have homework but it will vary throughout the school year. Typically, 20 minutes 2 nights a week.

PATHWAY TO ENGINEERING STUDENTS:
Typically, students who enjoy math and science will benefit from exploring at least part of the program. Students in the program range from the valedictorian to the student who requires four years to complete the New York State integrated math program. Students unable to complete a four-year math sequence are not recommended for this program.

PLTW Engineering Course Sequence**

Recommended Grade	NYS Course Requirements	Options Available	Prerequisites	NCAA	College Credit Option
9	*Fulfills Fine Art Credit	**Design and Drawing For Production (DDP)** (Homework 30 min, 2-3 night/week)	Concurrent enrollment in college preparatory mathematics.		X RIT & TC3 Credit Aval.
10		**Computer Integrated Manufacturing (CIM) Honors Level** (Homework 30 mi, 2-3 night/week)	Completed DDP. Concurrent enrollment in college preparatory mathematics.		X RIT Credit Aval.
11		**Digital Electronics (DE) Honors Level** (Homework 30 min, 2-3 night/week)	None Concurrent enrollment in college preparatory mathematics. **Strongly recommended -.Concurrent enrollment in Principles of Engineering (POE).		X RIT & TC3 Credit Aval.
11		**Principles of Engineering (POE) Honors Level** (Homework 30 min, 2-3 night/week)	Completed DDP. Concurrent enrollment in college preparatory mathematics. **Strongly recommended - Concurrent enrollment in Digital Electronics (DE).		X RIT Credit Aval.
12		**Engineering Design and Development (EDD) Honors Level** (Homework 30 minutes 5 nights/week)	Completed Principles of Engineering. Completed Computer Integrated Manufacturing. Completed Digital Electronics.		X TC3 Credit

DESIGN AND DRAWING FOR PRODUCTION (DDP)

Level: Honors (RIT and TC3 college credit available)
Credit: 1 Credit
Prerequisite: Concurrent enrollment in college preparatory mathematics (ex. Algebra 1)
Course Content: In DDP- Accelerated students are introduced to the engineering design process, applying math, science, and engineering standards to identify and design and analyze solutions to a variety of real problems. They work both individually and in collaborative teams to develop and document design solutions using Notebooks and 3D modeling software. Students focus on the application of visualization processes and tools provided by modern, state-of-the-art computer hardware and software (Inventor). The course will emphasize the design development process of a product and how a model of that product is produced, critiqued, and improved using a computer aided design system. Specific skills introduced in this course may include sketching, geometric construction, auxiliary views, dimensioning technique, and technical lettering. Various design and prototyping processes will be explored including 3D printing, CNC, and laser cutting. Discussion of possible career opportunities will also be a focus in the course. This course satisfies the Fine Arts requirement.
Homework/Workload: Varies - Typically 30 minutes 2-3 nights a week. This class moves at a rigorous pace and requires a strong foundation in math and science.

COMPUTER INTEGRATED MANUFACTURING (CIM) – PLTW

Level: Honors (does not end in a NYS Regents Exam)
Credit: 1 Credit (RIT college credit available)
Prerequisite: DDP and Concurrent enrollment in college preparatory mathematics
Course Content: This course builds upon the computer solid modeling design skills developed in Design and Drawing for Production. Students will be presented with design problems that require the use of Autodesk Inventor and EdgeCAM to develop solutions to the problems. They will evaluate the solutions using mass property analysis (study of the relationship among the design, function and materials used), make appropriate modifications and use rapid prototyping equipment to produce three-dimensional models of the solutions. Students will be expected to communicate the process and results of their work through oral and written reports.
Homework/Workload: Varies - Typically 30 minutes 2-3 nights a week.

DIGITAL ELECTRONICS (DE) -PLTW

Level: Honors (does not end in a NYS Regents Exam)
Credit: 1 Credit (TC3 dual-credit available) (RIT college credit available)
Prerequisite: Concurrent enrollment in college preparatory mathematics
Recommendation: Students are strongly encouraged to also enroll in Principles of Engineering.
Course Content: Digital Electronics is a course of study in applied digital logic. The course is patterned after the first semester course in Digital Electronics taught in two- and four-year colleges. Students will study the application of electronic logic circuits and devices and apply Boolean logic to the solution of problems. Such circuits are found in watches, calculators, video games, computers, and thousands of other devices. The use of smart circuits is present in virtually all aspects of our lives and its use is increasing rapidly, making digital electronics an important course of study for a student exploring a career in engineering/engineering technology. Using industry standard software, students will test and analyze simple and complex digital circuitry.
Homework/Workload: Varies - Typically 30 minutes 2-3 nights a week.

PRINCIPLES OF ENGINEERING (POE) -PLTW

Level: Honors (does not end in a NYS Regents Exam)
Credit: 1 Credit (RIT college credit available)
Prerequisite: DDP and Concurrent enrollment in college preparatory mathematics
Recommendation: Students are strongly encouraged to also enroll in Digital Electronics.
Course Content: Principles of Engineering is a broad-based survey course designed to help students understand the field of engineering and engineering technology and its career possibilities. Students will develop engineering problem-solving skills that are involved in post-secondary education programs and engineering careers. They will explore various engineering systems and manufacturing processes. They will also learn how engineers address concerns about the social and political consequences of technological change. The main purpose of this course is to experience through theory and hands-on problem-solving activities what engineering is all about and to answer the question, "Is a career in engineering or engineering technology for me?"
Homework/Workload: Varies - Typically 30 minutes 2-3 nights a week.

ENGINEERING DESIGN AND DEVELOPMENT (EDD) - PLTW

Level: Honors (does not end in a NYS Regents Exam)
Credit: 1 Credit (TC3 dual-credit available)
Prerequisites: Principles of Engineering, Computer Integrated Manufacturing & Digital Electronics.
Course Content: In this course, students will work in teams of two or more to design and construct the solution to an engineering problem, (original, taken from a database of problems, or a national challenge) applying the principles developed in the four preceding courses. Students will maintain a journal as part of a portfolio of their work. Each team will be responsible for delivering progress reports and making final presentations of their project to an outside review panel. The completed portfolio will be invaluable as students apply to college.
Homework/Workload: Varies - Typically 20-30 minutes 5 nights a week.

WORLD LANGUAGES

Department Leader & Master Educator: Lana Craig
email: lcraig@icsd.k12.ny.us

PREEMPTION/HERITAGE SPEAKERS

The Ithaca High Language Program is designed to maximize student proficiency in all four State-mandated areas: speaking, listening, reading, and writing. Levels of proficiency are set by the state's performance criteria. In the ICSD, the performance criteria for all four areas are defined in the nationally recognized ACTFL guidelines.

These criteria apply in all four areas to all students, whether heritage speakers or those who are exposed to language learning for the first time at the secondary level. In situations where a heritage speaker has a greater facility in one of the four areas, placement must also consider, as best as possible, the student's ability in the other three areas. Placement will weigh the dual needs of adequate challenge and adherence to performance mandates to reach required levels of competence. Language instruction placement for heritage speakers will be determined by certified professionals trained in language delivery.

