CTAE Foundations

IT-PGAS – 1 Demonstrate employability skills by business and industry.
1.1 Communicate effectively through writing, speaking, listening, reading, and interpersonal abilities.
1.2 Demonstrate creativity by asking challenging questions and applying innovative procedures and methods.
1.3 Exhibit critical thinking and problem solving skills to locate, analyze and apply information in career planning and employment situations.
1.4 Model work readiness traits required for success in the workplace including integrity, honesty, accountability, punctuality, time management, and respect for diversity.
1.5 Apply the appropriate skill to be productive in a changing, technological, diverse workplace to be able to work independently and apply teamwork skills.
1.6 Present a professional image through appearance, behavior and language.

Software Development Life Cycle

IT-PGAS-2
Describe the software application life cycle and use a prototype development model to develop applications.
2.1 Understand the software development cycle and the iterative nature of the software development cycle.
2.2 Understand and use steps to designing a good software product.

Software Development Life Cycle

IT-PGA
Describe the unique needs for information and communication technologies for diverse audiences.
8.1 Understand the need for designing software that is intuitive and user-friendly.
8.6 Analyze what issues play a part in the development of software outside the United States for users in developed nations and for users in underdeveloped nations.

Programs Used to Design Games

IT-PGAS-3
Design and develop applications using objects.
3.1 Understand the fundamental concept of an object and the differences between primitive data types and objects.

IT-PGA
Design and develop, and implement accessible and usable interfaces, and analyze applications for engaging the user.
4.1 Identify the components of a user interface.
4.2 List the criteria used to determine the effectiveness of an interface.
4.4 Apply user interface design criteria to critique common user interfaces (mobile phones, tablets, remote controls, and microwave ovens).
4.5 Discuss how the design of applications can influence and motivate or demotivate the user.
4.7 Compare and construct a collection of software based on usability and user preference.
4.8 Test the program for usability.
Creating Games and Apps

IT-PGAS-2
Describe the software application life cycle and use a prototype development model to develop applications.
2.2 Understand and use steps to designing a good software product.
2.3 Use a good prototype development model to write a cellphone application or a video game.
2.4 Write easy to read programs by using user-friendly comments and naming conventions.
2.5 Test the programs for completeness and accuracy.

IT-PGAS-3
Design and develop applications using objects.
3.1 Understand the fundamental concept of an object and the differences between primitive data types and objects.

IT-PGA-4
Design and develop, and implement accessible and usable interfaces, and analyze applications for engaging the user.
4.1 Identifying the components of a user interface.
4.3 Designs and produce a User Interface.

Creating Specific Game Components

IT-PGAS-2
Describe the software application life cycle and use a prototype development model to develop applications.
2.4 Write easy to read programs using user-friendly comments and naming conventions.

IT-PGAS-3
Design and develop applications using objects.
3.1 Understand the fundamental concept of an object and the differences between primitive data types and objects.
3.2 Design real-life applications with objects interacting with one another.
3.3 Develop programs with multiple events and objects solving problems.

Scenario Ideas and Programming Concepts

IT-PGAS-2
Describe the software application life cycle and use a prototype development model to develop applications.
2.3 Use a good prototype development model to write a cellphone application or a video game.
2.4 Write easy to read programs by user friendly comments and naming conventions.
2.5 Test the programs for completeness and accuracy.

IT-PGA-4
Design and develop, and implement accessible and usable interfaces, and analyze applications for engaging the user.
4.6 Write a program that involves the design and development of multiple programs utilizing the software development practices.
Apps that Solve Problems

IT-PGAS-2
Describe the software application life cycle and use a prototype development model to develop applications.
2.3 Use a good prototype development model to write a cellphone application or a video game.
2.4 Write easy to read programs by user friendly comments and naming conventions.
2.5 Test the programs for completeness and accuracy.

IT-PGAS-3
Design and develop applications using objects.
3.2 Design real life applications with objects interacting with one another.
3.3 Develop programs with multiple events and objects solving problems.

