Architecture 9: **Architecture Final Project** Name:

Your Client (Home Buyer)

- A famous athlete, his wife, and their two children ages 5 and 11
- Needs: Spaces to cook, eat, wash, relax, and sleep
- The family likes some green space where they can garden, play, or just enjoy the outdoors.
- Your client often has teammates over to visit, so he will need a large space to entertain guests.
- Your client's wife is a financial planner and she needs a study area when working from home.
- Your client will also need a space to train and work out.

Requirements for Final Project Design

Single Story House

Required Rooms
Kitchen
Dining Room
Living/Family Room
3 Bedrooms
2 Full Bathrooms
1 Half Bathroom

Required Spaces
A place to work from home
A place to train/work out

Required Closet Spaces
Pantry
Linen Closet
Front Coat Closet
Bedroom Closets

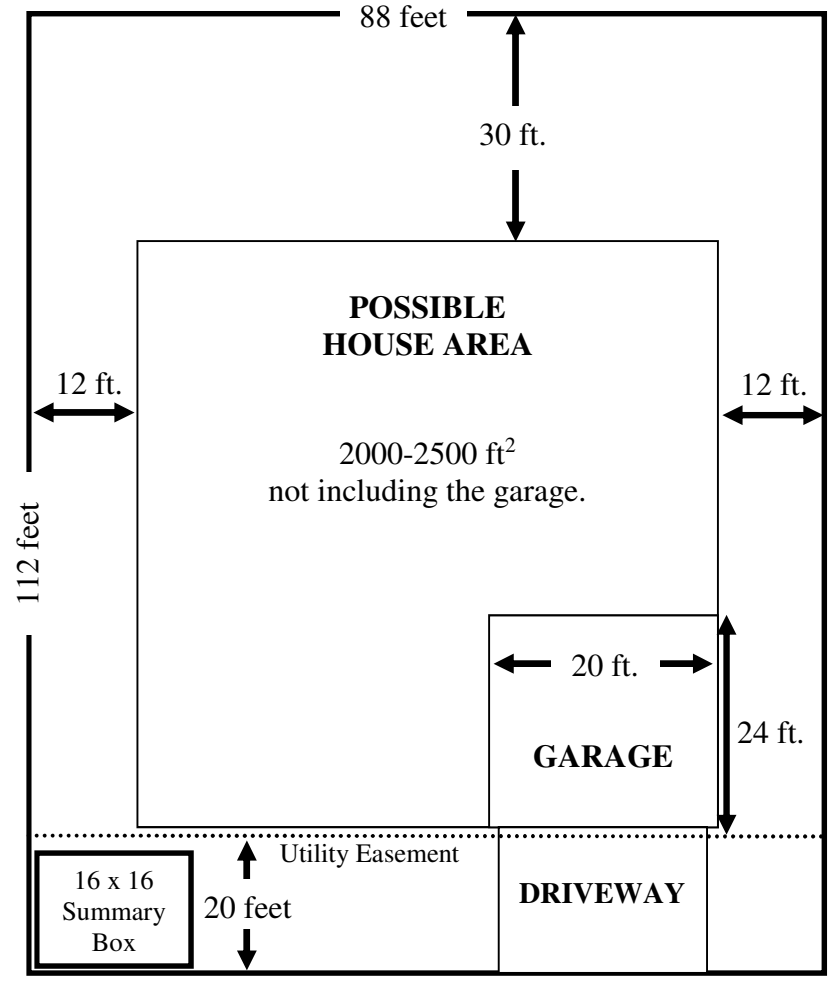
Required Extras
Hot Water Heater
Washer
Dryer

BUDGET = $375,000

Cost of the land = $20,000
Cost of house = $125 / square foot
Cost of garage = Half of the rest of the house

BUILDING SITE PLAN

This plan show where you can build your house.



ARCHITECTURE JOBS

Each team member should be the lead in one of the following three categories.

	Lead	Back-Up
Architect – Assumes the main role for drawing all house items on the graph paper. This person needs to be neat and precise. They must also listen to the inspector and contractor to make sure they follow the rules.		
Project Manager – Assumes the main role for making sure all rules on these pages are followed at all times. This person must be able to remind his or her teammates of the rules and implement all guidelines.		
Contractor – Assumes the main role of making sure room sizes are within range, completes the main inside cost page, and ensures that the team is staying under budget. This person must work with his or her teammates on designing rooms and features that meet cost guidelines.		

