

***Build a Home, Build a Career***  
**Course Ideas**  
**For**

***Make Residential Construction Your Business***

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# ***Build a Home, Build a Career***

## **Course Ideas**

### **INTRODUCTION**

#### **Home Builders Institute**

Home Builders Institute, the workforce development arm of the National Association of Home Builders, is dedicated to the advancement and enrichment of craft education and training programs serving the needs of the residential construction industry. For more than 30 years, HBI has trained skilled workers in residential construction, promoted the industry as a career and helped the NAHB membership address its need for qualified employees. To this end, HBI offers:

- Trades training
- Job placement services
- *Building Careers* Job Bank
- In-school activities through the NAHB Student Chapters
- School-to-Career programs
- Workforce development assistance
- National Standards-based instructional materials
- Designation program for Site Superintendents

#### **Build a Home, Build a Career**

The *Build a Home, Build a Career* Kit is a program that can be shaped to fit a variety of educational goals and objectives. The uniquely designed package steps show how to develop an education, builder partnership around an array of projects enabling students at all levels to gain career awareness, academic enrichment, hands-on experience and ultimately employment opportunities.

#### **Innovative Education Strategy**

*Build a Home, Build a Career* lets educators begin in the classroom with an innovative approach to teaching Math, Science, Social Studies and English/Communications. Students will begin seeing the connections between their studies and real-world activities and occupations. Suggested lessons fit easily into existing curricula as they satisfy the need to introduce more reality-based learning into the classroom environment.

#### **Education/Business Partnerships**

Our career/education program is different from many others because it is based on forming partnerships between schools and building professionals. These partnerships provide students and educators with real connections and real opportunities – in mentoring, classroom participation by industry professionals, student internships, educator externships and access to jobs and career entry.

*Build a Home, Build a Career* projects are catalysts for change in the way students perceive the homebuilding industry, and are an inspiration to consider their career options in this field.

**Course Title:**

*Make Residential Construction Your Business*

The *Build a Home, Build a Career* course, *Make Residential Construction Your Business*, is aligned with National Skill Standards and adaptable to State specific standards.

**Course Description:**

This course is designed to give students a knowledge base about the residential construction industry and an awareness of industry related job and career opportunities. Students are able to connect what they are learning in the classroom to the world of work by aligning academic instruction with real-life industry experiences. The course will include a hands-on building project.

**Course Goal**

To give students a more extensive understanding of the relationship between academics and the world of work as it relates to the residential construction industry.

**Course Objectives:**

**Student Teams:** To establish student teams for the purpose of their successful completion of course activities in a group situation.

**Multi-disciplinary Faculty:** To activate a multi-disciplinary faculty team for the purpose of providing classroom experiences focused on the residential construction industry to include but not limited to Construction Systems, Math, Science, Language Arts, and Career Exploration.

**Hands-on Experiences:** To provide hands-on experiences for students who will be working with industry professionals for the purpose of gaining a better understanding of the residential construction industry

**Structure of the Course:**

Introduction

Orientation

Class Activities and Procedures

Hands-on Project – (See Class Activities and Procedures, Under Construction Systems Page 5)

**School Criteria:**

Grade Level:

This course is designed for high school level students in grades 11 & 12

Elective/Required:

The course status is determined by the school administration and/or district policy

**Course Length:**

The Course outlines a semester course

**Credits:**

The credit earned by students for taking the course is determined by the school administration and/or district policy

**Prerequisites:**

Criteria for academic studies deemed necessary prior to taking the course is determined by the school administration and/or district policy

**Instructor(s):**

The instructors should include school faculty determined by the academic disciplines and industry professions based on classroom and hands-on project activities.

**Student Selection Process:**

Student application process  
Teacher recommendation  
Open enrollment

**Instructional Methods:**

Methods for delivering instruction will be determined by the school faculty. They may include but are not limited to the following:

Lecture  
Student Lead Group Discussion  
Presentations – PowerPoint  
Presentations – Guest Speakers  
Work sheets  
Hands-on construction project

**Instructional Materials:**

The guide is based on the following instructional materials.