The following protocol will apply. Students must:

- Take a placement exam for the course that they wish to preempt.
- Be tested in all four skill areas: reading, writing, listening and speaking.
- Receive an overall score of 85 or better on the placement exam to preempt any given level.*

***Although students may preempt any level, state regulations require that students fulfill actual seat-time to earn course credit.**

Online/correspondence course credits

Is the course offered already at I.H.S?
If yes: ● Online/correspondence not allowed **If no:** ● Can be accepted ● Does not count toward graduation requirements ● Is not included in the GPA ● May appear on transcripts as enrichment courses as determined by the school counselor
Is this credit recovery for an I.H.S class:
If yes: ● Can do I.H.S Summer Academy or Plato
Is the course not offered at I.H.S but credit is needed for graduation:
Yes under the following conditions: ● Must have pre-approval of the department leader and the building principal ● Must have proof of meeting seat time requirement ● Must be taught by a certified instructor ● Must provide a certified transcript of completion

OFFERINGS:

- Five-year guaranteed language sequence in French, German or Spanish
- French, German and Spanish are *multi-level* electives

World Language - Course Sequence

Recommended Grade	NYS Course Requirements (1 credit for Regents/ 3 credits for Advanced Designation)	Options Available	Prerequisites	NCAA	TC3 Credit
9, 10, 11, 12	Level 1	**Level 1 Spanish** (10-15 minutes/evening)	None **Offered as a credit recovery course for students who have not received 1 course credit in middle school **OR** for students with no previous language background who need 1 course credit toward graduation.	X	
9, 10, 11, 12	Level 2	**Level 2 French, German, Spanish** (30 minutes/evening)	Level 1	X	
		Level 2 French, German, Spanish Honors Level (30 minutes/evening	Level 1	X	
10, 11, 12	Level 3	**Level 3 French, German, Spanish** (30 minutes/evening)	Level 2	X	X-Sp
		Level 3 French, German, Spanish Honors Level (30 minutes/evening)	Level 2	X	X-Sp
11, 12	Level 4	**Level 4 French, German, Spanish** (30 minutes /evening)	Level 3	X	X-Sp
		Level 4 French, German, Spanish Honors Level (35-40 minutes/evening)	Level 3	X	
11, 12	Level 5	**Level 5 French, German, Spanish** (35-40 minutes/evening)	Level 4	X	X-Sp
		AP Level 5 French, German, Spanish (35-40 minutes/evening)	Level 4 or Level 4H	X	X-Fr
11, 12		**Spanish & Hispanic Cultures Through Film & Literature** (30 min hmwk/ night)	Level 4 or Level 4H		

SPANISH & HISPANIC CULTURES THROUGH FILM & LITERATURE

Level: 11-12 (heterogeneous)
NCAA: Not Approved
Credit: 1
Prerequisites: Spanish 4 or 4H
Course Content: This course presents a general introduction to the main aspects of Hispanic/Spanish cultures through cinematographic representations of various films and literary pieces. Main social, political, and economic aspects of Hispanic/Spanish life from the beginning of the 20th century to now are covered. Students explore how Spanish/Hispanic cinematography and literature represent, shape, and challenge political, cultural, and social events.
Workload: Students will have daily assignments, frequent assessments, analyze audiovisual materials, present individual/group projects, and deliver oral presentations.
Homework: 30 minutes/evening.

LEVEL 1: SPANISH

Level: 9-12
NCAA: Approved
Credit: 1
Prerequisites: None
Course Content: This course is a comprehension-based Spanish course. Throughout the course, methods and strategies such as TPRS (Teaching Proficiency through Reading and Storytelling), MovieTalk, and many other comprehension-based activities will be used to foster language acquisition and comprehension. Primarily, the present tense and a few past tense forms are studied. Oral work involves comprehension and response to basic questions in addition to reading and discussing simple texts. Students will be graded on their performance on short, summative assessments: reading, writing, speaking, and listening.
Workload: Students will have daily assignments and frequent assessments. They should study vocabulary for 10-15 minutes at a time, several times a week.
Homework: 10-15 minutes/evening

LEVEL 2: FRENCH, GERMAN, SPANISH

Level: 9-12 (Regents & Honors) (does not end in NYS Regents Exam)
NCAA: Approved
Credit: 1
Prerequisites: Level 1
Proficiency Exam and 85% average in Level 1 course
Course Content: Regents: This course builds upon previously learned skills. Students expand their understanding of grammatical structures, tenses and vocabulary.
Course Content: Honors: Honors level courses have accelerated pacing and more in-depth work in the four skills (reading, writing, listening, and speaking). Frequent speaking tasks, both spontaneous and prepared, are integral.
Workload: Students will have daily assignments, frequent assessments, individual and group projects, oral presentations, and compositions.
Homework: 30 minutes/evening

LEVEL 3: FRENCH, GERMAN, SPANISH

Level: 10-12 (Regents & Honors) (does not end in a NYS Regents Exam)
NCAA: Approved
Credit: 1
Prerequisites: Level 2
Course Content: Regents*: This course continues to build upon and develop the four language skills (reading, writing, listening, and speaking). More communication in the target language is expected.
Course Content: Honors: Honors level courses have accelerated pacing and more in-depth work in the four skills (reading, writing, listening, and speaking). Frequent speaking tasks, both spontaneous and prepared, are integral.
Workload: Students will have daily assignments, frequent assessments, individual and group projects, oral presentations, and compositions.
Homework: 30 minutes/evening

LEVEL 4: FRENCH, GERMAN, SPANISH

Level: 11-12 (Regents)* (does not end in a NYS Regents Exam)
NCAA: Approved
Credit: 1
Prerequisites: Level 3
Course Content: Students solidify and master grammatical structures, tenses, and thematic vocabulary. Frequent speaking tasks, both spontaneous and prepared, are integral.
Workload: Students will have daily assignments, frequent assessments, individual and group projects, oral presentations, and compositions.
Homework: 30 minutes/evening
***Concurrent credit from TC3 for Spanish 201**

LEVEL 4 HONORS: FRENCH, GERMAN, SPANISH

Level: 11-12 (Honors)* (does not end in a NYS Regents Exam)
NCAA: Approved
Credit: 1
Prerequisites: Level 3
Course Content: Students solidify and master grammatical structures, tenses, and thematic vocabulary. Honors level courses have accelerated pacing and more in-depth work in the four skills (reading, writing, listening, and speaking). Frequent speaking tasks, both spontaneous and prepared, are integral.
Workload: Students will have daily homework assignments, frequent oral and written assessments, individual and group projects, and compositions.
Homework: 35-40 minutes/evening

LEVEL 5: FRENCH, GERMAN, SPANISH

Level: 11-12 (Regents)***** (does not end in a NYS Regents Exam)
Credit: 1
Prerequisites: Level 4 or 4H
Course Content: Students solidify and master grammatical structures, tenses, and thematic vocabulary. Honors level courses have accelerated pacing and more in-depth work in the four skills (reading, writing, listening, and speaking). Frequent speaking tasks, both spontaneous and prepared, are integral.
Workload: Students will have daily homework assignments, frequent oral and written assessments, individual and group projects, and compositions.
Homework: 35-40 minutes/evening
***Concurrent credit from TC3 for Spanish 202**

LEVEL 5: ADVANCED PLACEMENT-FRENCH, GERMAN, SPANISH

Level: 11-12 Honors (does not end in a NYS Regents Exam)
NCAA: Approved
Credit: 1
Prerequisites: Level 4 or 4H
Course Content: This course prepares students for the AP Language exams given through the College Board in early May. Standards for reading, writing, speaking, and listening are established by the College Board and are uniform for all AP language courses. Six themes are covered: personal/public identities, contemporary life, families and communities, science and technology, beauty and esthetics, and world challenges. Cultural comparisons are integral in all four skill areas.
Workload: Students will have daily homework assignments, frequent oral and written assessments, individual and group projects, and compositions. Experience with, and interpretation of, authentic written and aural materials is integral. Weekly quizzes, the midterm (January), and the final (April) help prepare students for the format/expectations of the College Board AP Exam.
Homework: 35-40 minutes/evening
***Concurrent credit from TC3 for French 202**

CREATE THE ANNUAL/YEARBOOK

Level: 101 to 50
Credit: Fall .5 cr, Spring .5 cr
Prerequisite: None

Students will help with the task of identifying and developing the Yearbook theme and participate in every aspect of creating the Ithaca High School Yearbook, culminating in the delivery and distribution of the Annual each June. Students will learn each phase of creating a page with a team of students. Design, Photography, Journalistic interviewing, investigating and documenting all the happenings that occur each year at Ithaca High School.

Meetings will be held 2 mornings before school and 2 days afterschool in room E46. If you take a zero period class or have obligations after school there will be an opportunity to learn the skills asynchronously and the amount of time spent learning and performing tasks will be logged and reviewed by the Adviser. All students will be required to attend 2 meetings per week. Students will learn the vocabulary, concepts, and skills necessary to work in the software that creates the book. Other students will join Social Media, Communications, Sales & Advertising, Accounting, and Marketing teams. When the book is complete we create a distribution plan and deliver all the yearbooks to those who pre-ordered and sell the remainder.