Each team member should be the lead in one of the following three categories.
*The lead architect should **not** be the lead landscape designer.*

Landscape Designer – Assumes the main role for drawing and coloring all outside items on the graph paper such as pools, trees, walkways, fences, and playgrounds.		
Real Estate Agent – Designs the home listing to sell your house. This role includes both math related items and the ability to write an informative, descriptive paragraph about your house.		
Graphics Designer – Designs the logo representing your company. This person must be good at art, have a creative mind, and be able to come up with a professional looking final product.		

Each team member should be the lead in one of the following three categories.

The Public Opinion – This person will visit other groups at specific times and give feedback on their designs. The public opinion should stay respectful but give helpful feedback to each group. In addition, this person will be able to come back and share ideas with their team.		
The Enforcer – This person will make sure the team is keeping on track and hitting deadlines throughout the project. This person will coordinate when their team needs to come in to catch-up.		
The Encourager – This person makes sure group rapport is positive. The person makes suggestions when a time-outs might be needed to gather thoughts and finds ways to turn problems into opportunities.		

PROJECT MANAGER CHECKLIST

☐ You may use a calculator at all times during the final project.

☐ Your goal is to have a professional looking final product.

☐ Use rulers or templates to draw everything.

☐ Have out Architecture 9: Architecture Final Project at all times for guidance

☐ Create a Bubble Diagram Layout/Rough Copy

- ☐ See Bubble Diagram Checklist page for suggestions/requirements
- ☐ Read Bad Home Layouts page
- ☐ Get teacher approval and then pick up $20,000 poster board

☐ Determine parts of poster board where you may not draw the house

- ☐ See Architecture 9 page for basic layout requirements
- ☐ Have the graph paper crease toward the back of your land
- ☐ Lightly draw four corners ⌜ ⌝ ⌞ ⌟ to indicate the area in which your house can be built

☐ Draw Summary Box, driveway and garage

- ☐ Your summary box is 16 by 16 and will be drawn two small squares over and up from the front left or right corner (in the front yard).
- ☐ Try not to draw your house right on the edge as that does not leave room for wall thickness
- ☐ Your driveway, at least 14 feet wide, should be on the left or right side at the front
- ☐ Your garage must be the standard size listed on Architecture 9

☐ Draw all other rooms

[End of Day 1: A few rooms have been drawn]

- ☐ A room's longest dimension should not be more than twice the other dimension (not closets)
- ☐ Start with rooms close to the garage and connect each new room to an existing room.
- ☐ Review minimum and maximum room sizes listed on Final Project Inside Calculations page
- ☐ Draw lightly so that if you erase it won't leave much of a mark
- ☐ If you must, write names lightly in the corner to keep track of rooms.
- ☐ Make at least one front or back room "interesting" - not all right angles.
- ☐ **BC:** No bathrooms may open to the kitchen.
- ☐ **BC:** There must be at least two entrances to the house.
- ☐ **BC:** The following rooms must have a window: living, dining, all bedrooms, master bathroom
- ☐ **BC:** Closets must be at least 2 feet front to rear.
- ☐ Front door faces towards the front (street) and back door faces towards the back.
- ☐ All bedrooms are near bathrooms.

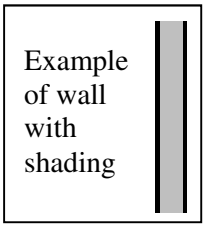
- ☐ See Architecture 9 for required closet spaces
- ☐ Minimize hall space – Hall space is a waste of money that could be spent on rooms.
- ☐ Any halls you do have should be 3 or 4 feet wide after wall thickness.
- ☐ Complete the Final Project Inside Calculations and verify house area is within range.

☐ Draw doors and eliminate walls *[End of Day 2]*

- ☐ Eliminate walls that are not necessary between rooms (kitchen, dining, living areas)
- ☐ **BC:** Exterior doors must be at least 3 feet wide
- ☐ **BC:** Interior doors, except for closets, and openings should be at least 2 feet 6 inches wide.
- ☐ Front door and back doors also opens **into** the house
- ☐ Most doors open **into** the room in which you are going, except for closets and small rooms
- ☐ No doors to get between the kitchen, living room, dining room (just openings)
- ☐ Door dimensions should face toward the front yard

☐ Draw wall thickness and windows – check examples *[End of Day 3]*

- ☐ Draw the windows before drawing the wall thickness
- ☐ **BC:** Bedrooms must have at least one window 3 feet by 4 feet or larger.
- ☐ All walls = 6 inches thick
- ☐ Total window area must be 8-15% of the area of the house.
- ☐ Window dimensions should not face toward the back yard



At this time you may begin drawing your landscape if you have an approved bubble diagram.