**Resources:**

HBI – *Build a Home, Build a Career*  
NAHB – *Building Homes of Our Own* (CD-ROM)

**Also includes:**

Select materials from the HBI – *Residential Academy Series* (Carpentry Text & CD-ROM)  
Lesson Plans have teacher recommended materials

**Expectations for Student Learning:**

Work to recognize all aspects of the industry

Demonstrate how the various academic disciplines play a vital part in gaining a good knowledge base for industry occupations

Develop the desirable work ethics of dependability, attendance and co-operation with others

Demonstrate knowledge of the residential construction industry in the following areas:

- Basic overview of Construction System resources
- Construction Safety
- Measurement
- Industry Language
- Tools and Equipment

Gain a broad knowledge base for determining career options

**Partnership Activities:**

Partnerships are a key component of utilizing industry professionals in the classroom and the successful completion of the hands-on project.

**Class Policies:**

Establishing policies sets a parameter for expectations of students entering the course. See Class Policies - Page 11

**Course and Student Evaluations:**

The goal and program objectives as stated in the Guide have been set forth to evaluate the course. Methods for individual student evaluation to be added by faculty (i.e. quizzes, class participation, written assignments, hands-on, etc.).

## **ORIENTATION**

**Review Course Structure:**

Identify the various components of the course for the group of participating students

**Establish Teams – Select Team Leader:**

The teachers from the various disciplines function as facilitators for one or more teams. Faculty determines the selection process for teams and team leaders prior to orientation. Industry professionals will function as team mentors.

Establish student teams. The number and size of the teams will be dependent upon the total number of participating students. Each team will select a team leader.

**Fill out the Team Charter:**

The chartering process identifies structure for the teaming. The Charter will indicate an agreed upon process to carry out the student related goals and objectives of the course. See - Page 12

**Discuss Selection of a Team Project:**

See Class Projects – Page 8

## CLASS ACTIVITIES AND PROCEDURES

Each class during the 6-week period of the course is conducted as a team meeting. Adhering to class policies and team charters, faculty will determine additional parameters for their specific class.

### **Construction Systems**

Construction is one of four recognized Technological Systems (the other three are Manufacturing Systems, Communication Systems and Transportation Systems).

Safety is extremely important to all aspects of the construction industry. It is imperative that students learn the initial OSHA rules of safety prior to any hands-on activity.

#### Construction Safety

To acquaint students with criteria basic to the residential construction industry the Guide has used Carpentry as an example. The following are the types of learning essential to beginning Carpentry:

Measurement	Square and Cubic Measure
Right Angles	Site Layout
Lumber	

Residential Construction, like all construction processes, contains a series of planned events. To construct the planned hands-on project for the course it is necessary to organize resources and use them efficiently.

Hands-on Project:

#### The Construction System resources consist of:

##### Materials

Which includes every item that is needed to complete the structure (i.e. lumber with specific dimensions for each item)

##### Work

Which includes the number of industry professionals and students required to complete the project within the allotted time frame

##### Processes

Which includes the specific course of action (how it will be done and who is responsible for each action)

##### Equipment

Which includes all tools and other apparatus required to complete the structure

#### Getting started on a construction project includes:

##### Planning

Decide on project, establish goal(s) and objectives for the planned structure, and identify how the Construction System resources will be implemented

### Budgeting

Identify funding to support the project (include volunteer services and donated products)

### Constructing

Carry out the plan of action identified in the Construction Systems resources section (Processes)

### Servicing

Determine whether or not the structure will meet the goal(s) identified in the planning sessions

## **Math**

Students see math in action as they learn how formulas, equations, and ratio and proportion are vital to building a house (at least, if they want it to remain standing)

### Lesson 2 Picture This! (Formulas & Equations)

This lesson shows students how to interpret blueprints so that mathematical formulas can be used to determine specific construction needs. Students will determine a specific area, volume and/or perimeter for given areas of a house.

### Lesson 3 To Scale (Ratio & Proportion)

This lesson complements student's knowledge of ratio and proportion. A guest speaker will help students understand scale drawings as applied to the building industry.

## **Language Arts**

Certainly, Technology has added another level to literacy as digital media and Internet capabilities continually transform and elevate our expectations and our capabilities. But at the core, the fundamentals remain constant. In fact, in order to fully and intelligently utilize the growing range of communications options, students must be able to listen, observe, comprehend, analyze, and articulate their ideas and information clearly, both in written and spoken forms.

