UNATEGO CENTRAL SCHOOL DISTRICT
BOARD OF EDUCATION AGENDA
TENTATIVE
MONDAY, JULY 10, 2017
BOARD OF EDUCATION MEETING
CALLED TO ORDER
6:30 P.M.
ADDENDUM
UNATEGO MIDDLE/SR HIGH SCHOOL
ROOM #93

4. **ADMINISTRATIVE ACTION**

4.17 **Approve additions to the course catalog**
4.18 **Approve agreement between Elizabeth Jacob-Carter, Speech Therapist and Unatego Central School District**

4.17
7.10.17 G7
RESOLVED: Upon the recommendation of the Superintendent of Schools that this Board does hereby approve the additions of Robotics Engineering, Programming in C++, Forensics Physical Science and Introduction to Astronomy to the course catalog as as presented.

4.18
7.10.17 G8
RESOLVED: Upon the recommendation of the Superintendent of schools that this Board does hereby approve the agreement between Elizabeth Jacob-Carter, Speech Therapist and Unatego Central School District for speech services from July 10, 2017 through August 18, 2017 as presented.

To: Dr. David Richards, Superintendent

From: Julie Lambiaso; HS Principal

Date: July 7, 2017

Re: Course Additions

I am recommending the following courses be added to the Course Catalogue:

Robotics Engineering

Programming in C++

Forensics Physical Science

Introduction to Astronomy

Year: 2017-2018
Course Title: Robotics Engineering I
Credits: 1.0

Attendance Policy: To maintain good grades, regular attendance in class is necessary. Absence from class is considered a serious matter and absence never excuses a student from class work. Students are required to comply with the attendance policy set by the Unatego High School Handbook. Students are not penalized if they are unable to attend classes or participate in exams on particular days because of religious beliefs, in accordance with Chapter 161, Section 224-a of the Education Law of the State of New York. Students who plan to be absent from classroom activity for religious reasons should discuss the absence in advance with their instructors.

Services for Students with Disabilities: It is the school's policy to provide, on an individual basis, reasonable accommodation to students with disabilities, which may affect their ability to fully participate in program or course activities or to meet course requirements. Students with disabilities should contact the instructor, the Student Services Office, and/or the Committee on Special Education Office to discuss their particular need for accommodations. All course materials are available in alternate formats upon request.

Course Description
This class is designed as the first half of a two-year robotics engineering sequence. The course is designed to explore the past, current, and future use of automation technology in industry and everyday use. Students will receive a comprehensive overview of robotic systems and the subsystems that comprise them. Students will design / engineer, build, and test increasingly complex autonomous robotic systems created to complete an assigned task. Careers in robotics, programming, and engineering will be discussed. Course activities include labs/projects, class competitions, on-line activities, and professional visits.

Course Context/Audience
The class is intended for students with some basic experience and an interest in the design, engineering and programming of robots. The class is also appropriate for any student interested in another technical career or a students that enjoys a more technical hands-on experience.

Course Goals
1. The student will receive a comprehensive understanding of the concepts associated with engineering design, electricity, electronics, circuits, robotics, and programming.
2. The student will be able to do problems, employing algebra and trigonometry techniques along with laws of physics, in the topics mentioned above.
3. The student will be able to use design process to build a lab experiment, make measurements observations to test the theories studied in class and meet objectives, and analyze the data thus obtained using sound scientific and engineering techniques.

Course Objectives/Topics
- Apply the engineering process
- Create, maintain, and work in a safe laboratory environment

- Create engineering documentation and plan projects using a Gantt Chart
- Create flowcharts
- Write Pseudocode
- Design and engineer autonomous robots using various sensors
- Design and engineer an autonomous robot that can complete tasks using RobotC programming software
- Design and engineer a robot that can complete tasks using a smart phone and Bluetooth
- Design and engineer a robot that can complete tasks using a radio controlled system with wireless camera
- Design and build simple, programmable electronic devices
- Understand the theory and operation of various robotics sensors and control devices