☐ Draw sinks, toilets, washer, dryer, kitchen appliances, etc. *[End of Day 4]*

- ☐ See Kitchen Design Checklist page on how to place objects in the kitchen
- ☐ **BC:** The toilet must have 8 inches of space on each side and 24 inches of space in front of it.
- ☐ All items have specific sizes – if you are not sure of the size ask your teacher
- ☐ Hot water heater in the garage = 24" circle (can be in a garage closet or not)
- ☐ Fireplaces, if you want one, should be included in a common area such as the living room.

☐ Draw outlets, lights, switches, etc. *[End of Day 5]*

- ☐ **BC:** See Electrical Outlet Checklist page
- ☐ **EC:** Follow all electrical contractor rules (Architecture 7A) for outlets, lights, and switches
- ☐ Lights are circles on the templates (use "8" circle)
- ☐ Outlet circle size is shown on the main template
- ☐ Fluorescent lights go in the garage and kitchen and they are 4 feet long
- ☐ The refrigerator, washer, dryer require special outlets 220V outlets
- ☐ The vast majority of rooms will only require one overhead light/fan.

☐ **Write names and list dimensions on all rooms** *[End of Day 6]*

- ☐ All room names should face toward the street (small rooms may be written vertically)
- ☐ All room names written neatly, in capital letters, and be one square high
- ☐ One person should write all room names so that they look similar
- ☐ List the width (across) first, then the length (up and down)
- ☐ Example: 16 x 20 or 16^0 x 20^0
- ☐ For "not perfect" rectangles, use the dimensions listed on your Inside Calculations page

☐ **Improve erasures, correct rips and tears, look professional**

☐ **Complete summary box (see example)** *[End of Day 7]*

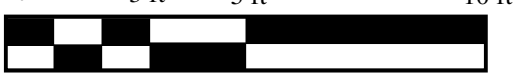
- ☐ All capital letters and all neat
- ☐ See example to the right.
- ☐ Street Address
- ☐ Company name and architects
- ☐ Bedrooms / Bathrooms
- ☐ Living area = Area of the house without the garage.
- ☐ Garage Area
- ☐ Total Area
- ☐ Final Price = Total Inside Cost + Total Outside Cost
- ☐ Scale / Scale Visual
- ☐ The north symbol points in the direction you choose. Think which rooms will get sunlight at different times during the day.

101 DRAGON DRIVE

MODERN DESIGN ARCHITECTS INCORPORATED
SARAH NICHOLS, MAEGHAN MCFARLAND, EMMA SMITH

BEDROOMS:	4
BATHROOMS:	3.5
LIVING AREA:	2,100 FT^2
GARAGE AREA:	480 FT^2
TOTAL AREA:	2,580 FT^2
FINAL PRICE:	$329,000

SCALE: 0.25 INCHES = 1 FOOT



☐ **Complete recording sheets, organize, and order** *[End of Day 8]*

All recording sheets should be completed in a neat and professional manner.

- ☐ Write the company name at the bottom of your logo page
- ☐ Company logo: Slide it in the front cover of your portfolio
- ☐ Tape your chance card to the inside front cover of your portfolio
- ☐ Home Listing page and place as your first page in your final portfolio
- ☐ Next, inside area and cost calculations, then outside calculations
- ☐ Next, mortgage calculations, then energy/flooring/paint heating calculations
- ☐ Next, landscape design recording page, then company logo recording page
- ☐ Next, your jobs page and then this project manager checklist
- ☐ Next, your electrical outlet checklist and, finally, your kitchen design checklist

[End of Project]

BUBBLE DIAGRAM CHECKLIST

Think of your home as divided up into 3 separate areas: **SLEEP, LIVE, WORK**

Live: living, dining, family
Work: kitchen, pantry, workshop, study, half bath
Sleep: bedrooms, bath, storage, halls, utility

Think about what rooms you will see when you look at your house from each side.

What rooms do you see from the front, back, and sides of your house?

Which rooms can be in the middle because they don't need windows?

☐ Kitchen	No window required	Can be located anywhere*
☐ Dining Room	Window required	Often in the front
☐ Living Room	Window required	Often in the back
☐ Master Bedroom	Window required	Must be in the back
☐ Bedroom #2 and #3	Window required	Often in the back
☐ Master Bathroom	Window required	Back or side
☐ Other Bathrooms	No window required	Can be located anywhere

* Kitchen is often connected to a Nook or Breakfast Area which contains a window

☐ The kitchen, dining room, and living room need to be located close to each other. They often make a triangle. One needs to be able to go from the living room to the dining room without going through the kitchen.