### Lesson 1 Listen & Learn: Communication on the Job

Listening carefully and correctly interpreting another person's instructions or information is a basic and often overlooked communication skill, critical for success at school, at work and in life. This lesson emphasizes the need to communicate effectively to be a more efficient and productive employee

### Lesson 2 Talk the Talk: Vocabulary of Home Building

Many occupations have their own language or jargon. Learning the language of an occupation will not only help students expand their vocabulary and their horizons, it will also help them understand how careers and companies can develop a distinct culture build around their shared tasks and vocabularies.

## **Marketing** (lessons found in the Language Arts book):

These lessons use the familiar activities of home building, home selling and home buying as the basis helping your students develop and define their ability to think critically and communicate clearly.



#### Lesson 4 Persuade Me: The Language of Selling

Students learn to use spoken and written language as a descriptive and persuasive tool, using real estate and home buying/selling as the model.

#### Lesson 5 Beyond Words: Communicating an Identity

A logo is a graphic symbol that communicates an identity. Students will use creative thinking, problem-solving and design skills to design a logo that represents a home-related occupation or career.

### **Science**

The home building process can provide an effective, if unexpected, learning laboratory for students. A well-built home is in a sense, a successful science experiment. Scientific principles are at work throughout the process – in the selection of the site and materials, the building design and construction, and even in the details: painting, landscaping and home automation enhancements.

#### Lesson 6 The Right Stuff: The Nature of Building

Students explore how climate, geography and environmental factors and issues dictate building materials and construction methods.

Students learn to use critical thinking skills to understand how architects and builders make decisions about what can be built where.

#### Lesson 11 Learn to Xeriscape

Students are introduced to the concept of Xeriscaping (water – efficient landscaping) and the importance of this environmentally friendly method to the building industry.

### **Career Exploration**

It is a part of the education process to help students identify career directions and future employment opportunities. For high school students, the question, “What do you want to be when you grow up?” has become a more serious, pressing inquiry.

#### Exploration 1 (Unit 2) Charting a Career Course

Using the Team Career Research Worksheet, each student team develops a Career Planning Worksheet for at least two industry related careers

#### Lesson 3 (Unit 1) Interviewing Skills

Students learn effective job interviewing techniques and explore various work-based experiences.

#### Additional Education Options

Training Course

Technical School

Community College

College/University

## **Partnership Activities – Volunteers**

The *Build a Home, Build a Career* lesson plans give suggestions for use of industry professionals. They include but are not limited to the following:

### **Suggested Classroom Speakers**

Architect  
Builder  
Carpenter  
Developer  
Finance/Banker  
Landscape Architect  
Real Estate Agent

### **Site Construction Mentors**

Contractors

Lesson Plans contain recommendations for use of industry professionals.

## **Class Project(s)**

All phases of the Residential Construction Industry require groups of individuals with the ability to provide specific services. A good product depends on these groups cooperating and successfully working together. *Building Homes of Our Own* is an excellent vehicle for team problem solving and decision-making.

The CD-ROM has three sections, The Site, The House, and The Sale. Each section offers an opportunity to explore a phase of home building.

Teams will:

Select the section that contains areas of interest  
Keep an accurate record of transactions (to include receiving reaching a high enough score – 70% or higher – to move to a new scenario)

Each team provides a final report (i.e. written, PowerPoint, Oral Presentation) on their findings.

### ***Building Homes of our Own – The Site***

If there is an interest in – Site occupations: Architect, surveyor, archeologist, soil scientist, environmental consultant, structural engineer, urban planner, civil engineer, local government official

### ***Building Homes of our Own – The House***

If there is an interest in – House occupations: Developer, builder, general contractor, carpenter, plumber, glazier, roofer, home appliance repair, furniture makers, interior designer, landscape architect

### ***Building Homes of our Own – The Sale***

If there is an interest in – Sales occupations: Banker, mortgage broker, lawyer, real estate professional, credit specialist

## ***BUILD A HOME, BUILD A CAREER*** **NEXT STEPS**

It is a goal of the *Build a Home, Build a Career* program to increase the number of students considering careers in the residential construction industry. It's an initiative that results in positive outcomes for all students. Those pursuing post secondary education receive expanded career awareness and students joining the workforce receive exposure to employment opportunities.

### **Faculty/Student/Industry Follow-up Ideas:**

#### Lesson Plans:

*Build a Home, Build a Career* promotes and supports partnerships that bring together schools, parents, businesses, and other members of the community. In a joint effort to increase student learning and stimulate interest in the residential construction industry and related fields HBI invites teachers to submit additional lesson plans in the areas of Career Exploration, English, Math, Science and Social Studies. New lesson plans will be posted on the HBI website.

