Calgary Board of Education

Henry Wise Wood Course Outline
Architecture and 3D Modeling 10/20/30 (5 credits)

Ms. Groat
jrgroat@cbe.ab.ca
Ms. Young
ssyoung@cbe.ab.ca

Prerequisites

3d Architecture 10 - None

3d Architecture 20 - Completed modules from 10 level pathway

3d Architecture 30 - Completed modules from 20 level pathway

Learning Outcomes

Students begin in Architecture and 3D Modeling 10 learning the basics of design, from creating conceptual drawings to complex CAD (computer assisted design) projects. Students will work on 2D and 3D projects and will have the opportunity to use our 3D printer. At the 20 and 30 level, students can choose to focus their semester on 3D design, architecture, or both.

Course Content

Students will complete a combination of courses from the list below to achieve 5 credits. Each course below is awarded 1 credit upon receiving a passing grade. It is possible for students to complete less than 5 credits, however this impacts their ability to move forward if the pre-requisites are not completed.

10 level pathway	20 level pathway	30 level pathway
DES1030: 2-D DESIGN 1 Students develop skills and techniques for 2-D design by using tools, materials and processes common to 2-D design to complete a variety of project activities. DES1040: 3-D DESIGN 1 Students develop skills and techniques for 3-D design by using tools, materials and processes common to 3-D design to complete a variety of project activities DES1050: CAD 1 Students develop basic knowledge and skills in computer-aided design (CAD).	DES2035: 2-D DESIGN 2 Students continue to develop skills and techniques for 2-D design by using tools, materials and processes common to 2-D design to complete a variety of project activities. DES2045: 3-D DESIGN 2 Students continue to develop skills and techniques for 3-D design by using tools, materials and processes common to 3-D design to complete a variety of project activities. DES2055: CAD 2 Students develop intermediate knowledge and skills in computer-aided design (CAD). DES2065: TECHNICAL DESIGN 2 Students refine skills and techniques to	DES3035: 2-D DESIGN 3 Students resolve complex 2-D design problems.Exploring composition while addressing social responsibility and environmental stewardship. DES3045: 3-D DESIGN 3 Students apply theories, skills and techniques appropriate to 3-D design. Explore shaping, massing, proportion, scale, contrast, colour, texture and finish. Students are introduced to cultural, symbolic and human factors. DES3055: CAD 3 Students solve design problem(s) using advanced computer-aided design (CAD) methods, advanced commands, 2-D and/or 3-D

Ms. Groat
jrgroat@cbe.ab.ca
Ms. Young
ssyoung@cbe.ab.ca

DES1060: TECHNICAL DESIGN & DRAFTING 1 Students develop basic knowledge, skills and techniques to draft drawings for visualizing and illustrating simple design problems. DES1020: THE DESIGN PROCESS Students develop an understanding of design problems through research and select, generate and evaluate possible solutions.	present appropriate drawings and/or model(s) for visualizing and illustrating solutions to design problems. DES2075: TECHNICAL DRAFTING 2 Students produce technical drawings from sketches and apply industry standards, conventions and terminology associated with technical drawing creation.	modelling techniques, rendering, shading, and animation techniques. DES3065: TECHNICAL DESIGN 3 Students concentrate on various drawing and drafting types to illustrate design concepts and solutions, including freehand drawings, illustrative views, perspective drawings, axonometric drawings and surface developments DES3075: TECHNICAL DRAFTING 3 Students use drawing conventions and procedures to draw with and manipulate manual drafting equipment and/or CAD. Students draw orthographic, sectioned view, auxiliary view and axonometric drawings.

Instructional Approach

Class Structure:

The structure of this class is condensed in timeframe. It is essential that you remain focused on the goal of consistent attendance, commitment to coursework and attention towards project deadlines. We will be having many discussions throughout the semester that enrich projects and provide important details for lessons and activities. If you miss a class, be prepared to have to make up some work, and most importantly, have a discussion with your instructor. Class participation is important. This does not mean you have to speak up in every class, but make it a goal to contribute in some way that is meaningful to you.

Work Submission:

All assignments will be given a due date that will be discussed in class. In the event you miss the class where this is discussed, it becomes your responsibility to make sure you've asked the instructor and clarified the deadline expectations. If an assignment is not submitted, the instructor may be left with no choice but to assign an incomplete in PowerSchool. Late assignments may be accepted depending on individual circumstances and will always require having a discussion with the instructor. Parent/Guardian involvement at that point may be required.

Ms. Groat
jrgroat@cbe.ab.ca
Ms. Young
ssyoung@cbe.ab.ca

Course Materials and Resources

Students are expected to provide their own headphones or earbuds for listening to video tutorials.
Students are required to provide their own notebook for the design portion of the class.
With respect to 3D printing, students wishing to print items exceeding the project print maximum, or print non-course related items may do so at a fee covering the cost of the plastic used.

Lynda.com

In addition, throughout the program students will be provided resources they may choose to use on Lynda.com. In order to use these tools, students must sign up for Lynda.com through the Calgary Public Library Free Access. This requires students to have a Calgary Public Library card, and have knowledge of their barcode and pin for their account. For more information about the use of this information, please contact Ms. Groat.

TinkerCAD

Another tool that students will be required to use is AutoDesk's TinkerCAD tool. In order to use this tool, students must sign up for an account using their school email address and name. For more information about the use of this information, please contact Ms. Groat.