☐ Laundry room
☐ Coat closet near front door
☐ Linen closet near a bedroom
☐ Pantry near kitchen
☐ Closets for all bedrooms
☐ At least one half bathroom
☐ Foyer
☐ When I am standing in the foyer and look straight ahead I see _____
☐ Front door in the front and back door in the back
☐ Garage in the front
☐ Place to study, Place to entertain, Place to train/workout

Bad Home Layouts:
How You Can Avoid Building a Home with a Bad Layout Design

Common Bad Layout Designs - Here are a few of the common complaints we hear from buyers.

- **Hallway Facing the Entrance**
  Entrances are important because an entrance forms a first impression. Buyers make up their minds within 6 seconds of entering a home. It might not be a conscious decision, but buyers either feel good or feel bad walking in the door. Long, narrow, dark hallways are a huge turnoff, especially near the entryway.

- **Dining Room in the Center**
  In this type of layout, upon entering the home, you walk through the living room into the dining room. To get to the kitchen, family room or bedrooms, one must walk through the dining room because all rooms are connected through multiple entrances to the dining room.

- **Bedrooms Located Directly Off the Living Room / Dining Room**
  It is undesirable to locate a bedroom door directly leading from a room where family members or guests gather. Apart from the noise factor, it reduces privacy as well. Nobody wants to look at a bed while dining. Most people want to dine, entertain family in the family room or greet visitors in the living room without a view of the bedroom.

- **Poorly Located Guest Bathroom**
  The only thing worse than staring down a long hallway upon entering a home is capturing a full view of a toilet at the end of it. Closing the door to the bathroom is unattractive and uninviting, so that's not a practical solution. A main-floor or guest bathroom, which is accessible only by walking through a utility / laundry room or bedroom, is unappealing as well.

- **No Views From One Room to Another**
  Even if your home is small, as long as one can see several other rooms from a central spot, it will make the home appear larger. Multiple doorways or arches to main meeting areas help to accomplish this purpose. Open spaces create a feeling of spaciousness. Opening the kitchen to the living / family areas is popular.

- **Satellite Living Rooms**
  This type of layout generally places the living room off to one side of the entrance, and it connects to no other room but the entrance. In new home construction, the trend is moving away from building homes with living rooms and replacing those areas with great rooms or expanded family rooms.

What extras do Americans want most in the homes?

- 59% say a backyard deck
- 47% want a gourmet kitchen
- 46% want an open floor plan
- 45% say a balcony with a view
- 40% want a vegetable garden
- 38% say a swimming pool

ELECTRICAL OUTLET CHECKLIST

(Based on common building codes)

Most Rooms *(expect ones listed below)*

- ☐ Interior walls 2 feet or less do not need electrical outlets.
- ☐ Interior walls between 2 and 12 feet need one electrical outlet.
- ☐ Interior walls between 12 and 24 feet need two electrical outlets, and so on.

Bathrooms

- ☐ At least one electrical outlet shall be installed in bathrooms and it should be located within 36 inches of the sink. The outlet should be placed on a wall that is adjacent to the sink.

Laundry areas

- ☐ One 220V outlet is needed for the washer and one is needed for the dryer.

Garages

- ☐ At least one electrical outlet shall be installed in each attached garage.

Hallways

- ☐ Hallways of 10 feet or more in length shall have at least one electrical outlet. The hall length shall be considered the length measured along the center of the hall without passing through a doorway.

Closets

- ☐ No outlets are needed in closets.

Outside

- ☐ At least one electrical outlet shall be installed outdoors at the front and back of each house.

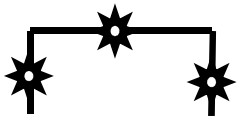
KITCHEN DESIGN CHECKLIST

The design of your kitchen is based on the three most important items in the kitchen:

Refrigerator, Sink, and Stove

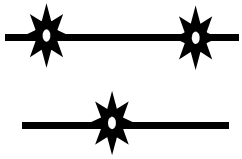
These three form the "work triangle" and set the foundation for designing your kitchen. Here are the three most common examples of how to set your kitchen up.

A U-shaped kitchen with the sink in the middle and the refrigerator and stove on opposite sides.



An L-shaped kitchen has two of the three on the same wall and one on a second wall.

A parallel kitchen has two counters opposite each other.



☐ **Kitchen Design (pick one):**

☐ U-Shape ☐ L-Shape ☐ Parallel

☐ All counter space is 2 feet deep (from front to back).

☐ Sink: 2 feet of work area on both sides of the sink.

☐ Range/Stove: 1.5 feet of work area on at least one side of the stove and 3.5 feet of open space in front of the stove.

☐ Refrigerator: 1.25 feet of counter space on an open side.
One 220V outlet is needed for the refrigerator.

☐ Dishwasher: 3.5 feet of open space in front of the dishwasher.

☐ A pantry is for storage off of the kitchen.

