

**ARCH 1130**

# **BUILDING TECHNOLOGY I**

**Professor Montgomery**

**FALL 2012**





SUBJECT

# WOOD

## light frame construction\_part II

DATE

FALL 2012

PROFESSOR

MONTGOMERY

# this week

## **objective:**

overview of the nature of light wood frame construction and the sequence and details of the assembly of a light wood frame structure

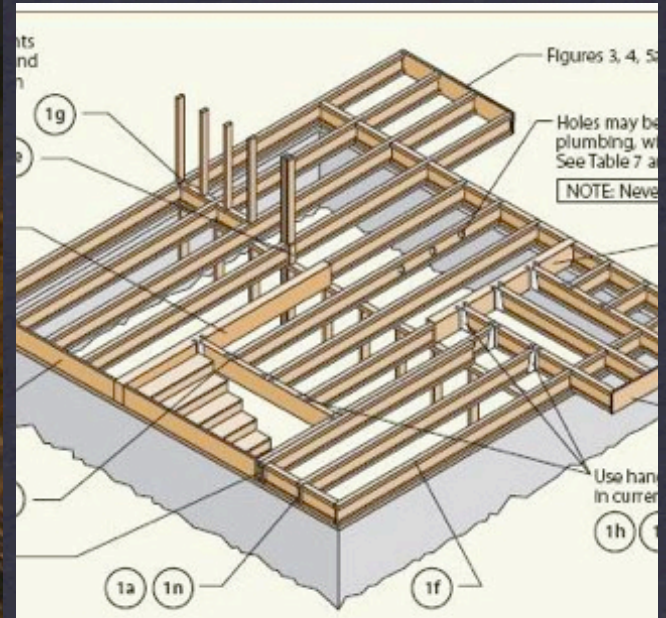


- \* framed walls
- \* rough openings
- \* connections

## \* building the frame:

- \* stairs
- \* sheathing
- \* roofs
- \* interiors





# LIGHT WOOD FRAMING

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building the frame \_ floors

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## LIGHT WOOD FRAMING

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Headers Supporting	2-2x4	2-2x6	2-2x8	2-2x10	2-2x12
Can span					
Roof only	4'	4'-6'	6'-8'	8'-10'	10'-12'
	(1220)	(1220-1830)	(1830-2440)	(2440-3050)	(3050-3660)
One story		4'	4'-6'	6'-8'	8'-10'
Two stories				4'-6'	6'-8'

- With a continuous two-2x6 header, no lintels are required for openings up to 4' (1220) wide.
- Metal straps at corners

- For spans over 4' (1220) wide, header requires 2" (51) minimum solid bearing at each end down to floor or bottom plate.
- 1/2" (13) plywood spacers are used with 2x members to match 2x4 or 2x6 stud width.
- For unusual load conditions, header should be engineered as a beam; verify minimum bearing requirements.

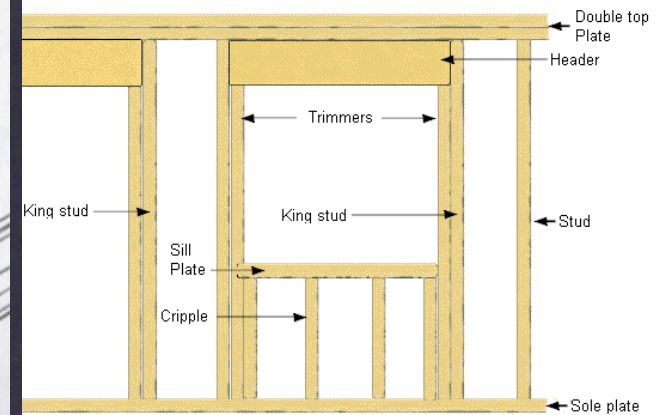
- Double header
- Cripple or blocking

- Oversized header may be used to eliminate short cripples.

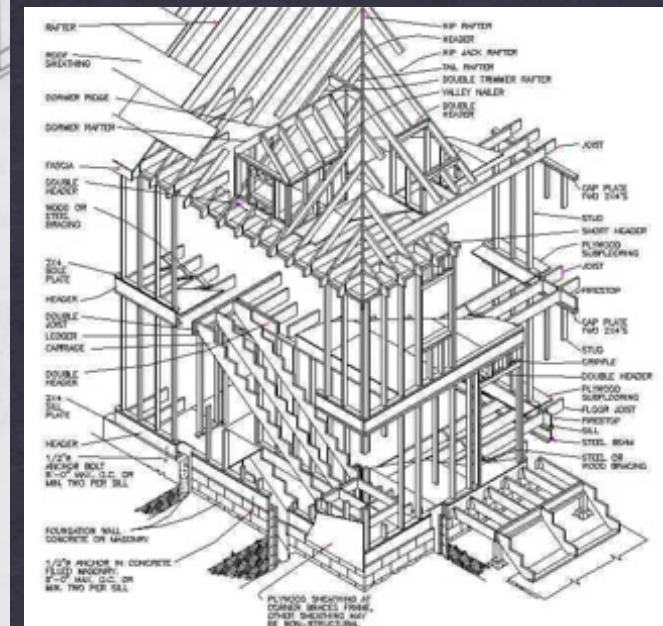
Trimmer studs support header; face nail double studs, 10d @ 12" (305) o.c.