General Education Goals - Critical Thinking & Social/Global Awareness

CRITICAL THINKING OUTCOMES	HOW DOES THE COURSE ADDRESS THE OUTCOMES (Include required or recommended instructional resources, strategies, learning activities, assignments, etc., that must or could be used to address the goal/outcomes)
Students will be able to	
• develop meaningful questions to address problems or issues.	Because of the mathematical nature of the course, students need to develop meaningful questions to design algorithms that solve the problems based on data they gather from laboratory work, textbooks and the internet. Laboratory analysis and homework problems involve complex algorithms that are a slight variation on those presented in class. Cooperation amongst students is imperative to succeed in science. This course encourages students to work in teams during labs. Encourage students to share solutions and strategies during homework preparation and lab circuit design and implementation.
• gather, interpret, and evaluate relevant sources of information.	
• reach informed conclusions and solutions.	
• consider analytically the viewpoints of self and others.	
SOCIAL/GLOBAL AWARENESS OUTCOMES	HOW DOES THE COURSE ADDRESS THE OUTCOMES (Include required or recommended instructional resources, strategies, learning activities, assignments, etc., that must or could be used to address the goal/outcomes)
• Students will begin to understand how their lives are shaped by the complex world in which they live.	As topics are presented, historical context is usually included. This allows students to realize that science is an ongoing process, and contributors to this process come from all over the world. The economic and social stimuli that brought about various scientific breakthroughs are also considered in a global context.
• Students will understand that their actions have social, economic and environmental consequences.	

Instructional Methods

The course will be primarily a student-driven, activity-based curriculum design. Most of the laboratory work will be completed by teams of students in groups of various sizes, with no group larger than four students. The majority of the lecture notes will be delivered via video, as the note-taking portion of the class will largely adopt the 'flipped classroom' setting.

Methods of Assessment/Evaluation

Method	% Course Grade
Assignments and Quizzes	10%
Laboratory Activities and Reports	40%
Engineering Journal and Projects	50%

**A final exam for the course composed of a project and a written examination will be given at the end of quarter two and will account for 20% of the overall course grade.

Text(s)

The course will rely on a variety of written text including manufacturer's literature for the various learning resources and selected samples of applicable texts to aid with understanding and educational enhancement. The majority of the curriculum is based on and provided by Carnegie Mellon University's National Robotics Engineering Center and the Intelitek Robotic Engineering Program.

Other Learning Resources

Electronic learning resources will be utilized as appropriate
Programmable, electronic circuits will utilize Arduino technology

Year: 2017-2018
Course Title: Programming in C++
Credits: 0.5

Attendance Policy: To maintain good grades, regular attendance in class is necessary. Absence from class is considered a serious matter and absence never excuses a student from class work. Students are required to comply with the attendance policy set by the Unatego High School Handbook. Students are not penalized if they are unable to attend classes or participate in exams on particular days because of religious beliefs, in accordance with Chapter 161, Section 224-a of the Education Law of the State of New York. Students who plan to be absent from classroom activity for religious reasons should discuss the absence in advance with their instructors.

Services for Students with Disabilities: It is the school's policy to provide, on an individual basis, reasonable accommodation to students with disabilities, which may affect their ability to fully participate in program or course activities or to meet course requirements. Students with disabilities should contact the instructor, the Student Services Office, and/or the Committee on Special Education Office to discuss their particular need for accommodations. All course materials are available in alternate formats upon request.

Course Description
This class is intended for students with some basic experience and/or interest in learning how to write computer programs. Topics include computer coding, theories, a brief history, and strategies.

To ensure as broad an experience as possible, a wide array of programming resources will be utilized. Programming activities will be performed using Code.org, Python, Dev–C++, and other as time permits.

Course Context/Audience
The course is intended for a general audience of 21st century learners with a specific interest in computer programming.

Course Goals
1. The student will experience expressing the solutions to programming problems in the form of an algorithm.
2. The student will learn the fundamentals of programming using the C++ programming language.
3. The student will develop good, structured programming techniques and an appreciation of the importance of adhering to programming standards and conventions.

Course Objectives/Topics
- Construct a complete C++ program using appropriate header files and program structure
- Declare data using appropriate data types
- Receive input into a program as well as produce well-formatted output in a program. The input and output will be interactive or form a data file.
- Understand the need for breaking a large program into functions
- Write functions using value and/or reference parameters as appropriate

- Write conditional structures in C++, including if statements, nested if statements, and switch statements
- Write C++ programs that include while and for loops
- Create and use single-subscripted arrays in C++
- Create and use double-subscripted arrays in C++
- Declare and use pointers to reference elements of an array
- Understand the concept of abstract data types, and the concept of classes and objects in C++