☐ Be sure to include plenty of counter space in the kitchen.

DESIGNING YOUR LANDSCAPE

The area around your home is an important part of your living environment. Landscaping can increase property value, invite wildlife into your yard, and conserve energy. Today, more people want their home landscape to meet functional and social needs.

Step 1: Landscape Style Options. You will choose one.

1. *Geometric-Structural*: Geometric structure is primary and plants play a minor role. Straight lines for walks, driveways, and planting beds are typically used.

2. *Geometric-Natural*: Structure dominates, but plants and other natural elements play an important – perhaps nearly equal role. Straight lines and more formal curves often define landscape features.

3. *Natural-Structural*: Plants, rocks, water, and earth forms dominate, but there is a clear sense of geometric arrangement. Naturally flowing, curved lines are used to soften the transition from one area to another.

4. *Natural*: Natural elements and materials dominate, and there is no obvious human-determined form or structure. Elements in the landscape flow naturally into each other with few or no clearly defined lines.

Step 2: Review the Landscape Checklist on the next page

Step 3: Determine a budget - Approximate how much you will be able to spend on your landscape

Step 4: Identify home landscape use areas

- Public Area: This is most often the front yard and is the area the public sees from the street. The main purpose is to frame the house and create a visually appealing and inviting landscape. An attractive entryway or walkway to the house is a primary feature.

- Private or Family Area: The private area is often the backyard and sometimes the side yards. There should be easy access from the house to the outdoor space and features such as outdoor furniture and lighting should be considered.

Step 5: Sketch a landscape bubble diagram and receive teacher approval

Step 6: Complete Landscape Checklist, Draw your final plan, and Outside Cost page

LANDSCAPE CHECKLIST

LANDSCAPE STYLE OPTIONS (pick one)

_____ Geometric-Structural _____ Geometric-Natural _____ Natural-Structural _____ Natural

YARD USE

Who will use the yard? ___ Adults ___ Children ___ Elderly ___ Pets

OUTDOOR STRUCTURES

What outdoor structures/features would you like to add? See Final Project Outside Calculations for a full list.

STORAGE

What items need storage space? ___ Garden equipment ___ Garbage cans ___ Bicycles

___ Outdoor toys ___ Sports equipment ___ Lawn furniture

COLOR

List colors that you think will work well with your landscape: _____

- ☐ All items drawn using templates, when available, or very neatly
- ☐ Shapes should include circular and curving arcs to appeal to the buyer.
- ☐ Pools are not allowed within 10 feet of the house.
- ☐ Pools require a fence with a gate on both sides of your house.

To demonstrate geometric attributes there should be well thought out examples of the following:

- ☐ There should be something outside that demonstrates **symmetry**.
- ☐ There should be something outside that demonstrates a **reflection.**
- ☐ There should be something outside that demonstrates a **rotation.**
- ☐ There should be something outside that demonstrates a **dilation**.
- ☐ There should be at least one **circular** object (other than trees) in your yard.

- ☐ A walkway/pathway should connect your driveway to the front door.
- ☐ At the end you might want to come back and add a bird's eye view of a car in the driveway.
- ☐ Side fences need a gate that is 3 feet wide.
- ☐ Pathways may be 2 to 5 feet wide.
- ☐ There should be at least 2 large trees (8 ft or more diameter canopy).
- ☐ Write the name on all outside features that are not obvious.
- ☐ You do not need to write dimensions of outside objects.

Final Project Inspection Record (Final Grade) Architects:

House $:	G+L $: $50k	Outside $:	Total $	U/O Budget

Final House Design (Livability, Mathematical Accuracy)			**50 points**
Rooms	Kit Din Liv	3Bed MBath FBath HBath	Foyer Work Train
Windows	Din Liv	3 Bed MBath	
Closets	Pantry Linen	Coat Bed	
Correct	Symbols	Sizes	
Codes	Bath-Kitch 2 Entrances	Closet-2ft. BWin-3x4	
Various	Flow (K-D-L)	Driveway & Garage	Doors
Various	Unique room	# of Lights	Bed near Bath
Kitchen	Frig Sink DW Range	Counter	Lights (Sink/Stove)
Lights	Fluor – Kit Gar	Size	Switches
Outlets	Frig Wash Dryer	Outlet BC-12ft	Size
Bath	Sink Tub Toilet	Toilet BC 8/24	
Doors	No – Kit Liv Dine	Yes – Bed Bath	E–3ft I–2.5ft Into House
Halls/Walls	3-4 ft halls	6in walls	
Other	No 2x dim room	House in build area	HWH

