Department of Teaching & Learning
Parent/Student Course Information

Advanced Technology Center Program
Game Character Design and Animation
(AT 6645)
Grades 9 - 12
Three Credit, One Year

Counselors are available to assist parents and students with course selections and career planning. Parents may arrange to meet with the counselor by calling the school's guidance department.

COURSE DESCRIPTION
The courses in engineering and technology provide opportunities for students to acquire skills and knowledge necessary for technological literacy, entry-level careers, and lifelong learning. Students learn Virginia's 22 Workplace Readiness Skills within the content area. Those who are completing a two-year sequence, have the opportunity to verify their knowledge of the workplace readiness skills through an industry assessment.
This course is a double blocked, yearlong, three credit optional course for The Advanced Technology Center. In this course you will learn to design your own 3D characters, give them physical characteristics, provide custom clothing and props, animate them, and import them into scenes. Students will design an environment for their characters and explore the use of game engines. Students will explore professions like 3D Modeler, Rigging Artist, Animator, Texture Artist, Lighting Artist and Renderer. Qualified students will be encouraged to take the 3D Studio Max certification.

PREREQUISITE
None

CERTIFICATION
Students successfully completing this Advanced Technology Center Program of Study will be prepared for the Autodesk 3D Studio industry credential.

STUDENT ORGANIZATION
Technology Student Association (TSA) is a co-curricular organization for all students enrolled in engineering and technology courses. Students are encouraged to be active members of their youth organization to develop leadership and teamwork skills and to receive recognition for their participation in local, regional, state and national activities. Participation in Skills USA may also be offered.

OPTIONS FOR NEXT COURSE
3D Modeling and Simulation
Enrollment for the next Technical and Career Education course should be based on student performance, teacher recommendation, and parent input.

REQUIRED STUDENT TEXTBOOK
None

COMPETENCIES FOR GAME CHARACTER DESIGN AND ANIMATION

Demonstrating Workplace Readiness Skills: Personal Qualities and Abilities
1   Demonstrate creativity and innovation.
2   Demonstrate critical thinking and problem solving.
3   Demonstrate initiative and self-direction.
4   Demonstrate integrity.
5   Demonstrate work ethic.

Demonstrating Workplace Readiness Skills: Interpersonal Skills
6   Demonstrate conflict-resolution skills.
7   Demonstrate listening and speaking skills.
8   Demonstrate respect for diversity.
9   Demonstrate customer service skills.
10   Collaborate with team members.

Demonstrating Workplace Readiness Skills: Professional Competencies
11   Demonstrate big-picture thinking.
12   Demonstrate career- and life-management skills.
13   Demonstrate continuous learning and adaptability.
14   Manage time and resources.
15   Demonstrate information-literacy skills.
16   Demonstrate an understanding of information security.
17   Maintain working knowledge of current information-technology (IT) systems.
18   Demonstrate proficiency with technologies, tools, and machines common to a specific occupation.
19   Apply mathematical skills to job-specific tasks.
20   Demonstrate professionalism.
21   Demonstrate reading and writing skills.
22   Demonstrate workplace safety

Examining All Aspects of an Industry
23   Examine aspects of planning within an industry/organization.
24   Examine aspects of management within an industry/organization.
25   Examine aspects of financial responsibility within an industry/organization.
26   Examine technical and production skills required of workers within an industry/organization.
27   Examine principles of technology that underlie an industry/organization.
28   Examine labor issues related to an industry/organization.
29   Examine community issues related to an industry/organization.
30   Examine health, safety and environmental issues related to an industry/organization.

Addressing Elements of Student Life
31   Identify the purposes and goals of the student organization.
32   Explain the benefits and responsibilities of membership in the student organization as a student and in professional/civic organizations as an adult.
33   Demonstrate leadership skills through participation in student organization activities, such as meetings, programs and projects.

34   Identify Internet safety issues and procedures for complying with acceptable use standards.

Exploring Work-Based Learning
35   Identify the types of work-based learning (WBL) opportunities.
36   Reflect on lessons learned during the WBL experience.
37   Explore career opportunities related to the WBL experience.
38   Participate in a WBL experience, when appropriate.

Introducing Digital Visualization
39   Explain digital visualization.
40   Create a multimedia portfolio of examples of student's digital visualization work.
41   Analyze legal and ethical considerations related to digital visualization.