General Education Goals - Critical Thinking & Social/Global Awareness

CRITICAL THINKING OUTCOMES	HOW DOES THE COURSE ADDRESS THE OUTCOMES (Include required or recommended instructional resources, strategies, learning activities, assignments, etc., that must or could be used to address the goal/outcomes)
Students will be able to	Because of the mathematical nature of the course, students need to develop meaningful questions to design algorithms that solve the problems based on data they gather from laboratory work, textbooks and the internet. Laboratory analysis and homework problems involve complex algorithms that are a slight variation on those presented in class. Cooperation amongst students is imperative to succeed in science. This course encourages students to work in teams during labs. Encourage students to share solutions and strategies during homework preparation and programming design and implementation.
• develop meaningful questions to address problems or issues.	
• gather, interpret, and evaluate relevant sources of information.	
• reach informed conclusions and solutions.	
• consider analytically the viewpoints of self and others.	
SOCIAL/GLOBAL AWARENESS OUTCOMES	HOW DOES THE COURSE ADDRESS THE OUTCOMES (Include required or recommended instructional resources, strategies, learning activities, assignments, etc., that must or could be used to address the goal/outcomes)
• Students will begin to understand how their lives are shaped by the complex world in which they live.	As topics are presented, historical context is usually included. This allows students to realize that science is an ongoing process, and contributors to this process come from all over the world. The economic and social stimuli that brought about various scientific breakthroughs are also considered in a global context.
• Students will understand that their actions have social, economic and environmental consequences.	

Instructional Methods
The course will be primarily a student-driven, activity-based curriculum design. Most of the laboratory work will be completed by teams of students in groups of various sizes, with no group larger than four

students. The majority of the lecture notes will be delivered via video, as the note-taking portion of the class will largely adopt the 'flipped classroom' setting.

Methods of Assessment/Evaluation

Method	% Course Grade
Assignments and Quizzes	10%
Exams	35%
Programming assignments and Projects	55%

**A final exam for the course composed of a project and a written examination will be given at the end of quarter two and will account for 20% of the overall course grade.

Text(s)
The course will rely on a variety of written text including manufacturer's literature for the various learning resources and selected samples of applicable texts to aid with understanding and educational enhancement.

Computer software, such as Python and Dev-C++

Other Learning Resources
Electronic learning resources will be utilized as appropriate

Year: 2017-2018
Course Title: Forensics (Physical Science Aspects covered here)
Credits: 1.0

Attendance Policy: To maintain good grades, regular attendance in class is necessary. Absence from class is considered a serious matter and absence never excuses a student from class work. Students are required to comply with the attendance policy set by the Unatego High School Handbook. Students are not penalized if they are unable to attend classes or participate in exams on particular days because of religious beliefs, in accordance with Chapter 161, Section 224-a of the Education Law of the State of New York. Students who plan to be absent from classroom activity for religious reasons should discuss the absence in advance with their instructors.

Services for Students with Disabilities: It is the school's policy to provide, on an individual basis, reasonable accommodation to students with disabilities, which may affect their ability to fully participate in program or course activities or to meet course requirements. Students with disabilities should contact the instructor, the Student Services Office, and/or the Committee on Special Education Office to discuss their particular need for accommodations. All course materials are available in alternate formats upon request.

Course Description
This class is designed as one-half of the full forensics course offering, with the other half focusing on the biological aspects of forensics. The course focuses on the skills and concepts behind crime scene investigation and forensic science. Students will review physics, chemistry, anatomy, cell biology, environmental science, and computer science. Specific topics covered in physical science will include crime scene processing, automobile accident investigation, firearms / ballistics, explosives, impressions and tool marks, liquid splatter patterns, voice analysis, and photography. Course activities include labs/projects, case studies, on-line activities, and professional visits.

Course Context/Audience
The class is intended for students with an interest in any forensics related field, but also for any student generally interested in science or the laboratory / activity tasks associated with working in a science-related field.

Course Goals
1. The student will determine appropriate conclusions based on scientific evidence.
2. The student will be able to propose a prediction of results and then test predictions.
3. The student will learn how to draw appropriate scientific conclusions from evidence and experimental data.
4. The student will describe how data influences and shapes methods of analysis.
5. The student will take skeptical approach to general scientific information and discriminate between generally accepted science and science fiction.