Professional Final Product & Summary Scale Box			**20 points**
Professional	Rulers Templates	Lettering	Names to reader
Professional	Rips Eraser Smears	Neatness	Spelling
Various	Win/Door Dim listed	Wall shading	Room names & sizes
Summary	Scale Company Names	Rooms Area Price	Address

Indoor, Outdoor, and All Cost Calculations		**30 points**
Indoor	Area Percent Cost Totals Min/max sizes	Neat, professional
Outdoor	Size Cost Totals	
Mortgage	Mortgage Insurance Tax PITI Income	
Energy/Heating	Energy Flooring Paint Heating	

Final Project Inspection Record (Final Grade) Architects:

Landscape Design			**100 points**
Professional, Interesting structures	Flows well/walkway from driveway to front door	Not too many items/Drawn to scale	Coloring is neat and enhances the landscape
Correct symbols used/items labeled	Big trees	Well explained on recording page	Pools 10+ ft. from the house
Symmetry	Reflection	Rotation	Dilation

Home Flyer			**100 points**
Address shown/ Dimensions shown	Professional sounding	Year correct	Calculations and all numbers correct
Interesting, informative paragraph	Professional photo	Company history	

Team Logo				**100 points**
Architecture/ geometric concepts	Neat	Professional	Appropriate use of color	Well explained on description page
Slogan	Meaning of color	Unique/memorable		

Architecture 11A: **Final Project Inside Calculations** Name:

For rooms that are not rectangles, place an X in the column. For width and length, measure the majority of the room. Calculate the exact area of the room (it will not be the listed width times the listed length). For the percentage of house area, round to the nearest tenth of a percent.

Room name	**X**	**Width** ◄►	**Length** ▲▼	**Min-Max Area** ($ft.^2$)	**Our Area** ($ft.^2$)	**% of Total House Area** (w/o garage)	**Cost** $\$125/ft^2$ ($)
Kitchen & Pantry				130-280			
Dining Room				140-280			
Living/Family Room				230-460			
Master Bedroom				180-360			
Bedroom #2				110-220			
Bedroom #3				110-220			
Master Bathroom				80-160			
Full Bathroom #2				50-100			
Half Bathroom				20-50			
Office, Study, or Library				80-200			
Game or Media Room				140-320			
Foyer/Entryway				20-100			
Laundry				30-60			
Training/Workout Room				150-350			
Total closet space not included above				-----			
All rooms not listed/included above				-----			
Total hall space				0-150			
HOUSE (w/o garage or land)				2000-2500		100%	

Garage		20 ft.	24 ft.		480		$30,000
Land		88 ft.	112 ft.		9,856		$20,000
TOTAL INSIDE COST (House + Garage + Land)							

Architecture 11B: **Final Project Outside Calculations** Name:

The following is a list of features that may be included outside of the normal house and garage. The cost of each feature is listed next to each one.

Linear foot: Same as a regular foot. Linear means you are **not** talking about square feet.
Every 10 linear feet: Means the item is sold in increments of 10.

ITEM	Cost	Typical Dimensions	Our Dimensions Or Area	Cost
LANDSCAPING				
Trees/Bushes	$3000 (all the trees/bushes you want)		√	$3,000
Garden (Flower or Vegetable) or Dry Creek Bed	$10 per square foot			
Pond	$25 per square foot			
Stone/Brick Path/Walkways	$1000 per every 10 linear feet Sold in 10 linear feet sets	3 feet wide		
Fencing	$25 per linear foot (Not needed on property line)			
Hedge	$15 per foot			
FUN AND GAMES				
Swimming Pool	$12,000 + $30 per square foot	Max: 18 ft. by 36 ft.		
Tetherball Court	$500	10 ft. diameter		
Trampoline	$500, $750, $1000, $1500	8, 10, 12, or 14 ft. diameter		
Hot Tub	$160 per square foot + cost of deck (required) around hot tub	Min: 20 sq. ft. Max: 50 sq. ft.		
Horseshoe Court	$500	6 ft. by 50 ft.		
Mini-Basketball Court	$10 per square foot	Min: 14 by 18 ft. Max: 25 by 40 ft.		
Mini-Volleyball Court	$6000	15 ft. by 30 ft.		
Putting Green	$20 per square foot	Min: 5 by 12 ft. Max: 15 by 30 ft.		
Sandbox	$10 per square foot	12 ft. by 12 ft.		
DETACHED BUILDINGS				
Utility Shed	$10,000	10 ft. by 12 ft.		
Trash Can Shed	$2500	3 ft. by 5 ft.		
more ideas on the back…..				