Rough sill  
Cripple stud

Full studs



Components of a framed wall  
Showing rough door and window openings



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openings in framed walls

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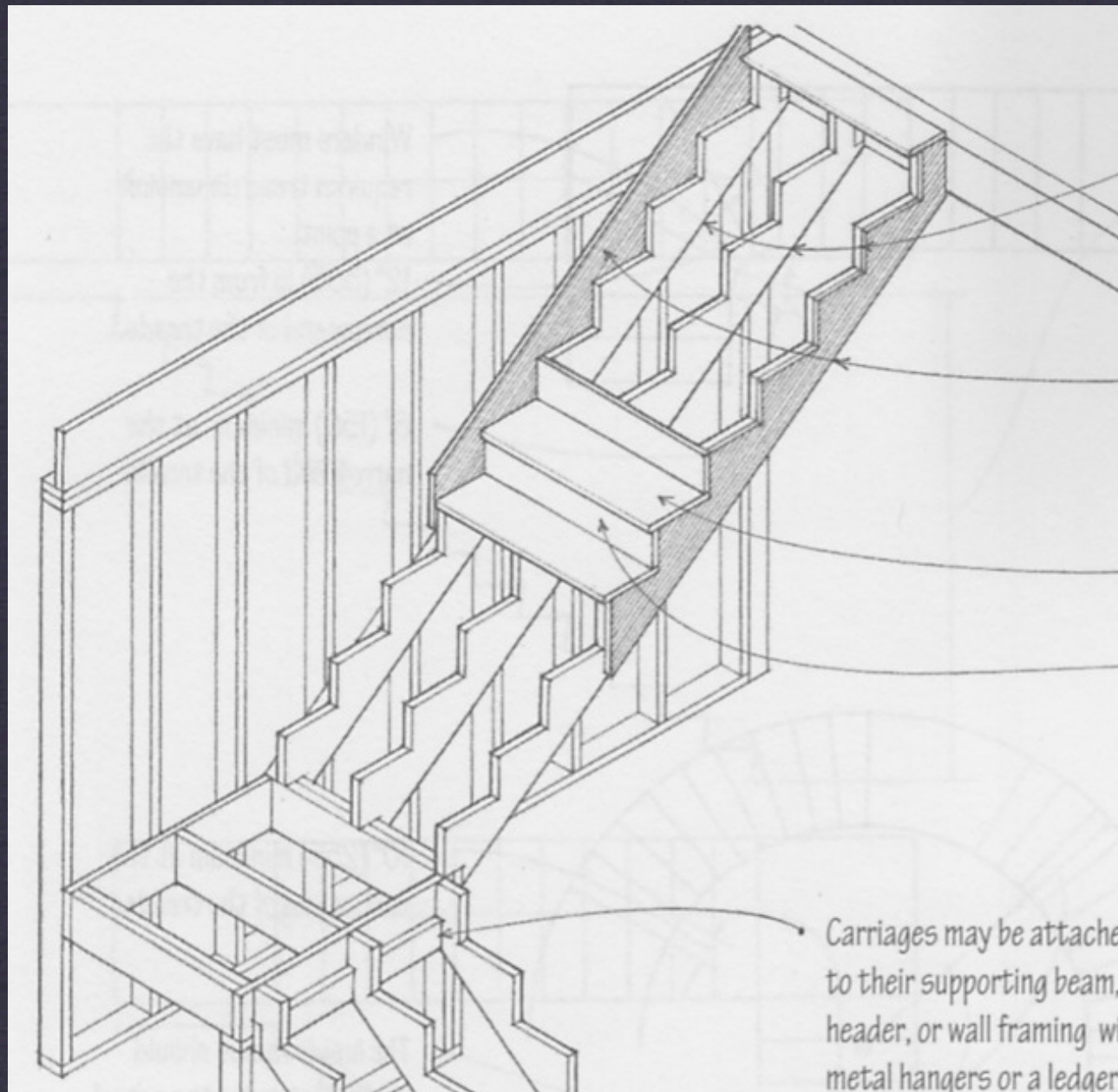
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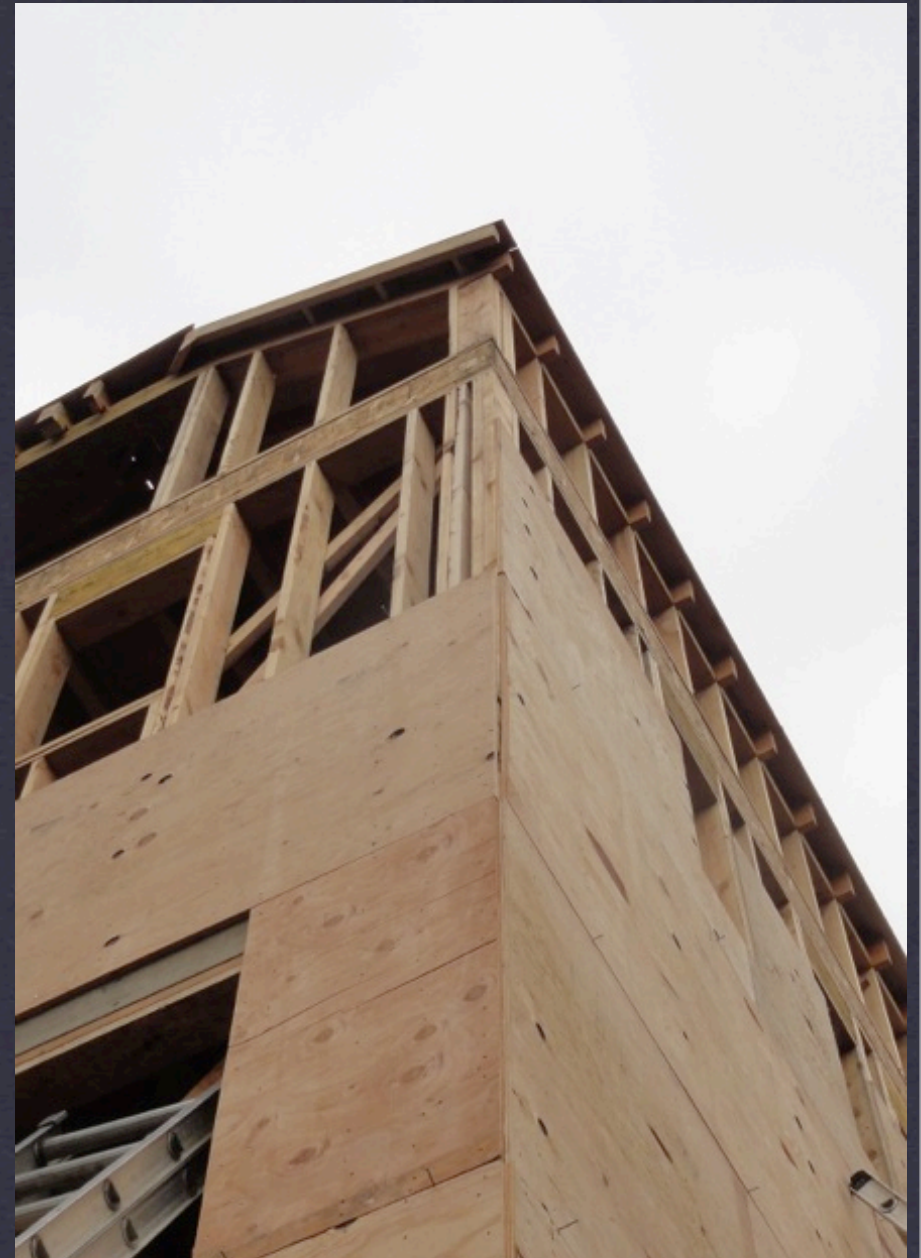
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**building the frame \_sheathing**