As students grasp the concepts and understand their assignments they will use their time to cover events around school including all clubs, Senior events, sports, musical and theatrical productions, dances, and the day to day life of students at IHS. Students will have the opportunity to become editors of a section of the book and these students will learn valuable leadership skills.

Questions? E-mail mreitenb@icsd.k12.ny.us or stop by J-113 to speak to Adviser Lyn Reitenbach

CAREER AND TECH EDUCATION (CTE)

Website: https://www.tstcte.org/

Career and Tech Education (CTE) programs educate students in a variety of technical areas, preparing them for entering the workforce with a marketable skill and for continuing on to higher education. These programs are taught for a minimum of 2 hours during the AM or PM session each day, and all courses provide a job shadow and/or internship experience over the course of their completed curriculum. Bus transportation is provided daily to and from the Career and Tech Center. Students continue their major academic subjects in the remaining three or four periods at the home school district. Students receive 2 – 4 credits for each year of their Career and Tech Program.

All Career and Tech classes are currently New York State approved. To be approved, courses must meet rigorous guidelines related to assessment, an academically strong curriculum that is aligned with the New York State Learning Standards, and relevance to industry practices. All CTE courses meet the NYS graduation requirement to allow students to earn the CTE Pathway by attaining mandatory CDOS hours, and second year students are eligible to earn a Technical Endorsement upon completion of the two year curriculum. Most Career and Tech courses offer integrated math and science credit, and some classes offer Concurrent Enrollment college credit. All Career and Tech Programs have articulation agreements with colleges that have a related program.

Successful Career and Tech students are eligible to participate in National Leadership Organizations, such as NTHS (National Technical Honor Society) https://nths.org/, FFA (Future Farmers of America) https://www.ffa.org/, and SkillsUSA https://www.skillsusa.org/. Students involved in these organizations compete at the regional, state, and national level in Career and Tech related competitions, and attend workshops and conferences to enhance their leadership skill

COLLEGE & CAREER SERVICES

Website: https://www.tstcte.org/

Throughout the two-year curriculum, all Career and Tech students will be able to take part in a variety of opportunities to help each student devise an individualized plan for their future. CTE Students will attain first hand experience in learning about the numerous career and college options that are available in their Career and Tech field of study. This process begins in the fall of their junior year and it continues to develop throughout their two-year curriculum.

All Career and Tech students will have the opportunity to participate in events such as:

- Business Partnerships - Connecting Classroom to Employment
- Career Counseling
- Career Fairs
- Career Interest Inventories
- College Campus Visitations
- College Fairs
- Connection to Labor Unions
- Digital Portfolios to Showcase Projects and Experiences
- Employability Workshops
- Exposure to Career Pathways
- Hiring Employment Events
- Individualized Job Shadow and Internship Experiences
- Mock Interviews with Business Partners
- Presentations with Guest Speakers/Industry Professionals
- Resume Building

With the support of the College and Career Services Initiative, Career and Tech Education is building a bridge to provide students with a direct connection to a wide variety of industry partners to assist with college and career success. For more information regarding individualized internships or job shadowing opportunities, please email Internships@tstboces.org.

ANIMAL SCIENCE:

1st Year - PM & 2nd Year - AM

Course Description: This program prepares students for the technical skills necessary for diverse careers in animal care. Topics of study include four primary areas: veterinary science, canine management, grooming, and lab animal science. First year students will primarily focus on hands-on experiences, managing a day kennel with 5 - 7 dogs, and operating a grooming parlor designed as a learning model. This practical approach hones their abilities in animal handling, grooming, and business management. Second year students will focus primarily on veterinary science and production management. Students will acquire expertise in medical terminology, comparative anatomy and physiology, physical examinations, common diseases and disorders, clinical procedures, surgical nursing, office management skills, and First Aid/CPR training. This program emphasizes the importance of effective communication and collaboration with both animals and people. Students with a passion for working with animals and a desire to interact positively with clients will find this program fulfilling. Leadership opportunities are available in this class through the local chapter of the National Student Leadership Organization, FFA (Future Farmers of America), where students participate in leadership training, workshops, and national conferences.

Integrated Academic Credits Available: 1 credit of Math and 1 credit of Science over the course of the two year curriculum.

Industry Certification/Concurrent Enrollment Credit Options: *This course offers 3 Concurrent Enrollment credits in the area of Veterinary Technology through Genesee Community College.* Students can earn industry certification in RECOVER Basic Life Support for Companion Animals and OSHA 10- Veterinary certification upon completion of this program.

Required Materials: Students will need to purchase scrubs and safety glasses for this course – estimated cost is $30.00.

College Majors/Career Opportunities in this Field: Veterinary Technician, Agriculture, Veterinary Assistant, Equine Studies, Zoology, Conservation Officer, Animal Trainer, Animal Care Specialist, Pet Groomer, Animal Laboratory Assistant, Animal Shelter Worker, Pet Salesperson, and Farm Owner/Herdsman.

College Articulation Agreements: Alfred State College, SUNY Canton, SUNY Cobleskill, SUNY Delhi, SUNY Morrisville, Genesee Community College, and Jefferson Community College

Website: https://www.tstcte.org/animal-science.html

AUTO BODY:

1st Year - PM & 2nd Year - AM

Course Description: This program trains students in collision repair, automotive detailing, painting and restoration work. Topics of study include: collision and auto body repair, auto refinishing, welding techniques, and replacement of parts and sections of panels. Students learn to use hand, power, and specialized auto body tools and equipment to repair dents and frame work on metal and plastic sections of automobiles. Students have the opportunity to create customized paint graphics, airbrushing, and restoration work on high performance and show quality vehicles.

Integrated Academic Credits Available: 1 credit of Math and 1 credit of Science over the course of the two-year curriculum.

Industry Certification/Concurrent Enrollment Credit Options: Students can earn industry certification in OSHA 10 and Fusion safety training. Plus, students are prepared for I-Car industry certification upon completion of this program.

Required Materials: Students will need to purchase work boots, work clothes, and safety glasses for this course – estimated cost is $50.00.

College Majors/Career Opportunities in this Field: Automotive Detailer, Auto Body Technician, Shop Owner/Manager, Automotive Insurance Claim Adjuster, Parts Manager, Auto Glass Installer, Auto Collision Repair Technician.

College Articulation Agreements: Alfred State College, SUNY Canton, SUNY Morrisville, Nashville Auto-Diesel College, Ohio Technical College, and Universal Technical Institute.

Website: https://www.tstcte.org/auto-body.html

AUTO TECHNOLOGY:

1st Year - PM & 2nd Year - AM

Course Description: This is a nationally certified automotive program through ASE (Automotive Service Excellence.) Topics of study include: engine performance, tire repair/replacement, alignment, fuel systems, wiring and electrical systems, power trains and transmissions, brake repair and replacement, and steering and suspension. Students will diagnose, troubleshoot, and perform preventative maintenance on foreign/domestic cars and light trucks by using the latest techniques and computerized diagnostic equipment.

Integrated Academic Credits Available: 1 credit of Math and 1 credit of Science over the course of the two-year curriculum.

Industry Certification/Concurrent Enrollment Credit Options: ASE (Automotive Service Excellence) Entry-Level Industry Certification in Maintenance and Light Repair and NYS certification in Motor Vehicle Inspections, plus Fusion safety training, are available upon completion of this program.

Required Materials: Students will need to purchase work boots, work clothes, and safety glasses for this course – estimated cost is $50.00.

College Majors/Career Opportunities in this Field: Automotive Service Technician, Tire Mechanic, Parts Specialist, Shop Owner, Automotive Sales Representative, Engine Performance Technician, Emissions Analyst, Mechanical Design/Engineering.

College Articulation Agreements: Alfred State College, SUNY Canton, SUNY Delhi, SUNY Morrisville, Nashville Auto-Diesel College, Ohio Technical College, University of Northwestern Ohio, Universal Technical Institute.

