

## IDAHO STATE UNIVERSITY COLLEGE OF TECHNOLOGY

### **PROGRAM TITLE: BUILDING CONSTRUCTION TECHNOLOGY**

Information included in this handout may change at anytime without notice and should not be considered as a binding contract between Idaho State University and students.

#### Program Options & Length:

Building Construction Technology, Associate of Applied Science	4 Semesters
Building Construction Technology, Advanced Technical Certificate	4 Semesters

**Entry dates  
for this program:**  
August

**Approximate cost  
for books, tools,  
& supplies: \$1,147.00**  
(See below for registration fees.)

**For more information,  
Contact:**  
Idaho State University  
College of Technology  
Student Services Office  
Campus Box 8380  
Pocatello, ID 83209-8380  
208-282-2622  
e-mail: [ctech@isu.edu](mailto:ctech@isu.edu)  
[www.isu.edu/ctech/](http://www.isu.edu/ctech/)

**Job Description:** In general, workers in the building construction industry perform many combinations of the following duties/skills. Workers may need the ability to work under close supervision and, as needed, to work independently in a variety of job tasks on the construction project. They may operate motorized equipment such as cement mixers, front-end loaders, ditch diggers, and mechanical hoists. They learn to utilize proper hand-tools and power-tools such as hammers, saws, drills, staple guns, sanders, and chisels in a safe manner. Helpful skills in this occupational area include construction mathematics, blueprint reading, safety/first aid, free-hand sketching (mechanical drawing), and good interpersonal and communication skills. The ability to work accurately within set limits and to make decisions based on facts is valuable in this field of work.

**People entering this profession may experience some periods of unemployment due to the short-term nature of many construction projects and the cyclical aspects of the construction industry. During economic downturns the number of jobs in the trade are reduced. Salaries will vary throughout regions of the nation, and employment is often reduced by bad weather during some months of the year. Idaho salaries range from \$8.00 to \$18.00 an hour depending on experience.**

**Aptitudes and Interests:** Construction trade programs are designed to prepare people to build, maintain, and repair buildings using materials such as metal, wood, stone, brick, glass, concrete, and composition substances. Construction work is physically strenuous. It often requires frequent bending, climbing, kneeling, reaching, stretching and heavy lifting in excess of 25 pounds. Much of the work is performed outdoors. It is helpful that workers in building construction possess good physical stamina, eye-hand coordination, manual dexterity and a good sense of balance. Workers are commonly expected to solve arithmetic problems quickly and accurately. Prior experience and familiarity with construction methods, materials, and operations are a benefit but not a necessity for entry to this occupational field. Some hazards of this occupation include injuries from power tools, work with sharp or rough materials, and falling accidents from ladders, scaffolds, and roofs.

#### **TUITION: TUITION AND FEES ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTIFICATION**

**Tuition** for this program is paid every August and January.

The following fees are for the **2007/2008** school year:

<b>TUITION PER SEMESTER</b>	<b>\$2,200.00</b>
<b>TUITION PER SEMESTER/NON-RESIDENT</b>	<b>\$6542.00</b>
<b>STUDENT INSURANCE PREMIUM PER SEMESTER (REQUIRED)</b>	<b>\$ 523.00*</b>
<b>PART-TIME REGISTRATION FEES</b>	<b>\$221.00 PER CREDIT</b>

\*Any student with existing health insurance coverage may be exempt from participation in the Student Insurance Plan by completing and filing a Health Insurance Waiver each academic year. This waiver can be found through the college website at <http://www.isu.edu/stuhlth/insurance/pp.html>.

**Educational and Other Requirements:** Completion of high school or GED is required.

ACT scores are not required for acceptance to the College of Technology,  
**however they are required to qualify for some scholarships.**

**Helpful High School Courses:**

Algebra      Geometry      Industrial Arts      Mechanical Drawing

**Related Occupations:**

Carpentry      Drywall Installer      Roofer      Tape and Texturer

Former College of Technology students who have been out of school one semester or more must complete the necessary forms in the Student Services office before returning to the program.

Re-entering students must meet requirements as outlined in the catalog effective at the date of their re-enrollment.

Students may choose any subsequent catalog to meet graduation requirements as long as they have continuous enrollment.