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# **LIGHT WOOD FRAMING**

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# LIGHT WOOD FRAMING

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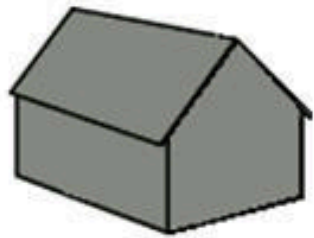
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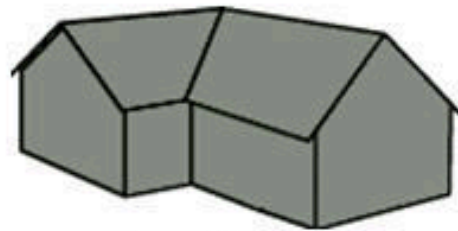
**building the frame \_roofs**

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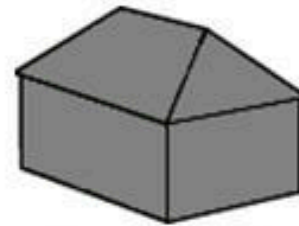




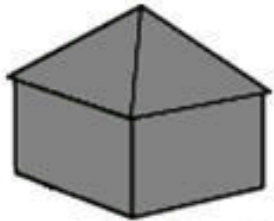
Gable Roof



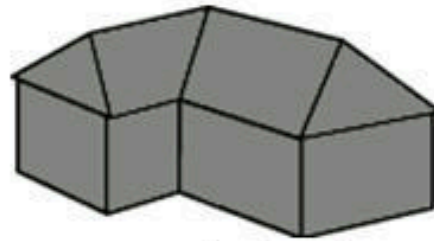
Cross Gabled Roof



Simple Hip Roof



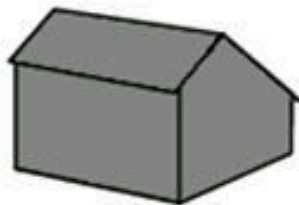
Pyramid Hip Roof



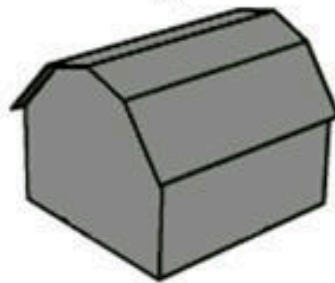
Cross Hipped Roof



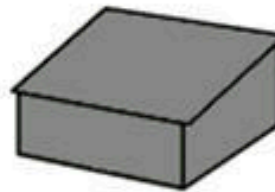
Mansard Roof



Saltbox Roof



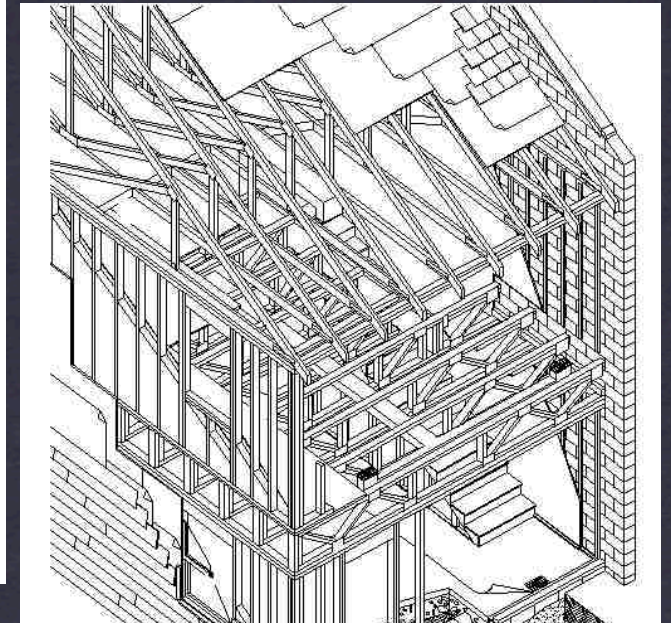
Gambrel Roof



Flat Roof



Shed Roof



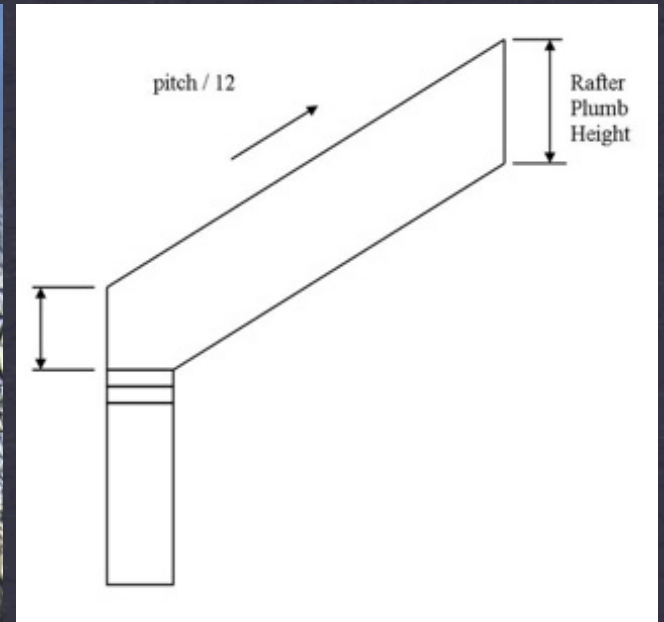
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# wrap up

**LIGHT WOOD FRAME CONSTRUCTION  
IS BY FAR THE MOST POPULAR  
FORM OF CONSTRUCTION IN THE US**



- \* simple tools and techniques
- \* light members
- \* quickly assembled
- \* from a renewable source
- \* durable when protected
- \* only limits are the carpenter's imagination and ability