Website: https://www.tstcte.org/auto-tech.html

COMPUTER TECHNOLOGY:

1st Year - PM & 2nd Year - AM

Course Description: Students will learn the skills necessary to work in the fields of information technology and computer network design and management, and be introduced to the fundamentals of cybersecurity and Python programming. Topics of study include: identifying, assembling, and repairing PC hardware and peripherals; installing and configuring Windows operating systems; Windows server configuration and administration; network design, installation, and maintenance; introduction to cybersecurity, disaster recovery, threat mitigation, workstation/network security; introduction to Python programming, syntax, logic flow and libraries.

Integrated Academic Credits Available: 1 credit of Math and 1 credit of Science over the course of the two-year curriculum.

Industry Certification/Concurrent Enrollment Credit Options: *This course offers 6 Concurrent Enrollment credits through Tompkins Cortland Community College*. Students may be eligible to take several industry certifications - Cisco Certified Support Technician (CCST); CCST Cybersecurity, and PCAP - Certified Associate in Python Programming.

Required Materials: A notebook is recommended to take class notes and activities.

College Majors/Career Opportunities in this Field: IT Technical Support, Network Support Technician, Database Management, Computer Programmer, Information Technology, Computer Repair, Security Administrator, Software Developer, Computer Forensics.

College Articulation Agreements: Bryant & Stratton College, SUNY Canton, SUNY Cobleskill, SUNY Morrisville, Finger Lakes Community College, and Tompkins Cortland Community College.

Website: https://www.tstcte.org/computer-technology.html

CONSTRUCTION TRADES:
1st Year - PM & 2nd year - AM

Course Description: This course encompasses all of the skills that are necessary in residential and commercial construction. Students will learn the fundamental practical skills needed in the construction field, such as: proper use of hand and power tools, safety procedures, blueprint reading, and obtaining accurate measurements. Practical knowledge will be applied by working with drywall, installation, finish carpentry, framing, roofing, floor installation, door and window installation, siding, electrical wiring, restoration work, plumbing, stonework and masonry.
Integrated Academic Credits Available: Not applicable for this course. Students can enroll in Personal Money Management or Science if these credits are needed towards graduation.
Industry Certification/Concurrent Enrollment Credit Options: Students can earn industry certification in OSHA 10 and Fusion safety training upon completion of this program.
Required Materials: Students will need to purchase a tool belt, work boots, work clothes, and safety glasses for this course – estimated cost is $75.00.
College Majors/Career Opportunities in this Field: Construction Laborer, Flooring/Window/Drywall/Carpet Installer, Building Inspector, Carpenter, Electrician, Plumber, Boilermaker, Painter, Roofer, Laborer, Contractor, Construction Manager.
College Articulation Agreements: Alfred State College, SUNY Delhi, SUNY Morrisville
Website: https://www.tstcte.org/construction-trades.html

COSMETOLOGY:
1st Year - PM & 2nd Year - AM

Course Description: Students will learn technical and communication skills required to be successful in a professional salon work environment. Topics of study include: hair coloring, styling, conditioning and shaping, esthetics, nail care, and massage. Product knowledge, proper application, and technical procedures are taught to enhance the personal care of hair, nails, and skin. Students develop and practice their skills during clinic events.
Students must accumulate 1,000 hours of instruction in order to be eligible to take the NYS certification exam.
Integrated Academic Credits Available: 1 credit of Math and 1 credit of Science over the course of the two year curriculum.
Industry Certification/Concurrent Enrollment Credit Options: Students can be eligible to earn a NYS Cosmetology License upon completion of the program.
Required Materials: First year students will need to purchase a kit that includes: mannequin, smock, and hair supplies – total cost of the kit is $200.00. Second year students must buy a senior kit – total cost is $100.00. Closed toe shoes are required footwear for this course. Fundraising opportunities are available for students to offset required materials for this course.
College Majors/Career Opportunities in this Field: Hair Stylist, Cosmetologist, Salon Owner, Color Consultant, Nail Technician, Esthetician, Product Sales Representative, Barber, Electrolysis, Make-Up Artist, Salon Manager.
College Articulation Agreements: SUNY Morrisville, Bryant & Stratton College
Website: https://www.tstcte.org/cosmetology.html

CULINARY ARTS:

1st Year - PM & 2nd Year - AM

Course Description: Students will learn the fundamentals of safety and sanitation, equipment operation, and how to prepare short order and large quantity cooking meals. Topics of study include: baking breads and pastries, creating main entrees, side dishes, and soups, practicing professional skills through customer service, menu planning, and recipe conversions. Students will work effectively with their team members, learn restaurant management skills through catering services, cake and pastry orders, and the complete operation of *Bistro 555,* the on-campus restaurant.

Integrated Academic Credits Available: 1 credit of Math and 1 credit of Science over the course of the two-year curriculum.

Industry Certification/Concurrent Enrollment Credit Options: This course offers 3 Concurrent Enrollment credits through Tompkins Cortland Community College. Students can earn industry certification as a ServSafe Food Handler upon completion of the program.

Required Materials: Students will need to purchase a Culinary Arts uniform for this course – estimated cost is $50.00.

College Majors/Career Opportunities in this Field: Pastry Chef, Sous Chef, Restaurant Owner, Food Sales Representative, Nutritionist, Baker, Short Order Cook, Executive Chef, Food Service Manager, Hospitality, Resort Manager.

College Articulation Agreements: Alfred State College, SUNY Broome, SUNY Cobleskill, SUNY Delhi, SUNY Morrisville, and Tompkins Cortland Community College

Website: https://www.tstcte.org/culinary-arts.html

DIGITAL MEDIA TECHNOLOGY:

1st Year - PM & 2nd Year - AM

Course Description: Students will experience an overview of graphic design, video production, game design, and animation. Topics of study include: graphic design, digital photography, digital video production, 2D and 3D animation techniques, and video game design. Both raster and vector-based design software will be utilized to provide creative, practical solutions to graphic design challenges. Students will create both complex animations and working video games using a variety of tools, including Adobe Animate, Autodesk 3dsMax, GameMaker Studio, Unreal Engine, Blender, and Dragonframe. Throughout this course, there is a strong emphasis on problem-solving, effective time management, and working both in teams and independently.

Integrated Academic Credits Available: 1 credit of Art over the course of the two-year curriculum. Students can also enroll in Personal Money Management or Science if these credits are needed towards graduation.

Industry Certification/Concurrent Enrollment Credit Options: *This course offers 7 Concurrent Enrollment credits through Tompkins Cortland Community College.* Students can earn several Adobe Certified Professional certifications completion of this program.

Required Materials: Students do not need to purchase extra supplies for this course.

College Majors/Career Opportunities in this Field: Graphic Design, Communications, Game Design, New Media, Animation, Advertising Design, Web Design, Multimedia Artist, Game Artist, UI/UX Designer, Production Assistant, Videographer, App Developer, and Photographer.

College Articulation Agreements: Bryant & Stratton College, Cayuga Community College, Tompkins Cortland Community College

Website: https://www.tstcte.org/digital-media.html

EARLY CHILDHOOD

1st Year - PM & 2nd Year - AM

Course Description: This is a comprehensive course, designed to provide students with opportunities to explore their career interests in the field and engage in in-depth study and exploration of key concepts in early childhood education. Using a variety of modalities, including, lectures, hands-on activities, investigations, presentations, guest speakers, laboratory experiences, and field trips, students will learn about a range of topics. Key topics include: Early Childhood Career Exploration; Child Development and Theory; Child Health, Safety and Nutrition; Early Childhood Indoor and Outdoor Environments; Curriculum development and Lesson planning; Developmentally Appropriate Practice; Learning in the Content Areas (Art, Music, Science, Math, Literacy,); Classroom Management and Positive Guidance. First year students will observe and care for infants/toddlers/preschool children in a professional classroom environment, plus participate in a job shadow experience. Second year students will participate in internship experiences that will be held in regional child care centers, elementary schools, and at the Ithaca Community Childcare Center (IC3) on Warren Road in Ithaca.