Course Objectives/Topics
- Understand the history of forensic science
- Understand how to document and process a crime scene

- Understand how to collect and package evidence at a crime scene
- Understand the classification and identification of illicit drugs
- Understand, predict, and analyze liquid splatter patterns
- Apply techniques to distinguish types of glass and soil
- Apply techniques to collect impressions left at a crime scene
- Understand the forensic science behind ballistics and firearms
- Investigate internal, external, and terminal ballistics
- Processing an electronic crime scene
- Understand the forensic science behind voice analysis

General Education Goals - Critical Thinking & Social/Global Awareness

CRITICAL THINKING OUTCOMES	HOW DOES THE COURSE ADDRESS THE OUTCOMES (Include required or recommended instructional resources, strategies, learning activities, assignments, etc., that must or could be used to address the goal/outcomes)
Students will be able to	
• develop meaningful questions to address problems or issues.	Because of the logical, scientific nature of the course, students need to develop meaningful questions to design procedures that solve the problems based on data they gather from laboratory work, textbooks and the internet. Laboratory analysis and homework problems involve complex investigations that are a slight variation on those presented in class. Cooperation amongst students is imperative to succeed in science. This course encourages students to work in teams during labs. Encourage students to share solutions and strategies during homework preparation and investigation design and implementation.
• gather, interpret, and evaluate relevant sources of information.	
• reach informed conclusions and solutions.	
• consider analytically the viewpoints of self and others.	
SOCIAL/GLOBAL AWARENESS OUTCOMES	HOW DOES THE COURSE ADDRESS THE OUTCOMES (Include required or recommended instructional resources, strategies, learning activities, assignments, etc., that must or could be used to address the goal/outcomes)
• Students will begin to understand how their lives are shaped by the complex world in which they live.	As topics are presented, historical context is usually included. This allows students to realize that science is an ongoing process, and contributors to this process come from all over the world. The economic and social stimuli that brought about various scientific breakthroughs are also considered in a global context.
• Students will understand that their actions have social, economic and environmental consequences.	

Instructional Methods

The course will be primarily a student-driven, activity-based curriculum design. Most of the laboratory work will be completed by teams of students in groups of various sizes, with no group larger than four students. The majority of the lecture notes will be delivered via video, as the note-taking portion of the class will largely adopt the 'flipped classroom' setting.

Methods of Assessment/Evaluation

Method	% Course Grade
Assignments and Quizzes	10%
Exams	35%
Laboratory activities and Projects	55%

**A final exam for the course composed of a project and a written examination will be given at the end of quarter two and will account for 20% of the overall course grade.

Text(s)

The course will rely on a variety of written text including manufacturer's literature for the various learning resources and selected samples of applicable texts to aid with understanding and educational enhancement.

Other Learning Resources

Electronic learning resources will be utilized as appropriate

Introduction to Astronomy Syllabus

Course Name: **Introduction to Astronomy**

Instructor: **Mr. Paul Willis, M.S., B.S./B.A., A.A.S.**

Textbook: Exploring the Dynamic Universe, An Introduction to Astronomy, by Theodore P. Snow

This Astronomy course is designed to be an introductory course to the science of astronomy. It is important for students to gain some perspective on the general nature of science. The course stresses the philosophy and outlook of scientists, as well as the knowledge we have gained about the physical universe we live in. Astronomy is interdisciplinary, embracing topics from geology, physics, biology, chemistry, ecology and geography. It covers topics ranging from the planet we live on, planets we might live on someday, our solar system, our Milky Way Galaxy, and even the Universe itself.

I believe people learn best when they are active learners; therefore, we will be doing as many activities - laboratory experiments as possible. Almost all activities will take place during the class time allotted for the course. Minimal work will be expected outside of class, therefore attendance and participation will be necessary.

Over the year, the following materials will be covered:
- Section One – The Nighttime Sky and the Tools of Astronomy (Chapters 1 through 4)
- Section Two – The Stars (Chapters 5 through 8)
- Section Three – The Milky Way (Chapters 9 and 10)
- Section Four – Extragalactic Astronomy (Chapters 11 through 14)
- Section Five – The Solar System (Chapters 15 through 19)
- Section Six – The Chances of Companionship (Chapter 20)

Course Goals:
- Students completing this class will leave with a foundational understanding of the topics listed above.
- Students will have developed basic understanding of the cosmos.
- Students will be able to describe the scope of the cosmos from planets, to solar systems, to galaxies, to the universe.

Grades:
Per School grading policy:
    10% Formative
    90% Summative

Formative Assessments include:
- Exit tickets
- Class participation
- Verbal questions and answers

Summative Assessments include:
- 30% for Quizzes
- 30% for Projects
- 30 % for Exams

Homework:

There is very little homework expected for this class. Everything students are expected to learn and practice will be completed during the class period. Students are expected to complete all assigned work in class. In other words, students will be given enough time in class to complete the work assigned, but if they procrastinate, or in any way waste class time, then they will have to come in after school (during their time) to complete work.

Tardies and Absences: See Student Handbook for School Policy

Supplies:

Please bring to class everyday a scientific calculator, a writing utensil, a notebook with paper, and a folder or binder to hold handouts and assignments.

