Architectural Design 1 & 2

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Architectural Design
The Architectural Design program prepares students to perform entry-level tasks under the supervision and guidance of architects and/or architectural engineers in the development and preparation of plans for residential and/or commercial buildings. Instruction is given in design technology and techniques, computer-aided design, zoning laws, building codes, cost planning, material requirements, styling, and client preferences. Upon successful completion of the architectural design program, students will be prepared for postsecondary education and entry-level architectural-related careers.

Course Description:
Architectural Design teaches the fundamentals of Computer Aided Design (CAD) as well as basic architectural design techniques and principles. Students will also learn basic construction techniques and building materials to assist in their ability to create sustainable designs in architecture. This course prepares pre-engineering majors as CAD operators and is offered in engineering, packaging science, and graphic communications at colleges and universities. This course is important because Engineering Graphics is vital for the inception, development and communication of ideas related to technology, industry, and scientific development.

In Architectural Design, students will be taking notes, receive handouts, and working on practice drawings that will be inserted into a 3-ring binder. Students must keep notebooks organized by unit numbers so that they will be able to locate information quickly and easily. Journals will be provided for each class and must be kept up to date with notes and information about class work.

The course of study includes:

- Design Process
- Basic foundation in both 2D and 3D
- Career Research in the design field
- Freehand sketching
- Building and site layouts
- AutoCAD setup
- Geometric construction
- AutoCAD draw/edit
- Construction practices and materials
- Construction documentation
- CAD station computer components
- Autodesk
- Marketing
- Graphic Design
- Engineering Ethics
- Virtual Design Teams

Required Supplies:

- Engineering Notebook (Composition Notebook)
- Three ring binder (at least 1 ½")
- Mechanical Pencils (0.5 and 0.7)
- Flash Drive (at least 4GB)
- Filler paper.
- Plenty of graph paper

Computer Hardware/Software use

- The computers are the property of the school district and are intended for student instruction, not personal use.
- Students will be assigned a computer and be responsible for its use during the class period.
- Treat computers with care and respect. They are for **your** use.
- Report any problems to teacher if/when they arise.
- Do not shut down a computer unless instructed by teacher to do so.
- Do not misuse computer hardware and software such as sending out unauthorized messages, vandalizing equipment, altering a software program, playing games, plagiarism, etc.
- Do not download **anything** to a school computer (games, programs, etc.).
- Use the Internet for appropriate school related activity.
- Do not change desktop screen.

Classroom Expectations:

Positive Behavioral Interventions and Support, or PBIS enhances the capacity of schools, families, and communities to design effective environments where teaching and learning occur. The broad goal of PBIS is to improve personal, social, and community-based choices:

- **BE SAFE**
- **BE RESPONSIBLE**
- **BE RESPECTFUL**

- Students are to be in class before the tardy bell rings.
- Students are to be prepared each day with the necessary materials.
- Students are to be attentive, involved and organized in class.
- Drawing assignments and notes MUST be done in pencil (0.5).
- Do not converse without permission.
- Treat everyone with consideration and respect. Disruptive behavior will not be tolerated.
- Students will not leave the class without teacher permission.
- Safety rules are to be followed at all times.
- **No food or drink during class**.

Students are to follow ALL school rules as outlined in the student handbook in your agenda books.

Tardy Policy: Students must be **IN** the classroom before the tardy bell rings. Only an administrator or I may excuse you from class, NO EXCEPTIONS!

Discipline Policy:

Disciplinary rules are outlined in the student handbook. Students will be verbally warned the first time that a rule is broken. The parent(s) will be called if the behavior persists. A referral will be written as a last resort or for any major infraction.

Grading:

Your assignments will be given a point total based on pre-assigned rubrics. These rubrics will be provided at the start of most projects and expectations for work will be established.