Integrated Academic Credits Available: Not applicable for his course. Students can enroll in Personal Money Management or Science if these credits are needed towards graduation.

Industry Certification/Concurrent Enrollment Credit Options: *This course offers 9 Concurrent Enrollment credits through Tompkins Cortland Community College.* Students can earn the Foundations in Health and Safety e-Learning industry certification and up to 15 hours of required industry training in childcare upon completion of this program. Additionally, students can become First Aid and CPR certified in year 2.

Required Materials: Students will be asked to bring in basic art materials, which will be stored in a craft bin that is supplied by the CTE program.

College Majors/Career Opportunities in this Field: Child Care Provider, Preschool Teacher, Early Intervention Specialist, Speech Therapist, Social Worker, School Counselor, Head Start Director, Teacher Assistant, Special Education Teacher, Preschool Director, Reading Specialist, Nanny.

College Articulation Agreements: Tompkins Cortland Community College, SUNY Canton, SUNY Cobleskill

Website: https://www.tstcte.org/early-childhood.html

HEAVY EQUIPMENT:

1st Year - PM & 2nd Year - AM

Course Description: Students will be trained in the operation, maintenance, diagnosis, and repair of heavy equipment, farm machinery, and heavy-duty trucks. Topics of study include: principles of the diesel engine, alternative fuel sources, drive train, brakes, suspension and steering, electrical systems, hydraulics, landscaping, agriculture, conservation, welding, and preventive maintenance. This program is designed to meet the growing demand for technicians and operators in the transportation, construction and agricultural fields.

Integrated Academic Credits Available: 1 credit of Math and 1 credit of Science over the course of the two-year curriculum.

Industry Certification/Concurrent Enrollment Credit Options: Students can earn industry certification in OSHA 10 and Fusion safety training, plus forklift operation certification upon completion of this program.

Required Materials: Students will need to purchase work boots, work clothes, and safety glasses for this course – estimated cost is $50.00.

College Majors/Career Opportunities in this Field: Heavy Equipment Technician, Backhoe Operator, Diesel Mechanic, Skid Steer Operator, Hydraulics Technician, Equipment Manager, Heavy Equipment Operator, Diesel Truck Driver, Highway Superintendent, Construction Laborer, Forklift Operator.

College Articulation Agreements: Alfred State College, SUNY Cobleskill, SUNY Morrisville, SUNY Canton, University of Northwestern Ohio, Ohio Technical College, Universal Technical Institute

Website: https://www.tstcte.org/heavy-equipment.html

NURSE ASSISTING & HEALTH OCCUPATIONS:
1st Year - PM & 2ndYear - AM

Course Description: Students will learn the skills to be a supportive caregiver through clinical experiences in nursing homes, hospitals, and private homes. Topics of study include: personal care procedures, anatomy and physiology, body mechanics, body structures and functions, medical terminology, nutrition, human biology, disease treatment and prevention, and medical legality issues. During clinical rotations, students perform personal care procedures, learn to take vital signs, and assist patients with mobility using crutches, canes, walkers, and wheelchairs.
Integrated Academic Credits Available: 1 credit of Math, 1 credit of Science and ½ credit of Health over the course of the two-year curriculum.
Industry Certification/Concurrent Enrollment Credit Options: *This course offers 6 Concurrent Enrollment credits through Tompkins Cortland Community College.* Students can earn industry certifications in Phlebotomy, Certified Nurse Assistant, Home Health Aide, Personal Care Aide, and American Heart First Aid and CPR certification upon completion of this program.
Required Materials: Students will need to purchase scrubs, and shoes – estimated cost is $75.00. Students are required to have completed a yearly physical exam and be up to date on all immunizations, including a flu and Covid-19 vaccines, and two PPD inoculations, in order to participate in the mandatory clinical rotations.
College Majors/Career Opportunities in this Field: Home Health Aide, Certified Nursing Assistant, Physical Therapy Aide, Phlebotomist, Registered Nurse, Respiratory Therapist, Emergency Medical Technician, Licensed Practical Nurse, Surgical Technician, Nutritionist, Physician Assistant.
College Articulation Agreements: Tompkins Cortland Community College, Bryant & Stratton College, SUNY Morrisville.
Website:
https://www.tstcte.org/nurse-assisting-and-health-occupations.html

PUBLIC SAFETY & EMERGENCY SERVICES:
1st Year - PM & 2nd Year - AM

Course Description: Students will learn criminal and civil law, vehicle and traffic law, arrest and court procedures, report writing, and professional communication skills. Topics of study include: interviewing skills, self-defense, security, fingerprinting, civil rights, forensics, accident and crime scene illustration, digital photography, and forensics. Students will participate in community service projects, participate in guest speaker presentations, attend local field trips to agencies/organizations, conduct physical conditioning exercises, learn patrolling skills, collect evidence, and crime scene investigation tactics. Students who are interested in the field of corrections, probation, judicial system, law enforcement, and first responders (EMT, Fire Department, etc.) may be interested in this course.
Integrated Academic Credits Available: 1 credit of Math and 1 credit of Science over the course of the two-year curriculum.
Industry Certification/Concurrent Enrollment Credit Options: Students can attain American Heart First Aid and CPR certification upon completion of this program.
Required Materials: Students will need to purchase PT gear (black t-shirt and black shorts) for this course – estimated cost is $30.00.
College Majors/Career Opportunities in this Field: Corrections Officer, Police Officer, Security Guard, Conservation Officer, Military Police, Homeland Security Advisor, Crime Scene Investigator, State Police Officer, Customs/Border Control Agent, Court Reporter, Criminologist, Probation Officer, First Responder, Private Investigator.
College Articulation Agreements: Alfred State College, Bryant & Stratton College, Corning Community College, SUNY Delhi, SUNY Morrisville, Tompkins Cortland Community College.
Website:
https://www.tstcte.org/public-safety--emergency-services.html

WELDING:
1st Year - PM & 2nd Year - AM

Course Description: Students will learn to manipulate metal using a variety of welding techniques including MIG, TIG, arc welding, and plasma cutting. Topics of study include: metallurgy, flame cutting, blueprint reading, set up and operation of drill press machine, and cutting and shearing techniques. Students will practice these methods on aluminum, stainless steel, and other materials. Students can create unique designs by using the CNC (Computer Numerical Control) Plasma Machine or developing metal sculpture projects.
Integrated Academic Credits Available: 1 credit of Math and 1 credit of Science over the course of the two-year curriculum.
Industry Certification/Concurrent Enrollment Credit Options: Students can earn industry certification in OSHA 10 and Fusion safety training upon completion of this program.
Required Materials: Students will need to purchase a welding tool kit, work boots, work clothes, and safety glasses for this course – estimated cost is $180.00.
College Majors/Career Opportunities in this Field: CNC Operator, Tool and Die Maker, CAD Programmer, Welding Technician, Fabricator, Pipefitter/Steamfitter, Iron Worker, HVAC Technician, Metal Sculptor, Underwater Welder, Boilermaker, Sheet Metal Worker, Plumber.
College Articulation Agreements: Alfred State College, SUNY Delhi, Ohio Technical College, Universal Technical Institute
Website: https://www.tstcte.org/welding.html

In addition, the Career and Tech Center offers classes in Physical Education, Math and Science for those students who need to complete additional graduation requirements. Course descriptions are listed below:

PERSONAL MONEY MANAGEMENT:
Offered during 1st year or 2nd year of CTE Program

Course Description: This course is designed to develop a thorough understanding and mastery of the arithmetic processes involved in financial literacy in order to help students plan and manage personal finances by making educated decisions about money. Topics of study include: percentages, budgeting, earning income and paying taxes, simple and compound interest, credit cards and installment buying, home ownership, banking transactions, and finance. Students will examine current world economic conditions focusing on how these can impact their personal economic situations and learn how to apply mathematical principles to financial matters.
Note: This course satisfies one (1) credit of Math towards graduation. This course offers 3 Concurrent Enrollment credits through Tompkins Cortland Community College.

