

CENTER COMMUNICATION TECHNOLOGY –
Pathways Practicum S1 & S2

COURSE DESCRIPTION AND EXPECTATIONS

Grade Level: 12th

Instructor: Mr. Esparza

Credit: 10 Semester Hours for one year

Prerequisite: 4 semester in CCT Strand classes

Phone: 720-423-7135

E-mail: jerry_esparza@dpsk12.org (assignment related communication- jesparz@dpsk12.net)

II. Course Description

The Pathways course is a capstone for students in the robotics, software engineering, web design, or 3D animation strand of the Center for Communication Technology Magnet. The course has the following focus areas:

A senior project(s) that is designed and produced by students either individually or as part of a project team. The senior project(s) should exhibit outstanding work in an area of technology that the student finds interesting and desires to pursue further. The class will simulate a workplace environment where student come to “work” to complete a job (Their project). Therefore, time management is critical part of the evaluation of student performance when being graded. Workplace Career Readiness Skills will be integrated into project reflections.

A project planning notebook to document the planning process involved with the senior project. The notebook will demonstrate understanding of the 5 process groups and 10 knowledge areas used by the Project Management Institute. Presentation of these projects will be required at the Project Management Chapter banquet dinner in March 2022. All students are expected to participate and compete in the “High School Project of the Year” competition sponsored by the Project Management Institute. Participates are eligible to apply for the \$2000 college scholarships given by the Institute.

Post-secondary planning, including time to work with their ICAP, Future Center on college applications, and scholarship applications.

SkillsUSA is a Career Tech Student Organization (CTSO) that teaches leadership and workplace skills. Pathways will participate in SkillsUSA by being involve with competition and program activities of SkillsUSA. Three additional meetings or program involvement will be required as outside class time assignments for first semester (Students will have the opportunity to compete at the State level in Colorado Springs in April if they are qualified winners at the local level.)

SkillsUSA Essential skills framework are soft-skills required in the workplace. These skills will be taught and integrated in the Pathway class.

Students will complete an exit digital Personal Portfolio demonstrating their accomplishments in the CCT program. Showing exemplars of their high school work and reflections. Portfolio will be presented to the class during the final weeks of the school year.

Grading will be based upon assignments, reflections, projects, and participation. Your grade is cumulative for one semester. Participation points are given each meeting time. Participation is ~15% of your overall grade for the semester.

III. Course Outline

Course content will include, but is not limited to:

To develop advanced skills in:

1. Technology foundations
2. Project management and documentation for personal development
3. Project Libre Management software
4. Entrepreneurism/Professional Networking
5. Google Suite Tools
6. Collaboration using Google Docs
7. Graphic design tools (Adobe CC Suite)
8. Software/Web/3D development tools as needed
9. Student reflection using online communication tools
10. SkillsUSA Framework Essential Soft-skills for the workplace
11. Other tools as needed

1. Specific Learning Outcomes

2. Understand and apply the 5 process groups of PMI project management. Understand and apply the 10 knowledge areas of PMI project management.
3. Design and build a senior technology project(s).
4. Develop and implement a post-high school plan.
5. Create and update an Online Digital portfolio of exemplary CCT Magnet work and show proficiency soft skills for the workplace. Demonstrate community/school leadership.
6. Assignments and Evaluation of Student Performance
7. Submit a senior technology project and PMI Project Planning Notebook as entry to the "High School Project of the Year" for the Mile High Chapter of PMI.
8. Research post-secondary options and develop a post-graduation plan. Tasks include:
 - o Career research
 - o College research
 - o College applications
 - o Scholarship applications
 - o Resume
9. Develop and implement a community service project focused on middle schoolers.
10. Develop workplace skills by participating in SkillsUSA activity programs.