Final Grade:

Your final grade will be calculated as follows:

Semester 1:	1st Quarter 50%	2nd Quarter 50%	
Semester 2:	3rd Quarter 50%	4th Quarter 50%	
Course Grade:	Semester1 40%	Semester2 40%	EOC Exam 20%

State Standards:

UNIT A: PERFORMING WORK SAFETY PRACTICES

1. Apply safety policies and procedures.
2. Maintain a clean, orderly, safe work area.
3. Operate a fire extinguisher.

UNIT B: DEMONSTRATING FREEHAND SKETCHING SKILLS

1. Sketch straight lines.
2. Sketch circles and arcs.
3. Sketch curved lines.
4. Sketch multi-view drawings.
5. Sketch pictorial drawings.
6. Draw freehand technical lettering.
7. Indicate overall dimensions.

UNIT C: DEMONSTRATING BASIC DESIGN TECHNIQUES (STANDARD AND METRIC)

1. Select proper drawing equipment to complement the design media.
2. Measure using standard scales/measuring devices.
3. Draw straight lines and angles.
4. Draw circles and arcs.
5. Draw irregular curved lines.
6. Demonstrate proper use, care, and adjustment of design equipment.
7. Draw line symbols using alphabet of lines.
8. Draw geometric figures using straight and curved lines.
9. Draw borderlines and title block.
10. Perform drawing setup to applicable standards (e.g., setting layers, line type, and width).
11. Identify and use view and display commands (e.g., zoom, pan, viewports, and rotation).
12. Format, enter, and edit text on a drawing.
13. Edit, copy, and manipulate drawing entities (e.g., properties, stretch, trimming, and scaling).

UNIT D: DEMONSTRATING PRELIMINARY FREEHAND LAYOUT SKILLS

1. Sketch preliminary floor plans.
2. Sketch preliminary elevation views.
3. Sketch preliminary sections.
4. Hand-letter drawings (letters and numbers).

UNIT E: DEMONSTRATING ARCHITECTURAL DESIGN SKILLS

1. Draw floor plans.
2. Draw foundation plans.
3. Set and control dimensioning styles.
4. Dimension various types of architectural plans and details.
5. Prepare a window, door, and finish schedule.
6. Draw exterior elevations.
7. Draw interior elevations.
8. Draw roof plans.
9. Draw related architectural plans (e.g., mechanical, electrical, or civil).
10. Draw foundation sections.

11. Draw floor sections.
12. Draw wall sections.
13. Draw stair sections.
14. Dimension section drawings.
15. Locate section views on drawings.
16. Create a site plan.
17. Apply standard building codes to architectural plans.
18. Prepare presentation drawings.

UNIT F: COMPUTER LITERACY

Hardware

1. Identify hardware components of a CAD computer system.

Operating System

2. Format disks and copy, delete, rename, save, and back up files and folders.
3. Identify, create, and use folders and directory structures.
4. Identify various file formats (e.g., .wmf, .bmp, and .jpeg).
5. Import and export data files between formats (e.g., IGES and DXF).
6. Use software help features.

UNIT G: DEMONSTRATING CAD-SPECIFIC SKILLS

1. Use the graphical user interface.
2. Create, retrieve, edit, and use symbol libraries.
3. Use inquiry commands to extract drawing data (list distance and area).
4. Control entity properties.
5. Plot/Print drawing to appropriate scale.

UNIT H: DEMONSTRATING BASIC SKILLS TO PRODUCE 3-D DRAWINGS

1. Create 3-D architectural drawings.
2. Create 3-D architectural renderings.

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2012-2013

I have read the syllabus and understand what is required in this class.

Student's Name: (print clearly) _____

Student's Signature: _____Date:_____

Parents' Names: (print clearly): _____

_____

Parents' Signatures: _____Date:_____

_____Date:_____

Daytime Phone#: _____ Evening Phone#: _____

Parents' Email Addresses: _____

_____

Student's Email Address: _____

This information may also be completed and emailed to Coach Robinson. Please print, fill in information, sign, and scan in original document to be emailed. Only the signature page is needed. Thank you and I look forward to a great school year.