PHYSICAL EDUCATION:
Offered during 1st year and/or 2nd year of CTE Program

Course Description: This course will focus on team and individual sports, with a focus on life-long fitness. Topics of study include: recreational sports, strength and flexibility, cardio-conditioning, and weight training. Students are required to wear sneakers for class.
Note: This course satisfies one-half (1/2) credit of Physical Education towards graduation each year.

SCIENCE:
Offered during 1st year or 2nd year of CTE Program

Course Description: This course provides students with authentic science that correlates with their Career and Tech Program. Topics of study include: concepts associated with physical science, scientific process and investigation, and introductory chemistry. Students will conduct lab work that is related to science concepts taught through the different technical fields offered through Career and Technical Education.
Note: This course satisfies one (1) credit of Physical Science towards graduation.

NEW VISIONS PROGRAMS

Website: https://www.tstnv.org/

New Visions is an honors level program that offers seniors a progressive, college and career exploratory, and academically challenging senior year. These programs are demanding, yet extremely rewarding, for highly motivated, mature, responsible, and academically capable students. New Visions students must be extremely trustworthy, exhibit a high degree of integrity, and be excited to work collaboratively with others who express varying points of view. Students are required to manage their time well, keep track of deadlines, and participate in group work with minimal intervention by the teacher. This provides students the freedom to acquire knowledge through independent and cooperative learning, both in the classroom, lab, and in the professional work setting. The New Visions programs are highly regarded by collegiate administrators as evidence of a student's motivation, intelligence, and desire for success.

New Visions students will divide their week between classroom theory and instructional days where students will discuss literature, global concerns, and science-related topics in an integrated academic learning environment. Students will work on projects independently and in groups, while earning concurrent enrollment college credits and mandatory credits for graduation. In addition, students will participate in rotational experiences where they will work with professionals, graduate students, and college professors that work within their field of study.

The New Visions programs are held daily from 10:00am – 2:00pm daily at Cornell University, Ithaca College or Cayuga Medical Center. Students receive high school credit for English 12 Honors, Participation in Government and Economics Honors, two elective science credits, as well as concurrent enrollment college credits. Students are expected to be professional, courteous and to strictly adhere to the guidelines set forth by their teachers and mentors.

Interested students must apply to their specified New Visions program during the early portion of the second semester of their junior year. Following the submission of the completed New Visions application, qualified students will be invited to participate in a formal interview. Acceptance into a New Visions Program is very competitive. The selection process is based on grades, recommendations, an interview and an essay, among other criteria. Students who enroll in the New Visions Programs intend to pursue a competitive college or university upon graduation.

NEW VISIONS: ENGINEERING:

This innovative and exciting course is located in Thurston Hall, allowing students a commanding view of the Cornell University Engineering Quad and the campus beyond. The curriculum is designed for high-achieving high school seniors who are interested in pursuing higher education, and eventually, a career in engineering. The program focuses on the study and application of physics and engineering concepts, along with on- and off-campus engineering experiences that show students how practicing engineers apply these tools. The engineering experiences will include touring engineering labs throughout Cornell University, visiting local and regional engineering companies, participating in topical lectures from engineering faculty and experts, and working in the PARADIM material science labs. The integrated core academics take a critical look at Government, Economics, English and Physics, all through the lens of engineering.

Students are actively engaged in engineering design challenges throughout the year that touch on every major branch of engineering - mechanical, electrical, environmental, genetic, civil, and chemical. In order to be successful in this course, students must be organized, respectful, motivated and willing to step outside their comfort zones to learn in new ways. Students must also be ready to learn from failure and to understand that there is never just one way to solve a particular problem. Finally, this course relies heavily on working as a team, so students should be prepared to work in a group in a productive, efficient and enjoyable way.
Students will receive integrated high school academic credits for the following courses: English 12 Honors, Economics/Participation in Government Honors, Fundamentals of Engineering, and PHSC 211 - Physics I: Mechanics and Heat upon completion of this program.
Concurrent Enrollment Credits: PHSC 211 - Physics I: Mechanics and Heat (4 credits) from Tompkins Cortland Community College and Engineer Your World (3 credits) from University of Texas at Austin are earned upon completion of the program.
College Majors/Career Opportunities in this Field: Civil Engineering, Mechanical Engineering, Biomedical Engineering, Agricultural Engineering, Electrical Engineering, Materials Engineering, Engineering Technician, Industrial Engineering, Architecture
Website: https://www.tstnv.org/engineering.html

NEW VISIONS: EXERCISE SCIENCE & HUMAN PERFORMANCE

In partnership with Ithaca College, students enrolled in this demanding one year program will gain exposure to a range of health careers from athletic training to physical therapy to speech pathology and more. By exploring the effects of exercise on human health, wellness and sports performance, students will gain greater understanding of the expectations for different careers through internships, community involvement, and independent research. Topics of study will include: anatomy, resistance training principles, mobility practices, and kinesiology. Students will design personal training programs as well as group fitness classes. Throughout the year, coursework and guest speakers will highlight various career paths in the sports and health sciences industry. New Visions students integrate their field experiences into their assignments, research projects, and discussions in the classroom.

Students will receive integrated high school academic credits for the following courses: English 12 Honors, Economics/Participation in Government Honors, Introduction to Kinesiology, Medical Terminology, and Physical Education upon completion of this program.

Concurrent Enrollment Credits: RECR 112 - Introduction to Kinesiology (3 credits), HLTH 104 - Medical Terminology I (3 credits), FITN 217 Cardio Conditioning (1 Credit) and FITN 215 Strength & Conditioning (1 credit) are earned upon completion of the program.

College Majors/Career Opportunities in this Field: Recreational Therapy, Athletic Training, Sports Management, Physical Therapy, Physical Education or Health Teacher, Coaching, Fitness Instructor, Certified Personal Trainer, Gym Manager, Chiropractor, Strength and Conditioning Coach, Orthopedic Technician, Occupational Therapy, Speech Therapy.

Website: https://www.tstnv.org/

NEW VISIONS: HEALTH AND MEDICAL SCIENCES:

This exciting and challenging professional studies program focuses on career exploration in the healthcare field located at Cayuga Medical Center in Ithaca. The curriculum immerses students through a combination of classroom learning and clinical rotations throughout Cayuga Medical Center and its community affiliates. Through daily involvement with medical professionals, students become more informed of the range of healthcare professions available to be studied. Students observe and assist with patient care, learn laboratory and diagnostic procedures, and interact with a variety of healthcare professionals. Through their clinical experiences students recognize the importances that every role plays in helping ensure quality patient care. New Visions students integrate their experiences on clinical rotations into their assignments, research projects, and discussions in the classroom.

Students will receive integrated high school academic credits for the following courses: English 12 Honors, Economics/Participation in Government Honors, Health and Medical Sciences, and BIOL 131/132 - Human Anatomy and Physiology upon completion of this program.

Concurrent Enrollment Credits: BIOL 131 - Human Anatomy and Physiology I (4 credits) and BIOL 132 - Human Anatomy and Physiology II (4 credits) are earned upon completion of the program.

College Majors/Career Opportunities in this Field: Medical Doctor, Physicians Assistant, Anesthesiologist, Respiratory Therapist, Neonatologist, Dermatologist, Emergency Physician, Nurse Practitioner, Oncologist, Primary Care Physician, General Practitioner, Chiropractor, Pharmacist, Community Health Practitioner, Podiatrist, Public Health Nurse, Registered Nurse, Radiologist, Midwife

Website:
https://www.tstnv.org/health-and-medical-sciences.html

NEW VISIONS: LIFE SCIENCES/APPLIED SCIENTIFIC RESEARCH:

This unique, fun and innovative program is located at the Guterman Lab in the College of Agriculture and Life Sciences Department at Cornell University. Students will explore numerous career opportunities in the science of agriculture, food, and natural resources or veterinary medicine. Students choose a rotational experience in veterinary medicine (case study research) or an applied research experience allowing for exploration within unique interest areas in state-of-the-art laboratories across the university campus. Research experiences are planned in close collaboration with and supervised by the New Visions Teacher, which can include the study in plant and animal science, veterinary medicine, forestry, land and water conservation, agriculture business, sustainability, fishery-wildlife management, biological engineering, and much more. The course is designed to attract mature students of high professional and ethical standards who are interested in life science and inquiry. Selected students are not afraid to work hard both independently and with others. Each year, students become a cohort that is expected to set and achieve student driven goals by leaving the program, and their community, a better place.