IV. Additional Course Information

Fees: \$40- Write check to Thomas Jefferson High School, or credit card @ Treasure's office. Due **Friday September 3, 2021**

Materials: Head phone/ear buds

Textbooks: Teacher does not require a textbook:

Resources: / Schoology/ Google Classroom- Pathways - Esparza

V. Standards and Assessments Coding

CTE Content Standard

- ITCO.06 Know and understand the importance of IT project management concepts, tools and techniques and the role teams play in the IT field.
- **ITCO.06.01 Explain the definition of a project and the tools required to establish the project.**
 - ITCO.06.01.a Define a project as it relates to the IT field.
 - ITCO.06.01.b Explain the project plan and its components.
 - ITCO.06.01.c Demonstrate the knowledge of project planning methodologies and tools.
- ITIM.02 Understand and demonstrate the use of software and hardware for digital communication production, development and project management.
- **ITIM.02.01 Demonstrate the ability to work with appropriate software tools.**
 - ITIM.02.01.a Demonstrate proficiency in the use of digital imaging tools, digital video techniques, and equipment. (i.e. bitmapped image editing, vector based editing, layers, channels, masks, etc).
 - ITIM.02.01.b Demonstrate knowledge of available graphics, video, motion graphics, web software programs
 - ITIM.02.01.c Demonstrate knowledge of available project management and collaborative tools.
 - ITIM.02.01.d Demonstrate knowledge of integrated development environments (such as Visual Studio, Dreamweaver, Flash, Waterproof, etc.)

Postsecondary & Workforce Readiness and Essential Skills

- ESKK.02 Communications: Use oral and written communication skills in creating, expressing, and interpreting information and ideas including technical terminology and information.
- **ESKK.02.01 Select and employ appropriate reading and communication strategies to learn and use technical concepts and vocabulary in practice.**
- **ESKK.02.05 Use correct grammar, punctuation, and terminology to write and edit documents.**
 - ESKK.02.05.a Compose multi-paragraph documents clearly, succinctly, and accurately.
 - ESKK.02.01.f Communicate information, data, and observations to apply information learned from reading to actual practice
 - ESKK.02.05.c Use correct grammar, spelling, punctuation, and capitalization when preparing written documents.

Academic Alignment with Math, Science, Reading, Writing and Communication (CCSS, CAS)

- STCO.06.03.a Demonstrate the design process by defining a problem, brainstorming, researching and generating ideas, identifying criteria and specifying constraints, and exploring possibilities.
- STCO.07.03.b Demonstrate the ability to collaborate and work effectively with others.
- RWC10-GR.10-S.1-GLE.1-EO.e Use feedback to evaluate and revise the presentation.
- ARVD.05.08.a (ID) Express ideas clearly in visual, oral, and written communication.
- RWC10-GR.10-S.2-GLE.3-EO.c Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.
- COJB.04.01.a Demonstrate control of grammar, diction, sentence and paragraph structure, punctuation, capitalization, spelling, and correct English usage.

- RWC10-GR.11-S.3-GLE.3-EO.d Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (CCSS: W.11-12.5)
- ITPR.05.02.c Update documentation in internal code and external support media.
- RWC10-GR.11-S.4-GLE.2-EO.a Analyze the logic of complex situations by questioning the purpose, question at issue, information, points of view, implications and consequences, inferences, assumptions and concepts.
- ITPR.01.01.a Gather information using interviewing and questioning techniques and strategies.
- ITPR.01.02.a Analyze information from users.
- RWC10-GR.12-S.3-GLE.2-EO.c Address audience needs and anticipate audience questions or misunderstandings.
- ITIM.01.02.b Determine the target audience requirements (such as web accessibility).
- RWC10-GR.12-S.3-GLE.2-EO.d Select and build context for language appropriate to content (technical, formal).
ITIM.01.02.a Prepare functional and visual design specifications for a project. (ie storyboards, flowcharts, user interface, navigational schema, etc).
- RWC10-GR.9-S.4-GLE.2-EO.a Analyze the purpose, question at issue, information, points of view, implications and consequences, inferences, assumptions and concepts inherent in thinking.
- ITCO.02.01.b Identify the facts and requirements within a problem.
- ITCO.02.02.a Test/evaluate the solution.
- STCO.01.04.a Demonstrate the ability to characterize a plan and identify the necessary tools that will produce a technical solution when give a problem statement.
- STCO.06.03.a Demonstrate the design process by defining a problem, brainstorming, researching and generating ideas, identifying criteria and specifying constraints, and exploring possibilities.
- RWC10-GR.9-S.4-GLE.2-EO.c Implement a purposeful and articulated process to solve a problem. ITCO.02.01.d Create a solution for the problem.
ITIM.01.01.c Integrate needs and assessments into a unique solution to the project design.
STCO.01.04.a Demonstrate the ability to characterize a plan and identify the necessary tools that will produce a technical solution when given a problem statement.