JOHN F. KENNEDY HIGH SCHOOL
COURSE SYLLABUS
CAREER & TECHNICAL
EDUCATION 2023-24

Architectural Design, 10 UNITS/Full Year (A-G UC Fine Art)

General Information

Dave Indreland, Teacher
Room E-6
Phone: 916.395.5090 x 506506
Email: david-indreland@scusd.edu

General Overview

This course introduces the design process to students through completion of projects in the areas of architecture and product manufacturing. The use and understanding of the computer and software as design tools will also be stressed. Being able to express oneself visually and having an understanding of design and graphics are part of the basis for architecture and engineering. Understanding how to use the computer with OnShape and AutoCAD software, interfacing their designs with CNC machines, 3-D printers, laser cutting/engraving machines, and various hand tools to produce finished products are skills now demanded at the professional level. Through instruction in the areas of sketching, drafting, computer graphics, prototyping, and the principles and elements of design, the student learns to develop and understand not only the scientific theory and facts within the engineering, manufacturing and architectural fields, but also the aesthetic and artistic views of a designer.

Textbooks and Required Reading

Tran, Paul. *SolidWorks/ 2012 Part 1 & 2-Basic Tools & Advanced Techniques*
Schroff Development Corporation Publications, 2012
Various articles from trade magazines, newspapers, and periodicals

Course Objective

Students will be able think through the design process and apply knowledge of current technology software and manufacturing machines to produce their finished designs in a safe and ethical manner.

Attendance

Class attendance is extremely important in this class as we are working with hardware and software available only in our room. Given these time constraints and very little homework, I expect bell to bell effort to accomplish our work. If you are absent, classwork may be made up and you are responsible to get assignment, complete it, and turn it in to your drop box.

Portfolio

Students are required to keep a current portfolio (graded) for this class. Students will individually maintain a separate folder to be kept in class. The Portfolio must be organized and kept up-to-date weekly. Portfolios will be checked and graded on a regular basis. The portfolio will be handed in at the end of the semester for a final grade. All portfolios not handed in will receive an INC (Incomplete) for a final grade for the class.

Evaluations and Expectations

Students will be evaluated on current topics, projects, tests, quizzes, homework, lab work, performance (LAB) testing and their individual portfolio. Students are expected to turn in first-class work. Other expectations include: *NO late work* accepted for full credit without prior approval; being on-time to class/labs; and all assignments must be original work.

Grading Policy

A=100-90
B=89-80
C=79-70
D=69-60
F=59-0

Daily In-class Procedures

- Take off your hats and hoods, turn off your cell phone, and put it away. If I hear or see your cell phone during class it will be taken and given to the VP.
- Find instructions and daily objective as to what equipment you will need (drafting tools, computer, etc.).
- At the end of class, make sure all materials are returned to the correct place and that your area is clean. I will dismiss you, not the bell.
- No food or drinks in class. We have a water fountain in class. Water and electronics ***do not*** mix.

Electronic Devices and Dress Code:

The JFK Administration and student handbook policy on electronics will be followed and reads:

> *"Cell phones and all other electronic devices must be turned off and out of sight during class time. Any student who violates this policy will have the phone or electronic device confiscated. First time offenders will be placed on an "electronics contract," and the device will be returned to the student after school. Subsequent confiscations however will require that a guardian pick up the device from the school."*

Also, dress that is unsafe in the lab environment may be addressed on a per case basis. (See Student Handbook)

Safety Misconduct:

Tools and machines will be used in this course, so safety infractions where students intentionally endanger themselves and/or others will be cause for removal from the course.

Students must pass a safety course in order to stay in the class.

Academic Misconduct/Integrity

Students found to be turning in work which is not their own or cheating (copying or plagiarizing), fabrication which is intentionally using or attempting to use unauthorized material/equipment resulting in falsification of any information or citation in an academic course including academic dishonesty to intentionally or knowingly helping or attempting to help another student to commit an act of academically dishonest behavior will receive a zero for that assignment and a parent contact will be made. Further acts of this nature may result in removal from the course.

Parents as Partners

Extra Help

When a student's grade falls below 70% they will be informed and urged to attend an intervention / collaboration time with a teacher. These will occur on Monday thru Friday after school between 3:20pm-4:30pm. Special times and days may be pre-arranged. Please contact me for any special considerations in the classroom/lab for your student.

Course Outline

Unit 1	Manufacturing, Architecture & Design History
Unit 2	Safety: Laboratory/Shop
Unit 3	Design Process
Unit 4	Measurement
Unit 5	Drawings, Orthographic Projections & Views
Unit 6	Laser Projects
Unit 8	3-D Modeling with OnShape
Unit 9	3-D printing/Laser Projects
Unit 10	CNC machining with Fusion 360 CAM software