**Idaho State University subscribes to the principles and laws of the State of Idaho and the federal government, including applicable executive orders pertaining to civil rights. All rights, privileges, and activities of the University are made available without regard to race, creed, color, sex, age, disability, national origin or veteran status. The University is an Equal Opportunity and Affirmative Action employer. Evidence of practices that are not consistent with such a policy should be reported to:**

**Leonard E. "Buddy" Frazier, Affirmative Action Director  
 Museum Building, Room 422 Box 8315  
 E-mail frazleon@isu.edu  
 (208) 282-3964**

**Idaho State University is committed to equal opportunity in education for all students, including those with documented disabilities. If you have a diagnosed disability or if you believe that you have a disability that might require reasonable accommodations, please contact:**

**Dennis J. Toney, ADA Disabilities and Resource Center Director  
 Gravely Hall, Room 123 Box 8121  
 E-mail tonedenn@isu.edu  
 (208)282-3599**

**NOTE: Licensure, certification, and/or employment applications related to some degree programs require students to disclose any history of criminal prosecution which may include the student's driving record. Students who have a criminal history are strongly encouraged to contact the licensing agency or meet with the coordinator of the program they are interested in, prior to beginning classes, to discuss potential impediments to licensure, certification, or employment.**

## IDAHO STATE UNIVERSITY COLLEGE OF TECHNOLOGY

### **PROGRAM TITLE: BUILDING CONSTRUCTION TECHNOLOGY**

#### CURRICULUM 4 Semester Program 18 or 21 months

One advanced technical certificate and one Associate of Applied Science degree which require 62 to 76 credits as listed below are available to the student.

**Personal and coworker safety is of utmost importance.  
As such, safety will be continuously stressed in all courses in building construction technology.  
The Unified Building Code (UBC) is the standard to which buildings are built and inspected.  
Code considerations will be integrated into building construction courses where appropriate.**

**BUILDING CONSTRUCTION TECHNOLOGY ATC** 4 Semesters. A minimum of 60 credits is required for an advanced technical certificate in Building Construction Technology. Required courses include BCT 110, 112, 115, 116, 117, 118, 120, 121, 142, 160, 161, 201, 202, 203, 204, 205, 206, 210, 211, 212, 213, 214, 215, 216, 217, and 218.

**BUILDING CONSTRUCTION TECHNOLOGY AAS** 4 Semesters. A minimum of 74 credits is required for an Associate of Applied Science degree in Building Construction Technology. Required courses include BCT 110, 112, 115, 116, 117, 118, 120, 121, 142, 160, 161, 201, 202, 203, 204, 205, 206, 210, 211, 212, 213, 214, 215, 216, 217, 218; and sixteen (16) transferable General Education credits: ENGL 101; COMM 101; three (3) credits from Goal 3 (MATH); three (3) credits from Goals 6, 7, 9, 10A, 11, or 12; and four (4) credits from Goals 2 through 12.

*Upon completion of the Associate of Applied Science degree, a Bachelor of Applied Technology degree is available to a student with the completion of formally approved academic courses.*

*You may appeal placement decisions made by Student Services through a petition process.*

*Please call 208-282-2622 for more information.*

**TGE 199 INTRO TO ISU (Elective)** 1 credit. Provides an extended orientation to the university for new students. Utilizes presenters from various campus support systems, collaborative learning activities, and written assignments which involve students in resources and activities on campus. F, S

**BCT 110 HAND TOOLS, POWER HAND TOOLS, AND POWER TOOLS** 2 credits. Students will learn to properly use and maintain the tools used in the construction trade. F

**BCT 112 CONSTRUCTION BLUEPRINT READING I** 3 credits. Students will learn to read a set of blueprints and list materials. F

**BCT 115 INTRODUCTION TO MASONRY** 2 credits. A review of masonry principles and how different materials are used in the building industry. Emphasis will be placed on the selection and use of various masonry products along with practical applications thereof. Students will use cement block, brick, pavers, and other masonry products in simulated building applications. F

**BCT 116 FLOOR AND WALL CONSTRUCTION** 4 credits. Students will learn the different parts of a frame floor and wall, the methods of layout, the methods of assembly and erection, and how to estimate the materials and labor needed to complete the building of floor and wall framing. S

**BCT 117 INTRODUCTION TO STAIRWAY CONSTRUCTION** 2 credits. The student will build different stairway layouts; and finding solutions to stairway problems will be covered. S

**BCT 118 ROOF FRAMING CONSTRUCTION** 4 credits. Students will frame up a gable roof, a gable roof with a dormer, a hip roof, a gambrel roof, and will lay out a truss. S

**BCT 120 TRIM CARPENTRY TECHNIQUES** 4 credits. Students will learn to build and install base molding, door and window casings, crown molding, chair rails, and wall molding. F

**BCT 121 BASIC CABINETMAKING** 5 credits. Identify proper wood or plywood used in cabinetmaking; identify and cut a variety of woodworking joints; and layout, cut, and assemble materials for case construction. F

**BCT 142 CONSTRUCTION BLUEPRINT READING II** 2 credits. An advanced blueprint reading course that utilizes residential drawings and light commercial plans. Emphasis placed on materials, symbols, specifications, framing systems, floors, plumbing, HVAC, and electrical. PREREQ: BCT 112 S

