

DUTY AREAS AND TASKS	NOCTI COMPETENCY	NATIONAL SKILL STANDARD NAHB-RCA
<i>I. FOUNDATIONS OF CONSTRUCTION TRADES</i>		
A. CONSTRUCTION HAND AND POWER TOOLS		
1. Demonstrate the safety rules and procedures for tools and equipment	OS2	N/A
2. Understand the need for proper safety protection	OS3	N/A
3. Recognize safe working conditions and procedures at a work site	OS2	N/A
4. Use the portable electric drill	TA2	6.1
5. Operate a drill press	TA2	7.7
6. Operate a Radial arm saw	TA2	7.2
7. Operate a surface planner	TA2	7.6
8. Operate a reciprocating saw	TA2	6.1
9. Operate a band saw	TA2	7.3
10. Operate a saber saw	TA2	6.1
11. Operate a router	TA2	6.2
12. Operate a table saw	TA2	7.2
13. Operate a circular saw	TA2	6.1
14. Operate a belt sander	TA2	6.2
15. Use oscillating and orbital sanders	TA2	6.2
16. Do simple cross and rip operations on the table saw	TA2	7.2
17. Establish a working edge on surface or dimension lumber	TA2	7.6
18. Identify hand tools and safety rules	TA1	5.0
19. Identify Power tools and safety rules	TA2	6.0
20. Care for and maintain hand and power tools	TA1-TA2	5.0-6.0
B. CONSTRUCTION MATERIALS AND APPLICATIONS		
1. Identify different types of wood	N/A	1.4
2. Identify actual sizes of lumber	N/A	1.3

NOCTI COMPETENCY CATEGORIES: **SGK** Safety and General Knowledge; **C** Carpentry; **M** Masonry; **E** Electrical; **P** Plumbing; **EE** Energy Efficiency; **BCM** Blueprints and Construction Math; **PT** Performance Test Areas

DUTY AREAS AND TASKS	NOCTI COMPETENCY	NATIONAL SKILL STANDARD NAHB-RCA
3. Identify defects in lumber	N/A	1.0
4. Identify different grades of plywood, OSB	N/A	2.1
5. Identify wood treatments (chemical and preservatives)	N/A	2.9
6. Identify non-wood materials (metal studs, shingles, metal doors, drywall, etc.)	N/A	2.11
7. Identify material handling and storage techniques	OS1	1.1
8. Demonstrate proper use of adhesives (glue and mastics)	N/A	4.3
9. Select and use appropriate metal fasteners	N/A	4.1
C. BLUEPRINT READING AND SPECIFICATIONS		
1. Demonstrate knowledge of blueprint reading and layout	BRE5	8.2
2. Demonstrate knowledge of scaling out a blueprint using architect's scale	BRE2	8.0
3. Demonstrate knowledge of plans, specifications and codes	BRE1	8.4
II. FUNDAMENTALS OF MASONRY		
A. MASONRY PRINCIPLES, TOOLS AND EQUIPMENT		
1. Demonstrate knowledge of mortar mixer safety procedures	N/A	N/A
2. Practice using the trowel laying different types of bed joints	N/A	N/A
3. Lay a head joint and a bed joint	N/A	N/A
4. Align masonry units with mortar	N/A	N/A
5. Use the masons level to plumb and level masonry units	N/A	N/A
6. Use the convex jointer to create a concave joint	N/A	N/A
7. Demonstrate knowledge of spacing rules	N/A	N/A
8. Use tools for alignment	N/A	N/A
9. Layout a dry bond with masonry units	N/A	N/A
10. Build a six block pyramid using 8" block	N/A	N/A
B. INTRODUCTION TO BRICK AND BLOCK LEADS		
1. Build a 4" all stretcher wall	N/A	N/A

NOCTI COMPETENCY CATEGORIES: **SGK** Safety and General Knowledge; **C** Carpentry; **M** Masonry; **E** Electrical; **P** Plumbing; **EE** Energy Efficiency; **BCM** Blueprints and Construction Math; **PT** Performance Test Areas