#### Summer Internships Program:

To produce an effective hands-on experience, students are teamed with a building professional on a 2:1 ratio determined by skill level and complexity of the job.

The instructors are experienced, skilled professionals working within the Residential Construction Industry. Working with experienced industry professionals enables those students who are in a construction trades course to enhance the skills they have acquired during the school year. Working with professionals also affords students without prior experience an opportunity to gain a perspective of the wide array of jobs/careers available within the industry while developing practical skills.

Typically, the school district provides an Internship Coordinator to assist with the facilitation of the program. Prior to the onset of the program designated HBA/school district staff setup onsite schedules and identify member volunteers for training sessions. The school district determines the criteria and number of credits a student will receive towards graduation as a result of successfully completing the internship.

#### Mentoring

As stated on the *Save the Children* web site. . .A mentor is someone who cares, listens, and offers encouragement. Mentors are partners in change, they help youth develop their strengths and talents by supporting the efforts of other significant people such as parents and teachers.

HBAs promote mentoring experiences for students that support academic achievement and career exploration. Students interested in careers in residential construction enter the job market with a broad range of workplace competencies and experiences and/or continue on with their postsecondary endeavors

**Program Benefits:**

Industry and school faculty have the opportunity to impact student career choices during critical career decision-making years. *Build a Home, Build a Career* activities are designed to expose a large number of students across interests and abilities to opportunities within the residential construction industry.

***Build a Home, Build a Career:***

- Provides a vehicle for builder/educator relationships
- Offers schools reality-based learning models
- Describes career paths and job opportunities for students at all academic levels
- Helps raise the profile and enhance the image of the building industry in the education community specifically among high school students
- Supports efforts to attract and recruit quality candidates for all levels of industry occupations
- Provides a forum for the industry to recruit skilled entry-level workers and mentor college bound students
- Enhances workforce supply thru internships and hands-on mentoring programs
- Provides students (both college and non-college bound) access to jobs requiring a wide range of skill and knowledge levels
- Enables students to acquired an understanding of the industry and recognize the value of early involvement in the industry.

**Sustainability Idea:**

Industry/education partnerships sometimes face the challenge of finding ways to support a hands-on building project. Many have found the solution in building a playhouse.

**It works:**

- The playhouse is typically constructed on the school site
- School staff has oversight for the project
- Industry professionals are engaged to mentor students
- HBA members donate time and materials
- The playhouse is auctioned off when completed, typically in conjunction with an event
- The proceeds go back into the program for the next hands-on project

## CLASS POLICIES

All assignments and test will be graded according to the following scale:

A	____-____	D	____-____
B	____-____	F	____-____
C	____-____		

You are responsible for all work missed due to class absence

Deadlines are extremely important to construction and will be strictly observed

Courteously share your ideas with the class – we learn from each other

Keep track of all class assignments – use a journal

Attend to personal needs before coming to class – in business time is money

Feel free to bring your imagination – all innovative ideas are welcome

No question asked sincerely is ever a dumb question

If you have circumstances where you have to have a live phone or pager in class – faculty will have the option of answering the phone – other option turn it off

All team members of each project team will receive the same numeric grade unless it has been determined that there has not been equal participation by team members – in this situation faculty should be notified immediately

Instructors are available to assist your team – schedule an appointment

Friendly Reminder – There is no eating, drinking or sleeping in class – not so friendly consequences

### ***Make Residential Construction Your Business Coupon***

Redeem at end of 6-week course for \_\_\_\_\_ credit points if all team members have attended each class and completed all assignments.

Submitted by Team #\_\_\_\_\_

Only good if all team members are in compliance

Make Residential Construction Your Business  
Team Charter  
Team #

**Purpose:**

To maintain a structured coordinated and efficient process for completing the six-week *Make Residential Construction Your Business Course*

**Role of Team:**

**Team Leader:** Assure all assignments are complete in a timely fashion

**Team Members:** Complete all assignments in a timely fashion

**Team Responsibilities:**

Complete all assignments by the designated due date

Prompt attendance for academic and hand-on building classes

**Team Meeting Requirements:** Daily  
Monday through Friday during regularly scheduled school hours.

**Team Member Signatures**

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**Information References:**

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