**BCT 160 CONSTRUCTION MATHEMATICS** 2 credits. Students will learn the use of various measuring systems of construction and emphasis will be placed on the math used in the building construction trade. F

**BCT 161 PLANNING AND ESTIMATING** 2 credits. In this class the student will learn how to estimate the amount of material it will take to build a house and plan the sequence of construction. S

**BCT 201 CONCRETE FORMING, POURING AND FINISHING** 3 credits. An introduction to concrete foundations used in residential structures. Students will learn methods to pour, reinforce, and estimate concrete volume. Modern architectural design is increasingly using concrete footings and foundations. Students will learn the use of forms, ties, and clamps to pour footings and foundations. F

**BCT 202 FLOOR AND SILLS** 2 credits. Students will learn the proper techniques and methods to frame a wood structure. Components of floor and sill framing will be taught as well as materials estimating. F

**BCT 203 INTERIOR WALL AND CEILING** 2 credits. Students will be taught the vertical and horizontal support members of a structure and their purpose as the basis for further construction. Students will be able to assemble all the framing members of a structure. F

**BCT 204 ROOF RAFTERS AND SHEATHING** 3 credits. Various roof framing members and different types of roofs will be identified. Students will learn about different types of roof openings and sheathing. F

**BCT 205 STAIRWAYS AND SPECIAL FRAMING** 2 credits. Stairways and other special framing situations will be covered. The types and parts of staircases will be identified. Methods used for measuring rise and run, and materials estimating will be included. F

**BCT 206 FIELD CONSTRUCTION METHODS** 2 credits. The purpose of this course is to train and provide students with practical experience in powder actuated tools, fastening methods, engineered lumber systems, safe rigging practices, building and electrical codes, and construction safety. Students will apply skills and knowledge to the construction of a modern home. F

**BCT 210 CORNICES AND GABLE ENDS** 2 credits. Types and styles of cornices and gables will be identified including the proper construction of each and the appropriate methods for finishing and covering. The student will learn measuring and estimating for purchase of materials. S

**BCT 211 ROOFING** 2 credits. Roof covering is becoming a specialized area of construction. Types of roofs, appropriate roofing materials and tools needed to complete roof application will be taught. Students will be able to select and apply roofing to a framed structure. S

**BCT 212 EXTERIOR WALLS AND TRIM** 2 credits. Different types of water and wind wall protection will be covered and installation of siding to a framed structure will be taught. Students will also learn joint finishing and trim techniques to complete exterior walls. F

**BCT 213 EXTERIOR DOORS AND WINDOWS** 2 credits. Students will learn types of exterior doors and provide complete installation procedures to include door, frame, hardware, threshold, and weather-stripping. S

**BCT 214 INSULATION** 1 credit. Energy conservation as it relates to types and uses for insulation in a

residential structure will be discussed. Students will learn classification, types, and how to figure quantities needed on a project. F

**BCT 215 DRYWALL** 2 credits. Drywall sizes, types, and uses of drywall will be covered. Students will learn techniques to install, finish drywall joints and depressions, and learn types of drywall finishes that may be applied. Measuring and estimating will also be taught. S

**BCT 216 INTERIOR DOORS AND TRIM** 3 credits. Students will learn the types and techniques for installing interior doors. Hardware, moldings, and trim will be taught. The proper installation relating to door frame, wall size and type of room will be covered. S

**BCT 217 FLOORING** 1 credit. Various types of floor covering, underlayment, and wood flooring will be taught. Estimating materials for the size of area to be covered will be discussed. S

**BCT 218 STEEL STUD FRAMING** 2 credits. The students will demonstrate the correct and safe use of power tools and describe the various uses of steel studs. S

**BCT 298 SPECIAL TOPICS** 1 - 16 credits. Addresses the specific needs of individuals, enabling students to upgrade their technical skills through part-time enrollment in units of instruction that are currently available through the program's full-time, pre-employment curriculum. Permission of the instructor is required.