Exploring Fundamentals of Graphics
42   Compare raster and vector images.
43   Explain standard file-naming conventions.
44   Create an image.
45   Edit an image, using image-editing software.
46   Describe the design process.
47   Explain the elements of design.
48   Analyze the principles of design.

Exploring Computer Animation
49   Describe computer input devices.
50   Outline the evolution of animation technology.
51   Examine the mutual influence between animation and society.
52   Analyze fundamental principles of animation.
53   Explore careers related to computer animation.

Exploring Storyboards
54   Explain the storyboard.
55   Analyze an existing storyboard.
56   Create a storyboard.

Exploring Computer Modeling
57   Describe the computer-modeling process.
58   Create computer models of basic 3D forms.
59   Modify basic computer-generated 3D forms.

Creating Computer Animation
60   Analyze an existing animation.
61   Create an animation of a graphic image.
62   Create an animated product for the purpose of informing.
63   Create an animated product for the purpose of instructing.
64   Create an animated product for the purpose of persuading.
65   Create an animated product for the purpose of entertaining.

Exploring Interactive Animation
66   Explain interactive animation.
67   Create an interactive animation.

Notice of Non-Discrimination Policy

Virginia Beach City Public Schools does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation/gender identity, pregnancy, childbirth or related medical condition, disability, marital status, age, genetic information or veteran status in its programs, activities, employment, or enrollment, and provides equal access to the Boy Scouts and other designated youth groups. School Board policies and regulations (including, but not limited to, Policies 2-33, 4-4, 5-7, 5-19, 5-20, 5-44, 6-33, 6-7, 7-48, 7-49, 7-57 and Regulations 4-4.1, 4-4.2, 5-44.1, 7-11.1, 7-17.1 and 7-57.1) provide equal access to courses, programs, enrollment, counseling services, physical education and athletic, vocational education, instructional materials, extracurricular activities and employment.

Title IX Notice: Complaints or concerns regarding discrimination on the basis of sex or sexual harassment should be addressed to the Title IX Coordinator, at the VBCPS Office of Student Leadership, 641 Carriage Hill Road, Suite 200, Virginia Beach, 23452, (757) 263-2020, Mary.Dees@vbschools.com (student complaints) or the VBCPS Department of School Leadership, 2512 George Mason Drive, Municipal Center, Building 6, Virginia Beach, Virginia, 23456 (757) 263-1088, Elizabeth.Bryant@vbschools.com (employee complaints). Additional information regarding Virginia Beach City Public Schools' policies regarding discrimination on the basis of sex and sexual harassment, as well as the procedures for filing a formal complaint and related grievance processes, can be found in School Board Policy 5-44 and School Board Regulations 5-44.1 (students), School Board Policy 4-4 and School Board Regulation 4-4.3 (employees), and on the School Division's website at Diversity, Equity and Inclusion/Title IX. Concerns about the application of Section 504 of the Rehabilitation Act should be addressed to the Section 504 Coordinator/Executive Director of Student Support Services at (757) 263-1980, 2512 George Mason Drive, Virginia Beach, Virginia, 23456 or the Section 504 Coordinator at the student's school. For students who are eligible or suspected of being eligible for special education or related services under IDEA, please contact the Office of Programs for Exceptional Children at (757) 263-2400, Plaza Annex/Family and Community Engagement Center, 641 Carriage Hill Road, Suite 200, Virginia Beach, VA 23452.

The School Division is committed to providing educational environments that are free of discrimination, harassment, and bullying. Students, staff, parents/guardians who have concerns about discrimination, harassment, or bullying should contact the school administration at their school. Promptly reporting concerns will allow the school to take appropriate actions to investigate and resolve issues. School Board Policy 5-7 addresses non-discrimination and anti-harassment, Policy 5-44 addresses sexual harassment and discrimination based on sex or gender. Policy 5-36 and its supporting regulations address other forms of harassment.

Alternative formats of this publication which may include taped, Braille, or large print materials are available upon request for individuals with disabilities. Call or write The Department of Teaching and Learning, Virginia Beach City Public Schools, 2512 George Mason Drive, P.O. Box 6038, Virginia Beach, VA 23456-0038. Telephone 263-1070 (voice); fax 263-1424; 263-1240 (TDD) or email at Charles.Hurd@vbschools.com.

vbschools.com
your virtual link to Hampton Roads' largest school system

No part of this publication may be produced or shared in any form without giving specific credit to Virginia Beach City Public Schools.

August 2021