

Green Architecture 7th Grade

Teacher: Mr. Beyerle					
Room #	2206	Phone #	864-452-0831	Email address	cbeyerle@greenville.k12.sc.us
Website Link	GTT Website	Google Classroom Link	classroom.google.com	Weekly Team Plan Link	RA Team Weekly Plans

Course Description:

[Link to state standards](#)

Students focus on the practice of architecture and sustainable development. Students explore residential building systems, residential construction and construction costs, site planning, and architectural documentation. They have the opportunity to design a small home using recycled shipping containers and use fundamental features of a 3-D architectural software to document their design.

General Objectives:

- Architectural Basics
 - Measurement, dimensioning, 3D modeling, cost of materials
- Sustainable Architecture
 - Green and sustainable buildings, principles of [LEED certification](#), recyclable materials
- Making an Impact
 - Building a physical model from construction plans, design a home using recycled shipping container, create in Autodesk Revit software.

Classroom Late Work and Redo/Retake Policies:

<u>Late Work Policy</u>	<u>Redo/Retake Policy</u>
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Classroom Guidelines and Expectations:

Be Safe, Be Ready, Be Respectful in GTT means: • Be respectful to others, yourself, & property around you. • Be a good listener, follow directions, & ready to learn • Be responsible & give your best • Be positive, kind, & helpful • Be encouraging to others • Be open to new ideas & have a growth mindset • Be curious & actively participate • Ask 3 peers before asking the teacher	Students are expected to follow NORMS established by class and Fisher Middle School. Norms typically connect with the ideas of Trust, Respect, and Responsibility. Defining these norms will be established at the start of the year by students in order to create an environment supportive of learning, creativity, and innovation. Students will also establish their own norms and goals within their team contracts. Students will be expected to adhere to the guidelines established by the team in order to achieve the best possible outcome for their project. Due to the openness of the space, students will need to practice mindfulness of others and are encouraged to use spaces that promote focus and concentration. Consequences for violating class norms: 1. Verbal Warning 2. Verbal Warning 3. Consequence & Parent Contact 4. Referral 5. Parent Conference
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Grades	Homework	Grading Scale	Planned Projects
50% Major (Projects/ Slide Documentation) 50% Minor (/Daily Work/Participation)	All work is required to be done in class. When time isn't utilized correctly, students may be asked to finish at home.	90-100 A 80-89 B 70-79 C 60-69 D	See example list of projects here from 2020-2021.

Tentative Course Outline

[Google Classroom](#)

3rd Quarter Lesson 1 Architectural Basics In Lesson 1 students learn standard practices related to architectural design including measurement, dimensioning, and interior design. They learn how to convert dimensions between feet-inch measurements and decimal representations. Commercial and residential structures are differentiated, and students use 3-D architectural software to create 3-D models to represent existing structures and new designs. They also learn to use an architectural scale and represent a building design at a small scale to document the design on a drawing. Students also apply the concepts of perimeter and area to find quantities of materials for a construction	4th Quarter Lesson 3 Making an Impact This lesson focuses on modeling architectural designs both physically, using balsa wood, and virtually, using 3-D architectural software. Students learn the basics of wood-framed residential construction by building a physical model of residential building components, such as a wall or roof, from construction plans. They also investigate the effectiveness of building insulation materials in reducing heat transfer. As a final project, students design a home using recycled shipping containers as the main structure, and document the design using 3-D architectural software. Students produce computer-generated architectural plans of their home design and make a five-minute presentation to a client.
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project and the related material costs. Features of environmentally friendly construction are presented and students are asked to remodel their bedroom using energy-efficient design Features.

Lesson 2 Introduction to Sustainable Architecture

In Lesson 2 students are introduced to features of green and sustainable building and development that include building construction, interior design, mechanical systems, and site design. The principles of Leadership in Energy and Environmental Design (LEED) and the related global certification program are presented. LEED certification is intended to promote development that saves resources and has a positive impact on the health of occupants while promoting renewable, clean energy. Students also investigate the use of recycled materials in building construction and site development. Based on their research, students create both a promotional product to encourage recycling related to green construction and a comic strip to promote conservation and sustainable human activity.

*This is a Spring semester course

Tentative Projects

**Students can expect to be involved in a project each week (approximately 3-4 days or 2-3 weeks depending).*

[See example list of projects here from 2020-2021](#)