Extension leadership opportunities are available in this class through the local chapter of the National Student Leadership Organization, the FFA (Future Farmers of America), where students participate in leadership training, workshops and national conferences.

Students will receive integrated high school academic credits for the following courses: English 12 Honors, Economics/Participation in Government Honors, Applied Scientific Research, and ENVS 110/111 - Food Systems upon completion of this program.

Concurrent Enrollment Credits: ENVS 110 - Food Systems Seminar I: Introduction to the US Food System (3 credits) and ENVS 111 - Food Systems II: Food Movements (3 credits) are earned upon completion of the program.

College Majors/Career Opportunities in this Field: Laboratory Technician, Microbiology, Wildlife Biologist, Ecologist, Epidemiology, Zoology, Veterinary Science, Agricultural and Food Science, Environmental Science, Plant Science, Agriculture, Food Science, Natural Resources, Clinical Research

Website:
https://www.tstnv.org/life-sciences--applied-scientific-research.html

WORLD OF WORK PROGRAMS

Website: http://tstboces.org/cte

The World of Work program assists high school students with a variety of instructional needs. Classes promote self-esteem and positive socialization, as well as cognitive and motor skills development through a progressive curriculum. The classes integrate students into the most appropriate and least restrictive Career and Tech setting, offering instruction in both generic and job specific skills, which are important for competitive employment and independent living. Students will work on employability training skills, including: attendance, punctuality, hygiene, organization and efficiency, building confidence, taking responsibility and showing respect. The goal is to create a personal skill set for each student to help them maintain employment upon graduation. World of Work classes are offered in the AM and PM for a minimum of two hours each day.

CAREER EXPLORATION PROGRAM (Grades 11 & 12):
AM or PM Session

The Career Exploration Program (CEP) provides students with the opportunity to explore realistic career options available in our community. Generally, students who enroll in this program are nearing completion of their high school career, and this is typically the capstone course leading to entry-level work. Most CEP students have taken Food Services and/or Outdoor Recreation Services prior to enrollment in this course. Students will have the opportunity to participate in non-paid internship experiences during the school year. These work experiences are based on the student's interests and abilities, and individual progress is closely monitored and evaluated. Transportation is provided to and from the work site. Students work directly with a job-site mentor (an employee), learning general and technical job skills in the field, and students receive a written work evaluation at the end of each internship.

FOOD SERVICES (Grades 9 – 12):
AM or PM Session

The Food Services Program develops a foundation of skills necessary to become an entry-level food service employee. A balance of theory and kitchen skills gives students real world experience. Students work in groups to learn to properly use culinary tools and equipment, and they are encouraged to develop and use their creativity in the selection and presentation of their recipe execution. Students participate in on-site training by working and managing an on-campus coffee shop, pizza delivery system, and catering service which reinforce student's interpersonal and job skills as they gain practical experience in related food service occupations. This class involves all participants to use their literacy, math and science skills as it relates to the culinary field.

OUTDOOR RECREATION SERVICES (Grades 9 – 12):
AM or PM Session

The Outdoor Recreation Services Program exposes students to a wide range of job skills and employability experiences. The curriculum has a heavy emphasis on the repair and maintenance of small engine power equipment, including: ATV's, lawn mowers and chainsaws. Students will also be working with aspects of traditional agriculture mechanics, such as: MIG Welding, basic framing, plumbing, wiring, and tractor operation and maintenance. Woodworking and basic construction skills are developed throughout the curriculum.

Frequently Asked Questions Regarding Course Selections

Here you will find answers to many of the common questions School Counselors receive regarding course selection, organized by subject area for your convenience. If you have further questions, feel free to reach out to us.

English

- **Can I take an English 12 elective prior to my senior year?**
    - This is not recommended. Talk with your current English teacher and the English department leader if you are considering.

- **I'm behind in credits and need to double up in certain subjects, can I do this in English?**
    - As a rule, no. If you are facing this circumstance, speak to your school counselor and the English department leader for guidance.

- **Is English 10 R/H?**
    - Yes.

- **Why don't we have a full year English 12 class?**
    - But we do! A few English 12 courses are year-long: English 101-102, WISE English 12, English Digital Media, and AP Literature.
    - However, we do not offer a *generic* English 12 course for senior English credit. Instead, we have an abundance of course offerings, both full-year and half-year, to encourage students to deeply investigate topics or areas of interest.

- **Will the English 12 electives prepare me for college?**
    - All of the senior electives prepare students for college. And, taking any English 12 course at an honors level will allow students the chance to experience college-like expectations and workload.
    - If you are interested in taking a class that will give you a college-like *experience*, you may be interested in the following:
        - English 101/102 (concurrently enrolled with TC3 for writing course credit)
        - English Digital Media (concurrently enrolled with TC3 for technology course credit--available only to those who take this class for HS honors credit)
        - AP Literature (you may earn credits toward college)
        - WISE English 12 (semester 2 offers a 16-week individualized project)

Fine Arts

Art

- **Do I need to have drawing skills or be good at art to take an art course?**
    - Just be willing to do your best and try new things.

- **As a Junior can I take AP Art?**
    - Juniors can sign up for Independent Study in Art, which is folded into the same period as AP Studio (with department leader recommendation), and then do AP Studio Art in Senior year. Essentially, they have two years to develop a portfolio and get credit for each as a separate course.

- **Can I skip an Art prerequisite?**
    - No. The prerequisites are in place to introduce a common vocabulary and practice of that course's media and process and to support student success at the next level/course. Projects are flexible enough to challenge all experience levels and support varied solutions from beginning to more complex interpretations.

- **Can I take Spring without taking Fall (studio art example)?**
    - Spring and Fall classes (like Studio Art) are not sequential. They only indicate fall or spring semester. Students can take either or both; they provide foundation skills in each and more continued practice if both are taken.

- **What do I do if I need a portfolio for college?**
    - AP Studio Art is a portfolio class and will provide the support, time and skills to develop a quality and competitive portfolio for their college applications, as well as for the AP credit. Unless the student already has a collection of artworks from observation and imagination produced over the last couple of years, it is not possible to curate a portfolio with any substance. Art teachers cannot offer the time and support outside of their teaching to help a student understand and complete the portfolio process. That's why we offer AP Art. Students with an interest in visual art, graphic design, architecture, fashion, gaming, animation, etc.; need to plan their high school schedule to include an art course each semester and AP Studio Art in their Senior year.

Music

- **Can I take Music every other day opposite PE? (Concert band/Orchestra)**
    - No. All ensemble music classes and music theory classes meet every day and are full-year classes.

- **Can I take both band and orchestra?**
    - If you have done this in middle school, this can be discussed as an option with the high school band and orchestra directors. Consultation will be sought from the middle school teachers regarding student's level of playing and participation in these ensembles during middle school. This requires a student to attend band and orchestra during the same period on alternating days. It also requires two sectionals per week (one for each ensemble) instead of one. Only one of these classes will appear on the schedule and transcript. Credit will only be given for one ensemble per year.

- **Can I start Band/Orchestra in high school?**
    - Currently, no. Discussions have begun about creating an entry level class for band and orchestra.

Math

- **Can I double up in math? When is this not an option?**
    - Students who have NOT accelerated in middle school have the option to double up at the recommendation of the teacher. There is a consent form they need to fill out and they must retain an 80 average in both classes. (Students who have already accelerated, for example 9th graders in geometry, are not allowed to further accelerate).

- **Can I take a math class online rather than at IHS?**
    - Absolutely not, no exceptions. On occasion students have taken precalculus at TC3 over the summer. But not online.