Class Expectations:
• We help each other learn.
• We respect each other's learning.
• We have our materials and are learning from the moment the bell rings until I dismiss the class.
• We handle lab equipment, textbooks, and technology with care.
• We accept and respect each other's differences.
• We help create a safe environment in which we all feel comfortable asking questions.
• If you are absent, you are responsible for obtaining handouts and notes and then also checking with me to make arrangements for extra help or to make-up quizzes, exams, labs / activities. This cannot be done during class time. This may be done before or after school.
• Assignments are no longer accepted after a unit is complete (the unit is complete on the day of exam). You have the opportunity to succeed in this class through hard work, determination, and realizing the following Goals:
1) You are responsible for your own learning, and
2) Do your work thoughtfully, thoroughly, and timely.

Tentative Introduction to Astronomy Schedule:

Overview:

• **Weeks 1 – 8, Section One –** The Nighttime Sky and the Tools of Astronomy (Chapters 1 through 4)
• **Weeks 8 – 16, Section Two –** The Stars (Chapters 5 through 8)
• **Weeks 17 – 20, Section Three –** The Milky Way (Chapters 9 and 10)
• **Weeks 21 – 29, Section Four –** Extragalactic Astronomy (Chapters 11 through 14)
• **Weeks 30 – 38, Section Five –** The Solar System (Chapters 15 through 19)
• **Weeks 39 – 40, Section Six –** The Chances of Companionship (Chapter 20)

AGREEMENT

Agreement between Elizabeth Jacob-Carter, Speech Therapist, hereinafter Provider and Unatego Central School District, hereinafter District.

Whereas, the Provider is a duly licensed speech therapist in accordance with the regulations of the Commissioner of Education; and

Whereas, the District is in need of additional speech therapy services for purposes of servicing its special education population;

Now, therefore, in order to make available those services to students with special as determined by the Board of Education, the parties hereto mutually agree as follows:

1. Provider agrees to provide speech therapy services to the District from July 10, 2017 through August 18, 2017. Provider will perform speech therapy services to students of the District as assigned by the CSE Chairperson.

2. The students' individualized educational program will govern the exact services to be provided for each student. Scheduling will be arranged between the therapist and District within the school schedule unless otherwise agreed upon.

3. The rate for speech therapy services includes: evaluation, treatment, planning, and training, documentation as necessary within the School District, travel to required meetings and conferences, or any other aspect that is deemed necessary to provide appropriate services for preschool students. The rate for the 2017/2018 school year will be $100/hour. Payments to Elizabeth Jacob-Carter will be made upon receipt of invoices for services, submitted on a monthly basis.

4. The Provider will provide a copy of her New York State license or certification upon request. Provider is responsible for

   a. Maintaining and preparing treatment plans in accordance with the IEP.

b. Maintaining appropriate documentation of speech therapy services and student progress.

c. Providing speech therapy services meeting the accepted professional standards of practice.

d. Agreeing to abide by the Unatego Central School District's policies and procedures.

e. Providing the District with proof of professional liability insurance.

f. Complying with all requirements as set forth in statute and regulations.

g. Confidentiality. The Provider agrees to safeguard the confidentiality of information relating to individuals who may receive services in the course of this agreement and shall maintain the confidentiality of all such information in conformity with the provisions of applicable State and Federal laws and regulations.

5. The District agrees to be responsible for:

a. Providing appropriate space and consult on appropriate equipment.

b. Informing Provider of paperwork and other administrative requirements.

c. Notifying Provider of any new students in a timely fashion and any meetings relating to existing students in sufficient time to permit the Provider to develop and write goals and progress reports.

6. Provider is an independent contractor and shall not be entitled to any benefits through the District including but not limited to insurance, leave days, retirement benefits, health insurance, unemployment, or workers compensation.

7. Provider shall be subject to fingerprinting pursuant to Part 87 of the Commissioner's Regulations, and Education Law 1709 (39) and 3004-b.

8. This document constitutes the entire understanding and agreement of the District and Provider, and supersedes all prior understandings, agreement and documentation relating to the subject matter. Any modifications to the Agreement must be in writing and signed by both parties, with 30 days notice.

7. This agreement may be terminated by either party upon 30 days written notice from one party to the other.

DATED: _____, 2017   _____, Provider

                                                 _____

DATED: _____, 2017   UNATEGO CENTRAL
                                                 SCHOOL DISTRICT

                                                 By: _____
                                                      Board President