ITEM	Cost/Dimensions	Typical Dimensions	Our Dimensions Or Area	Cost
ATTACHED TO THE HOUSE				
Wheelchair Ramp	$300 per linear foot	4 feet wide		
Patio/Deck	$40 per square foot			
Porch (enclosed with screens)	$70 per square foot	8 ft. by 14 ft.		
Porch (open)	$25 per square foot	24 ft. by 16 ft.		
Greenhouse	$200 per square foot	6 ft. by 10 ft.		
Sunroom	$250 per square foot	6 ft. by 10 ft.		
LANDSCAPE ACCESSORIES				
Garden Arbor	$20 per square foot			
Hammock (Trees 15 feet apart)	$150	10 feet long + 2.5 feet on each side attaching to each tree		
Outdoor Fountain	$1500 $4000 $1500 $4000	6 ft. by 8 ft. 10 ft. by 13 ft. 7 ft. diameter circle 11 ft. diameter circle		
Benches	$600 for 3 linear feet $100 for each additional foot	2 feet wide		
Picnic Table with Chairs	$1000 for 5 feet $100 for each additional foot	3 feet wide		
Low-Voltage Lighting	$2500 for first 4 lights $750 for additional 4 lights			
Gazebo	$4000 +$1000	Circle or Octagon 8 foot diameter +2 foot diameter		
Firepit	$750	4 ft. diameter		
ADDITIONAL ITEM				
TOTAL OUTSIDE COST				

Porch: A porch is a raised platform with a roof that that serves as a covered entrance to a house.
Patio: A patio is defined as an area, often paved, adjoining a house and used for lounging. Usually roofless.
Deck: A deck is defined as an open, uncovered porch extending from a building. Usually wooden. Usually elevated.

Landscape Design Recording Page

1. What was your landscape style (in Step 1 of planning)? What features demonstrate this?
   -
   -
   -
2. How is symmetry demonstrated in your landscape design? Be specific.
3. Where can a rotation be found in your design?
4. Where can a reflection be found in your design?
5. Where can a dilation be found in your design?

BUYING A HOME - MORTGAGE CALCULATIONS

For all calculations on these pages, **round to the nearest dollar**.

Final Price for Our Home Total Inside Cost + Total Outside Cost	
Down Payment 20% of the price of the house	
Mortgage (Principal) 80% of the price of the house	

Most families pay off their mortgage over a period of 15 or 30 years. Use the table below to calculate the monthly payment necessary for your mortgage above.

Mortgage Payment Calculation

Principal	Loan term	Multiply price by…	Monthly Mortgage Payment
	15 yr.	0.0074	
	30 yr.	0.0048	

Lenders typically require homeowners to purchase **homeowner's insurance**, which covers both the home and its contents in the event of a flood, fire, or other damage.

Insurance Calculation

Final Price	Insurance Rate	Monthly Insurance
	0.0005	

PROPERTY TAXES – You must pay annual **property taxes**. Property taxes can either be paid monthly as an addition to your mortgage or they can be paid yearly separate from your mortgage payment. For this project you will pay them as part of your monthly mortgage payment.

Property Tax Calculation

Tax	Final Price	Yearly Tax Rate	Yearly Taxes = Price • Tax Rate	Monthly Tax
City of Southlake		0.00462		
Tarrant County, College & Hospital		0.006085		
Carroll ISD		0.01385		
Total		**0.024555**		

PITI – The total monthly mortgage payment is often referred to as the **PITI**, which stands for principal, interest, taxes, and insurance.

PITI Payment Calculation

Loan Period	Monthly Mortgage	Monthly Insurance	Monthly Property Tax	Mortgage Payment (PITI)
15 years				
30 years				

INCOME NEEDED – Banks use formulas to determine is a person qualifies for a loan based on their income. Banks generally use the guideline of 30%. This means that the total cost of the monthly mortgage payment (**PITI**) should not exceed 30% of the family's monthly income.

Total Yearly Income Estimate

Loan Period	PITI Payment	Bank Rule of Thumb	Monthly Income = $\frac{\text{PITI}}{0.30}$	Yearly Income Needed To Buy This House
15 years		Payment = 30% of income (Maximum)		
30 years		Payment = 30% of income (Maximum)		

Energy Efficiency Study

Area of our house (not including garage)	**Area of all windows**	**Window Percentage** $\frac{\text{Area of windows}}{\text{Area of house}} \bullet 100$ *(round to the nearest tenth)*	The area of the windows must be between 8% and 15% of the area of the house as this provides a balance between natural lighting and excessive energy consumption.