- **How many math classes do colleges expect I take?**
    - Most competitive colleges expect 4 years of high school math or three Regents' exams in math.

Physical Education

- **Do I have to swim?**
    - Yes. It is a life skill that is important in our community. Many colleges and Universities also require students to demonstrate the ability to swim. "The *University* has only two requirements for graduation that must be fulfilled: the swim test, and physical education courses"

- **If I transferred to IHS, do I need to double up in PE if it wasn't required at my previous school?**
    - Students who transfer into a New York State school from another state are required to earn ¼ unit of credit for each semester they are enrolled in a New York State high school through the end of their senior year or 8th semester. For example, a student who transfers to a New York State high school in grade 11 will have to enroll in PE each semester, and will be required to earn 1 credit (¼ unit x 4 semesters) in physical education at the NYS high school in order to graduate.
    - Can I double up in PE?
        - NO, You must be enrolled in PE each semester you are in school.

Science

- **Can I take AP Chemistry instead of Honors?**
    - 11th and 12th grade students may choose this pathway if they meet the prerequisites, but are encouraged to discuss it with their counselor and the Science department leader first.
    - If you want to try AP Chemistry instead of Honors Chemistry in the 10th grade, you must take an evaluation exam and score 85% or higher (see the Science department leader to schedule this exam). **Important Note** - AP Level courses are first filled by 11th & 12th-grade students, so there is no guarantee that you will be scheduled into AP as a 10th-grade student.

- **I haven't taken any Chemistry. Can I take AP Biology?**
    - AP Biology requires knowledge of chemistry. Either Chemistry 101, Honors Chemistry, or AP Chemistry is required to take AP Biology. The chemistry course can also be taken concurrently with AP Biology.

- **Can I take two Science classes?**
    - This is only an option for students in grades 10-12.
    - Due to scheduling constraints, there is no guarantee that you will be able to take both classes, especially if one or both classes are AP science courses. For AP classes, you will need to identify your first and second choices and have your counselor schedule you for your first choice in the spring. If you are still interested in adding the second course in the fall, then you can speak to your counselor within the first 3 weeks of school to see if it is possible.

- **Do I have to take Earth Science?**
    - Yes. It is critical that students graduate high school with an understanding of how our planet functions. After students complete Biology and Earth Science, they may move on to take Chemistry, Physics, AP courses, and electives.
    - If you are a 10th-grade student who has completed Biology but has not taken Earth Science, it may be possible for you to "double up" - that is, to take both Earth Science and another science in 10th grade. Talk to your counselor to see if this is a good option for you.
    - If you have taken coursework at another school that is comparable in content, seat time, and lab minutes to the NYS Earth Science course, you can ask that school to submit official documentation (via school email) directly to your counselor and the Science department leader for review.

- **Can I take an elective as a 9th or 10th grader?**
    - Science electives are intended for 11th & 12th grade students, so they will be prioritized in scheduling. 10th-grade students may only take an elective under the following conditions: 1) they are

also taking a science course with a lab, 2) they have a lunch or free period every day, 3) they meet all course prerequisites, and 4) there is space available in the class. 9th graders may not take electives.

- **Can I use summer coursework or online classes to meet science prerequisites?**
    - It is wonderful if you want to expand your knowledge by taking classes outside of a high school setting. However, this cannot be used to meet prerequisites or to place out of courses.

- **Which courses offer dual credit through TC3 CollegeNow?**
    - Chemistry 101, Physics 104, Sustainable Agriculture, and AP Biology all offer college credit at no cost to Tompkins County residents!

Social Studies

- **Will AP Psychology count as one of my required 4 years of social studies if I am transferring in from another school as a junior? If not, what should I take?**
    - No. In New York State the requirements for social studies are 4 credits that must include 2 credits in world history, 1 credit in United States history, .5 credits in Government and .5 credits in Economics.

- **Can I take government and economics online? Or during my junior year?**
    - No, except under very unusual circumstances

- **If I select AP US History, can I change to Honors if it's too hard?**
    - This might be difficult. IHS creates the master schedule based on student course selections. There may not be enough spaces available to switch to Honors if you initially selected AP, and/or it may not align with your schedule. You will also need the instructor's and Department Leader's permission. Changes are not allowed after the first five weeks except for rare situations. We recommend selecting the level that is comfortable for you.

Technology

- **Will my tech class meet my fine art requirement?**
    - Some courses will satisfy the fine arts requirement for graduation. DDP and Media Arts are currently the only courses that do.

- **Do I have to take all the PLTW classes in the sequence listed in the program of studies?**
    - It's recommended to take the PLTW classes in the sequence listed, however we are aware there are sometimes scheduling conflicts that prevent this. DDP must be taken first and EDD last but there is some flexibility with the courses in between.

World Languages

- **Do I have to take a language next year?**
    - One credit in WL is required to graduate in NYS. Students wanting the Regents Diploma with Advanced Designation will need to take/pass a three-year sequence of the same language to do so. In addition, all students completing the one-unit requirement must take and pass the Proficiency Exam (a.k.a. Checkpoint A) associated with that language. The Checkpoint B exam is given at the end of the third year. NO credit can be given through the examination and project route. That option disappeared when the state stopped creating the exams (about 10 years ago).

- **Can I drop a world language one year and add it another year?**
    - A student may complete the one credit basic requirement at any time before graduating. However, it should be noted that IF the student did not pass French or German in the middle schools, the only

high school option is Spanish 1, which is the only level 1 course we have from among the three offered. Beginning sooner than later is always preferable given some students with difficulties may need to attempt the course more than once.

Other

- **How many Regents exams do I need to take?**
    - For a Regents diploma you must score 65 or better on a minimum of 5 Regents exams. (1 English, 1 Social Studies, 1 Math, 1 Science and 1 other). For a Regents diploma with advanced designation, you need 3 additional exams: 2 additional math, 1 additional science.

- **If I have transferred to IHS, how many Regents exams do I need?**
    - If you transferred from any school in New York State the exam requirements are the same. If you transferred from a school in another state and your first year in a NYS high school is 11th grade, you are exempt from the Global History regent's exam. You still need to pass 1 English, 1 Social Studies, 1 Math and 1 Science. If you transferred from a school in another state and your first year in a NYS high school is 12th grade: you're exempt from the Global History Regents and a Science Regents. You still need to pass 1 English, 1 Social Studies and 1 Math regents.

- **If I attended a school in NYS in 9th grade, then left the state, but returned as a junior, what regents exams do I need to take?**
    - Since you began high school in NYS, the Regent's exam requirements are the same as a student who remained in a NYS school all 4 years.

- **Do I have to have a lunch in my schedule?**
    - It is STRONGLY recommended that you have a lunch in your schedule. It is very important to have a mental break during the day.

- **If I'm planning to apply to college - what should I be doing now?**
    - Research – Log into Naviance to do some initial searches. Look over college websites. Visit your favorites in person to get a first hand perspective. Check out the testing requirements – you may wish to take an SAT subject test or the SAT or ACT if test scores are required by the schools that interest you.

- **What is Naviance? Why do I need this?**
    - Naviance is a college and career research website. Every student receives login information in 9th grade to access this. They can explore career interests, take assessments, and view real life data of college acceptances from former IHS students. This is an excellent resource to find a good fit college and further your knowledge about career opportunities. You'll be required to use Naviance to communicate with IHS about your college applications should you apply to college.

- **Can I change my teacher?**
    - No, it is not possible to honor specific teacher requests.

Editing History
SN edits 03/22/23
SN edit ENG 101/102 prerequisites 05/01/23
SN changed wording of AP offerings from required to highly encouraged 09/06/23
SN copied to create 2024-2025 POS 09/11/2023
SN Updated and added bookmarks to page 1-board member and personnel list 09/23
SN Updated Student Services Contacts 09/23
SN Corrected formatting and made additions to drop/change form 09/23
SN Incorporated suggestions from English Department 09/23-10/23
SN Incorporated suggestions/edits from Science Department; including FAQ section with bookmark addition 10/23
SN Added replaced IHS Profile with updated edition 10/23