DUTY AREAS AND TASKS	NOCTI COMPETENCY	NATIONAL SKILL STANDARD NAHB-RCA
2. Build an 8" concrete block corner lead	N/A	N/A

DUTY AREAS AND TASKS	NOCTI COMPETENCY	NATIONAL SKILL STANDARD
C. BRICK AND BLOCK LAYOUT, PIERS AND COMPOSITE WALLS		
1. Construct a 12" brick and block composite corner lead	N/A	N/A
2. Build an 8" block pier 24" x 32", 6 courses high	N/A	N/A
3. Length and height masonry math problems	N/A	N/A
4. Demonstrate knowledge of masonry estimating	N/A	N/A
F. MATH APPLICATION IN FOUNDATION LAYOUT		
1. Foundation Layout	FFC1	9.3
2. Mystery job	N/A	9.3
3. Diagonal/layout math problems	FFC1	9.3
III. ROUGH FRAMING		
A. BASIC FRAMING TECHNIQUES		
1. Rough frame a SHED	RF1/RF2	12.2
2. Install siding on a SHED	EF5	23.8
B. SITE PREPARATION AND LAYOUT		
1. Layout a building on a site	FFC1	9.3
2. Establish batten boards	FFC1	9.3
3. Determine grade levels	FFC1	9.12

DUTY AREAS AND TASKS	NOCTI COMPETENCY	NATIONAL SKILL STANDARD
C. FUNDAMENTALS OF FLOOR FRAMING		
1. Install the sill plate	RF1	13.2
2. Layout joist on 16" centers	RF1	13.5
3. Install cross and solid bridging	RF1	13.9
4. Construct a floor system from a set of blueprints	RF1	13.5
D. APPLIED FOUNDATIONS AND FLOOR FRAMING		
1. Construct the first floor walls of a small house from a set of blueprints	RF2	14.2
2. Layout and install a floor opening	RF4	13.7
3. Build a floor as a member in a work crew	RF1	13.5
4. Estimate material needed for a floor system	BRE6	14.2
E. PRINCIPLES OF WALL LAYOUT		
1. Layout a 5' x 6' building	RF2	14.2
2. Layout a 5' x 6' building with a door and windows	EF3	14.3
3. Layout a 12' wall with a door, window and partition	RF2	14.9
4. Layout a 24' wall with windows and partitions	RF2	14.9
5. Demonstrate Knowledge of Theory regarding building walls	CRM1	14.10
F. FUNDAMENTALS OF WALL FRAMING AND CONSTRUCTION		
1. Layout and build a 6' x 6' set of walls with doors and windows	RF2	14.2
2. Layout and build a 6' x 6' set of walls with doors and windows	RF2	14.2
G. ADVANCED WALL FRAMING AND CONSTRUCTION		
1. Build a set of walls as a member in a work crew	RF2	14.2
2. Install a window unit	EF3	24.1
3. Estimate materials needed to build walls	BRE6	14.2
H. GABLE ROOF CONSTRUCTION		
1. Layout 5 different common rafters	RF3	19.219.2

NOCTI COMPETENCY CATEGORIES: **SGK** Safety and General Knowledge; **C** Carpentry; **M** Masonry; **E** Electrical; **P** Plumbing; **EE** Energy Efficiency; **BCM** Blueprints and Construction Math; **PT** Performance Test Areas