Flooring Calculation

9 square feet = 1 square yard

Total square footage (not including garage)**:**			
	Square Feet	**Unit Rate**	**Cost**
Tile *(all bathrooms)*		\$4.00 per ft.^{2}	
Vinyl *(kitchen)*		\$3.00 per ft.^{2}	
Carpet *(Rest of house, except garage)*		\$27.00 per yd.^{2}	
Installation (\$5.00 per square foot):			
Total flooring cost (flooring + install):			

Paint Estimate Calculation

Area covered by a gallon of paint = 300 ft.^{2} **Cost of Paint =** \$35 per gallon

Area of all walls Find the perimeter of each room using your inside cost page. Then multiply by 10 since you have 10 ft. walls.	
Gallons of paint needed (round up to next whole gallon)	
Total Cost	

Heating System Calculation

Area of house (not including garage)	**Average height of ceiling**	**Volume of house**
	10 ft.	

Volume of a house will determine the type of heating/air conditioning system that will be installed.

Architecture 14A: **Creating a Company Logo** Name:

Your job: Create a **logo** and a **slogan** for your architecture company.

A **logo** is used to help develop a name for a business. Some of the most famous logos that everyone will recognize are on this page. A logo is designed for immediate recognition. The logo shapes, colors, fonts, and images usually are different from others in a similar market. Some logos contain the full company's name as part of the logo and some don't.

Today there are many corporations, products, services, agencies and other entities (like states and countries) using a sign or a symbol or a combination of sign and emblem as a logo.

Qualities of an effective logo

1. Makes a good first impression.
2. Represents who you are and your ideas and attitudes.
3. Possesses something unique or interesting to help you stand out from the crowd - a mark of distinction.

Italic type (slanted) denotes action or speed and projects a modern image.
Capital letters suggest formality and steadiness.
Lowercase letters suggest an informal manner or casual image.
Outlined letters project an informal image.
Thin letters denote professionalism.
Thick or bold letters project strength or dependability.
Script denotes gentleness or caring.

Color is important to brand recognition, but it should not be the main component of the logo design because it could conflict with its functionality. In the United States red, white, and blue are often used in logos for companies that want to project patriotic feelings.

Your architecture firm needs a logo that people will remember. Examples of architectural companies' logos are also included below. They often have the company name or initials. **Your logo must contain something geometric or architecture related.** It should be in color (unless you specifically want it black and white) and should be neatly drawn (no computers) on paper that will slide into the cover of your binder. You should use a specific font and not just normal handwriting.

Hidden Meanings in Popular Logos

Sometimes a company or brand logo is more than it first appears. For example, take a look at the hidden meanings or messages embedded in these popular logos below. You won't look at these designs the same way again.

Scott Olson, Getty Images)

FedEx
Can you spot something in this logo? The FedEx logo, designed in 1994 by Linden Leader & Landor Associates, at first appears simple and straightforward. However, if you look at the white space between the "E" and "x" you can see a right-facing arrow. This "hidden" arrow was intended to be a subliminal symbol for speed and precision.

Getty Images

Amazon.com
That yellow arrow is more than just a decorative swoosh. The Amazon logo was created to represent the message that it sells everything from A to Z (the arrow connects the two letters) and also represents the smile that customers would experience by shopping on the Amazon.com Web site (the arrow becomes a smile).

AP

Baskin-Robbins
In 2005, as part of its 60th anniversary celebration, Baskin-Robbins launched a new brand identity. The new logo was intended to "capture the fun and energy of Baskin-Robbins." In the old logo, the number "31" appeared within a simple arc, suggestive of a scoop of ice cream, and next to the name. In the new logo, you can see that the "31" still exists. It is now formed by the pink portion of the ice cream store's two initials: "B" and "R."

AP

Northwest Airlines
Back in 2003, lamenting the loss of the old Northwest Airlines logo (shown here), pilot Patrick Smith published his critique of the new logo in his "Ask the Pilot" column at Salon.com, saying the airline's previous circular corporate logo was, "quite simply, a work of genius. It was an N; it was a W; it was a compass pointing toward the northwest."

AP

Sun Microsystems
Sun's logo -- which features four interleaved copies of the word "sun" -- was designed by professor Vaughan Pratt of Stanford University. It is an ambigram, which is defined as a typographical design or artform that may be read as one or more words not only in its form as presented, but also from another viewpoint, direction or orientation.

AP

Goodwill
Do you see the right half of a smiley face? Or do you see a lower case "g"? In either case, you'd be correct.

Company Logo Recording Page

1. Describe your final logo.

2. How does your logo relate to your company name?

3. What geometric or architectural element is included in your logo so that one knows you are an architectural company?

4. What is the business purpose or meaning you are conveying to customers with the colors that you used for your final logo?

5. What is your company's slogan? Why does this slogan represent your company?

6. What makes your logo unique and memorable?

7. Below include any other important comments about your logo that have not been stated above.