IT-PGA
Design and develop, and implement accessible and usable interfaces, and analyze applications for engaging the user.
4.6 Write a program that involves the design and development of multiple programs utilizing the software development practices.
4.8 Test the program for usability.

Mobile App Development

IT-PGAS-2
Describe the software application life cycle and use a prototype development model to develop applications.
2.3 Use a good prototype development model to write a cellphone application or a video game.

IT-PGAS-3
Design and develop applications using objects.
3.2 Design real-life applications with objects interacting with one another.

IT-PGA
Design and develop, and implement accessible and usable interfaces, and analyze applications for engaging the user.
4.1 Identify the components of a user interface.
4.4 Apply user interface design criteria to critique common user interfaces (mobile phones, tablets, remote controls, and microwave ovens).
4.6 Write a program that involves the design and development of multiple programs utilizing the software development practices.

Making Apps Interactive

IT-PGAS-3
Design and develop applications using objects.
3.2 Design real-life applications with objects interacting with one another.
3.3 Develop programs with multiple events and objects solving problems.

IT-PGA
Design and develop, and implement accessible and usable interfaces, and analyze applications for engaging the user.
4.6 Write a program that involves the design and development of multiple programs utilizing the software development practices.
Media and Real World Data

IT-PGA-5
Use and implement different digital representations of media
5.1 Explain the relative strengths and weaknesses of different representations of images.
5.2 Explain the relative strengths and weaknesses of different representations of sounds captured from the real world.
5.5 Research and create tools and techniques to manipulate media at different levels of abstraction.

IT-PGA-6
Evaluate an application design in terms of meeting privacy needs, legal and intellectual property requirements and security considerations.
6.1 Understand privacy needs in the development of application software.
6.2 Explain how security considerations play a part in software development

IT-PGA-7
Develop applications that read real-world data from sensors, interpret the data and respond to the real-world stimuli.
7.2 Develop a program that will interpret and react to real-world stimuli.
7.3 Use real-world data and use computational thinking practices while manipulating data.

Apps in Society

IT-PGA-6
Evaluate an application design in terms of meeting privacy needs, legal and intellectual property requirements and security considerations.
6.3 Evaluate how intellectual property plays into the development of applications.

IT-PGA-8
Describe the unique needs for information and communication technologies for diverse audiences.
8.1 Understand the need for designing software that is intuitive and user-friendly.
8.2 Conduct usability tests that help identify needs of the user based on their backgrounds, needs, and experiences.
8.3 Identify and analyze software applications designed for users with disabilities.
8.4 Analyze appropriate software that will engage students from diverse backgrounds and segment of society.

Tomorrow’s Leaders: FBLA

IT-PGA-9
Explore how related student organizations are integral parts of career and technology education courses through leadership development, school and community service projects, entrepreneurship development, and competitive events.
9.1 Explore the goals, mission and objectives of Future Business Leaders of America.
9.2 Explore the impact and opportunities a student organization (FBLA) can develop to bring business and education together in a positive working relationship through innovative leadership and career development programs.
9.3 Explore the local, state, and national opportunities available to students through participation in related student organization (FBLA) including but not limited to conferences, competitions, community service, philanthropy, and other FBLA activities.
9.4 Explain how participation in career and technology education student organizations can promote lifelong responsibility for community service and professional development.
9.5 Explore the competitive events related to the content of this course and the required competencies, skills, and knowledge for each related event for individual, team, and chapter competitions.
CTAE-FS-3 - Communications: Learners use various communication skills in expressing and interpreting information.

CTAE-FS-4 - Problem Solving and Critical Thinking: Learners define and solve problems, and use problem-solving and improvement methods and tools.

CTAE-FS-5 - Information Technology Applications: Learners use multiple information technology devices to access, organize, process, transmit, and communicate information.

CTAE-FS-8 - Leadership and Teamwork: Learners apply leadership and teamwork skills in collaborating with others to accomplish organizational goals and objectives.