Argyle Secondary School
Drafting & Design 12A Course Outline

https://curriculum.gov.bc.ca/curriculum/adst/12/drafting

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Course Description

Drafting and Design 12 Architectural Drafting at Argyle is an advanced course that builds on skills learned in Drafting and Design 11.Students will build a portfolio of work including drawings from the architectural and mechanical drafting disciplines. They will use CAD software, traditional hand drawing and modeling techniques. With the support from the teacher, students will work on self-directed projects. Topics Covered: drafting fundamentals, tools and equipment, application of computer technology CAD, personal and interpersonal management, mathematical applications, ethics, careers and Education.

The Drafting and Design program at Argyle Secondary in general is focused upon having students engage and explore drafting and design specific to the Architectural and Mechanical disciplines. The goal of the Drafting and Design program is to impart respect, awareness, and theoretical knowledge of the various tools, materials and techniques specific to this subject. Active participation in the development of specific skill sets will enable students to gain confidence, understanding, and achieve success in the Drafting and Design program.

BIG IDEAS

Design for the life cycle includes consideration of social and **environmental impacts**.	Personal design interests require the evaluation and refinement of skills.	Tools and technologies can be adapted for specific purposes.

Learning Standards

Curricular Competencies	Content
Students are expected to be able to do the following: **Applied Design** ***Understanding context*** • Engage in a period of **user-centred research** and **empathetic observation** to understand design opportunities ***Defining*** • Establish a point of view for a chosen design opportunity • Identify potential users, intended impact, and possible unintended negative consequences • Make decisions about premises and **constraints** that	*Students are expected to know the following:* • complex drafting design projects • interrelationships among **complex drawings** • preparation of **detailed drawings** • **components** of working drawings • computer-aided

define the design space and develop criteria for success

- Determine whether activity is collaborative or self-directed

Ideating

- Critically analyze how competing social, ethical, and sustainability considerations impact design
- Generate ideas and add to others' ideas to create possibilities, and prioritize them for prototyping
- Evaluate suitability of possibilities according to success criteria, constraints, and potential gaps
- Work with users throughout the design process

Prototyping

- Choose an appropriate form, scale, and level of detail for prototyping, and plan procedures
- Analyze the design for the life cycle and evaluate its **impacts**
- Visualize and construct prototypes, making changes to tools, materials, and procedures as needed
- Record **iterations** of prototyping

design (CAD) programs and other graphic **software management**

- modifying existing geometrical design using CAD software
- 3D modelling using advanced modelling techniques
- file conversion between CAD and other applications
- areas of drafting **specialization**
- **design for the life cycle**
- future career options in drafting design
- **interpersonal and consultation skills** to interact with clients
- ethics of **cultural appropriation** and plagiarism

Curricular Competencies

Testing

- Identify and communicate with **sources of feedback**
- Develop an appropriate test of the prototype, conduct the test, and collect and compile data
- Evaluate design according to critiques, testing results, and success criteria to make changes

Making

- Identify appropriate tools, **technologies**, materials, processes, cost implications, and time needed
- Create design, incorporating feedback from self, others, and testing prototypes
- Use materials in ways that minimize waste

Sharing

- Decide how and with whom to **share** or promote design, creativity, and processes
- Share the product with users and critically evaluate its success
- Critically reflect on their design thinking and processes, and identify new design goals
- Identify and analyze new design possibilities, including how they or others might build on their concept

Applied Skills

- Apply safety procedures for themselves, co-workers, and users in both physical and digital environments
- Identify and assess skills needed for design interests, and develop specific plans to learn or refine them over time
- Demonstrate competency and proficiency in skills at various levels involving manual dexterity

and complex drafting techniques

Applied Technologies

- Explore existing, new, and emerging tools, technologies, and systems to evaluate suitability for their design interests
- Evaluate impacts, including unintended negative consequences, of choices made about technology use
- Examine and analyze the role that changing technologies play in drafting contexts

2020 Scope and Sequence:

1. Introduction to Drafting and Design and Sketch up
2. Basic Residential Planning
3. Light Construction Principles
4. Typical Architectural details
5. Working Drawings of Small Homes
6. Residential Mechanical and Electrical Systems
7. Freehand Sketching
8. Presentation Drawings and Renderings.
9. Building Models
10. Careers in Construction

Assessment & Evaluation Breakdown

Through individual and class discussions students will have the opportunity to discuss their own progress and work daily.
Individual requirements for each assignment will be outlined at the beginning of each project, including the criteria for evaluation that is in the format of a rubric.
You will be asked to hand in your projects and theory work during the term on specific dates. Marks will be deducted for late submissions (30%)

The following allocation will be used to calculate term marks:

Class Projects (practical)	80%
Theory work. (MS TEAMS)	20%

Resource Materials and Equipment Required

Students will be supplied with all materials and literature necessary for course participation. A respect for equipment and supplies within the classroom is demanded and will be diligently enforced.

Extra Help/ Tutorials

Students will be encouraged to use tutorial times provided for extra instruction and or practice and learning.

Expectations

It is imperative that students conduct themselves in a mature manor that reflects respect toward the class environment, members of the class and themselves.

It is expected that students:

- Attend each class and be on time
- Bring their personal supplies to each class
- Ensure projects are completed and submitted on time
- Ensure their notes and assignments are neat, organized, and up to date
- Respect the materials and equipment of the department
- Be respectful of other's personal space and equipment
- Use class time productively and safely
- Participate in classroom organization and clean-up on a continual bases
- Be open to new ideas, share your ideas and opinions while respecting those of others

Please refer to the Student Agenda for additional information pertaining to student conduct.