DUTY AREAS AND TASKS	NOCTI COMPETENCY	NATIONAL SKILL STANDARD
2. Build a gable roof on a 6' x 6' building	RF3	19.2
3. Theory and estimate regarding gable roof	BRE6	19.0
4. Building a gable roof as a member in a work crew	RF3	19.0
5. Install roof sheathing	RF3	19.13
I. HIP ROOF CONSTRUCTION		
1. Layout 5 different hip rafters	RF3	19.6
2. Layout 5 different hip jack rafters	RF3	19.6
3. Build a hip roof on a small building	RF3	19.6
4. Build a hip roof as a member of a work crew	RF3	19.6
5. Theory and estimating regarding hip roofs	BRE6	19.3
J. ADVANCED ROOF CONSTRUCTION		
1. Build a gambrel roof on a small building as a member of a work crew	RE3	19.2
2. Layout and build a standard W (fink) truss	RE3	18.2
3. Install trusses as a member of a work crew	RE3	18.2
4. Build a gable dormer on a gable roof	RF3	19.12
K. RESIDENTIAL CONSTRUCTION PLANNING, SCHEDULING AND MANAGEMENT		
1. Design a house	N/A	N/A
2. Estimate all material for a house	BRE6	N/A
L. ADVANCED FOUNDATION AND FLOOR FRAMING		
1. Build a foundation for a house	FFC2	N/A
2. Build a floor system for a house	RF1	13.5
M. ADVANCED EXTERIOR WALL FRAMING		
1. Build first floor walls on a building	RF2	14.10
2. Build the second floor walls of a building	RF2	14.10

NOCTI COMPETENCY CATEGORIES: **SGK** Safety and General Knowledge; **C** Carpentry; **M** Masonry; **E** Electrical; **P** Plumbing; **EE** Energy Efficiency; **BCM** Blueprints and Construction Math; **PT** Performance Test Areas

DUTY AREAS AND TASKS	NOCTI COMPETENCY	NATIONAL SKILL STANDARD
N. ADVANCED ROOF FRAMING		
1. Calculate rafter pitch and install roof rafters	RF3	19.1
O. DOOR, WINDOW, AND STAIR INSTALLATION		
1. Stair Construction	RF4	30.1
2. Install doors and windows	EF3	24.1
IV. EXTERIOR FINISH		
A. ROOFING MATERIALS AND APPLICATIONS		
1. Install a vent on a roof	N/A	21.4
2. Flash a valley	N/A	20.2
3. Flash around a chimney	N/A	20.2
4. Install various types of shingles	RF3	20.3
B. INSTALLATION OF SOFFIT AND FASCIA		
1. Install Fascia	EF1	22.2
2. Install F channel	EF1	22.1
3. Install soffit	EF1	22.1
C. SIDING APPLICATIONS		
1. Install vinyl corners	EF1	23.13
2. Install J channel	EF1	23.13
3. Install siding	EF1	23.13
V. INTERIOR FINISH		
A. INTERIOR TRIM		
1. Install base trim with coped joints	IF1	29.2
2. Install mitered trim on a window	IF1	29.2
3. Install a window trim with a cabinet head, sill and apron	IF1	29.2
B. STAIR LAYOUT AND CONSTRUCTION		
1. Layout 5 different stair stringers	IF4	30.1

NOCTI COMPETENCY CATEGORIES: **SGK** Safety and General Knowledge; **C** Carpentry; **M** Masonry; **E** Electrical; **P** Plumbing; **EE** Energy Efficiency; **BCM** Blueprints and Construction Math; **PT** Performance Test Areas

DUTY AREAS AND TASKS	NOCTI COMPETENCY	NATIONAL SKILL STANDARD
2. Build a set of stairs	IF4	30.2

DUTY AREAS AND TASKS	NOCTI COMPETENCY	NATIONAL SKILL STANDARD
C. DRYWALL INSTALLATION		
1. Measure, cut and install drywall	ISI3	25.2

DUTY AREAS AND TASKS	NOCTI COMPETENCY	NATIONAL SKILL STANDARD
D. DRYWALL FINISHING TECHNIQUES		
1. Finish seams both butt and tapered of drywall	ISI3	25.6
2. Finish corner joints of drywall	ISI3	25.5
3. Install drywall plaster board on ceiling	ISI3	25.4
4. Spray textured ceiling	ISI3	25.8