Achievement: Assessment and Evaluation

Determining student achievement requires thoughtful gathering and consideration of evidence of student learning. A varied body of assessment evidence provides information about the learner's strengths and areas for growth against well-understood learning outcomes from Programs of Study and/or Individual Program Plans.

Teachers may assess individual assignments, projects, performance tasks, observations, conversations, culminating activities, quizzes, and tests as part of a body of assessment evidence. A variety of assessment methods will be used, as appropriate to specific learning tasks. Teachers will use professional judgment to evaluate a body of assessment evidence. Determining achievement requires accuracy, fairness, consistency, and recency, creating flexible approaches for task completion.

Teachers develop materials that are taught and assessed in the classroom. Attendance is key to success in high school. When students are absent, it is challenging to assess students on aspects of classroom assignments that are designed to occur during class time.

Ms. Groat
jrgroat@cbe.ab.ca
Ms. Young
ssyoung@cbe.ab.ca

Mark Breakdown

The Calgary Board of Education has implemented a new Student Information System called PowerSchool. Teachers are continuing to determine the best manner in which to communicate assessment and evaluation**.** Mark updates will continue to be accessed through PowerSchool.

As this is a Career and Technology Studies(CTS) course, all curricular outcomes will be drawn from the Alberta CTS Program(s) of Studies

Outcomes – 80%

Students taking 3d Model for the first time will be working toward the Introductory set of credits.

These are the credits that may be offered in the course and they may change due to duplicate CTS credits in other courses.

Competencies – 20%

Competency	Descriptor
Information Management	·Students demonstrate this competency when they identify and clarify clear criteria for problems, explore a variety of problem solving techniques, and then select and defend the most viable option.
Personal Management	·Students demonstrate this competency when they take personal responsibility for their habits and wellbeing. This includes career skills like punctuality and professionalism as well as striving for personal excellence.
Communication and Collaboration	·Students demonstrate this competency when they communicate clearly and effectively with a wide variety of audiences and peers. It also includes the effective use of communication technologies and the application of strategies to be an effective collaborator in a group.
Innovation and Creativity	·Students demonstrate this competency when they take risks when exploring a variety of creative processes. They also adapt and persevere when exploring ways to create value and achieve excellence.
Complex Problem Solving	·Students demonstrate this competency when they draw on multiple perspectives, disciplines and resources to select the most viable solution. They also approach all problems with optimism and hope.

Ms. Groat
jrgroat@cbe.ab.ca
Ms. Young
ssyoung@cbe.ab.ca

Feedback and On-line Mark Updates (PowerSchool)

Parents and students are encouraged to access PowerSchool can also contact their teacher to discuss achievement throughout the course.

Plagiarism and Cheating

Plagiarism and cheating are serious offences. Students who use others' words or ideas or images must cite proper references, or they commit plagiarism. This also includes any student work aided by tutors, parents/guardians, peers, or any form of assistance where the student's ideas or wording are no longer authentically their own. Any work individual or collaborative-submitted for assessment must be representative of student's understanding and ability. Consequences for plagiarism may, include but are not limited to the following: school suspension, a zero on that particular assessment (but students may be given a reassessment opportunity for the same outcomes), or removal from the course. Students involved in plagiarism or cheating will receive a zero for that body of work. The student/parent will need to have a conversation with the teacher regarding the body of work to formulate an appropriate plan of action. For details, please review the Student Handbook, which is available on our website.

Turnitin is a software program that determines the authenticity of student work. Students may be required to submit written work through Turnitin as a requirement for some courses. Turnitin will help teachers determine students' current level of understanding and writing skills within a course.

Appeal Process

Self-advocacy is an important skill encouraged by the English Department. Students should take ownership of their needs as learners and engage in appropriate and effective communication with their teachers regarding all aspects of their classroom experience. There is a process to follow when classroom practice or assessment falls into question.

- Students first speak to their teacher about concerns
- If unresolved, parents/students may approach their teacher
- If no resolution is made, the Learning Leader will be involved
- In the unusual event that no resolution is made administration will be involved

Supports

- *Wise Time*: Extra help is available Mon/Tues 11:41-12:02 pm, Wed/Thurs 1:48-2:09pm. Wise Time serves as an opportunity to work directly with your teacher for personalized support. This is instructional time where students are expected to be engaged in learning.
- *Test Center*: Monday-Thursday 3:45-5:05 pm , room 310
- *Resource Center:* Room 103
- *Flexible Learning Time:* Jan/June

Ms. Groat
jrgroat@cbe.ab.ca
Ms. Young
ssyoung@cbe.ab.ca

Please review the Student Handbook posted on our website for further information regarding plagiarism, cheating, appeals, and supports.

Contacting Teacher(s)

If at any point during the semester you need to speak to your son or daughters' teachers please follow the following process to contact them:

1. E-mail the teacher – teacher e-mails are available on the Henry Wise Wood School Website – www.henrywisewood.com
2. In the e-mail, please provide information as to what is your question(s)/concern(s) – the more detail the better.
3. If the question or concern cannot be resolved via e-mail, the teacher will call you. Also, feel free to contact the teacher via phone if email is unavailable.
4. Include the BEST phone number that you would like the teacher to contact you (likely a cell phone) and a time(s) when you are available to speak to the teacher.
5. Teachers will address all inquiries as soon as possible.