**The following are optional technical courses:**

**TGE 156 APPLIED BUSINESS PRINCIPLES** 2 credits. Course provides an overview of business/economic principles related to technical courses of study. D

**TGE 158 APPLIED JOB SEARCH** 1 - 2 credits. Comprehensive study and practice of job search activities, including company research, networking strategies, interviewing behavior and writing the resume and business correspondence. Course culminates in the preparation of a professional portfolio. The two-credit option provides students with extensive interviewing experience in a variety of settings. D

**TGE 160 APPLIED HUMAN RELATIONS** 2 credits. Course provides a study of human behavior in an occupational environment with emphasis on communications, motivation, leadership, and personal attitude. D

**FOR DETAILED INFORMATION ON GENERAL EDUCATION CLASSES,  
PLEASE REFER TO THE ISU UNDERGRADUATE CATALOG OR CLASS SCHEDULE.**

**IDAHO STATE UNIVERSITY COLLEGE OF TECHNOLOGY**  
**PROGRAM TITLE: BUILDING CONSTRUCTION TECHNOLOGY**

**COURSE SEQUENCE**

1st Year - 1st Semester Fall

ATC	AAS	Course #	Course Title	Credits
x	x	BCT 110	Hand Tools, Power Hand Tools and Power Tools	2
x	x	BCT 112	Construction Blueprint Reading I	3
x	x	BCT 120	Trim Carpentry Techniques	4
x	x	BCT 121	Basic Cabinetmaking	5
x	x	BCT 160	Construction Mathematics	2

1st Year - 2nd Semester - Spring

ATC	AAS	Course #	Course Title	Credits
x	x	BCT 115	Introduction to Masonry	2
x	x	BCT 116	Floor and Wall Construction	4
x	x	BCT 117	Introduction to Stairway Construction	2
x	x	BCT 118	Roof Framing Construction	4
x	x	BCT 142	Construction Blueprint Reading II	2
x	x	BCT 161	Planning and Estimating	2

2nd Year - 3rd Semester - Fall

ATC	AAS	Course #	Course Title	Credits
x	x	BCT 201	Concrete Forming Pouring and Finishing	3
x	x	BCT 202	Floors and Sills	2
x	x	BCT 203	Interior Walls and Ceilings	2
x	x	BCT 204	Roof, Rafters and Sheathing	3
x	x	BCT 205	Stairways and Special Framing	2
x	x	BCT 206	Field Construction Methods	2
x	x	BCT 212	Exterior Walls and Trim	2

## 2nd Year - 4th Semester - Spring

ATC	AAS	Course #	Course Title	Credits
x	x	BCT 210	Cornices and Gable Ends	2
x	x	BCT 211	Roofing	2
x	x	BCT 213	Exterior Doors and Windows	2
x	x	BCT 214	Insulation	1
x	x	BCT 215	Drywall	2
x	x	BCT 216	Interior Doors and Trim	3
x	x	BCT 217	Flooring	1
x	x	BCT 218	Steel Stud Framing	2

**Students will also need to schedule the following classes if they are seeking the Associate of Applied Science degree:** ENGL 101; COMM 101; three (3) credits from Goal 3 (MATH); three (3) credits from Goals 6, 7, 9, 10A, 11, or 12; and four (4) credits from Goals 2 through 12.

**IDAHO STATE UNIVERSITY COLLEGE OF TECHNOLOGY**  
**PROGRAM TITLE: BUILDING CONSTRUCTION TECHNOLOGY**

**BOOK AND TOOL LIST**

Textbooks may be purchased at the University Bookstore located at the Pond Student Union - Building #14. Textbooks may also be purchased or reserved on-line through [www.efollett.com](http://www.efollett.com) or the bookstore's website at [www.isu.edu/bookstor](http://www.isu.edu/bookstor). Payments may be made with cash, check, VISA, Mastercard, American Express, or Discover. A shipping charge will be added for mail orders. See the bookstore's website for more information on purchasing or reserving books or for refund policy information. **Save Your Receipts!**

**Approximate total book and tool costs for this program's options are listed below.**  
**Additional book costs will vary depending on the courses taken to fulfill**  
**general education requirements for the AAS degree.**  
**For a breakdown of books by individual class requirements, you must check your course curriculum.**

**NOTE: PRICES ARE SUBJECT TO CHANGE AT ANYTIME WITHOUT PRIOR NOTIFICATION**

Students are required to purchase the tools listed below.  
 Tools may be purchased from the following vendors as a set rather than purchasing tools separately.

Anderson Lumber  
 955 W Alameda Drive  
 Pocatello ID 83201  
 (208) 237-7100

The Home Depot  
 4340 Hawthorne Rd  
 Chubbuck ID 83202  
 (208) 637-1008

Sears (Pineridge Mall)  
 4155 Yellowstone  
 Chubbuck ID 83202  
 (208) 235-2700

Tool Liquidator (Westwood Mall)  
 1800 Garrett Way  
 Pocatello ID 83201  
 (208) 232-8302

**I. TOOLS**

QUANTITY	DESCRIPTION	APPROXIMATE PRICE
1 ea	Bar, Flat	7.00
1 ea	Box, Chalk	8.00
1 ea	Box, Tool - metal carpenter box 30"W x 9"D x 9" H	50.00
1 ea	Cat's Paw	7.00
1 set	Chisel, 1/2", 3/4", and 1" Stanley Contractor grade	30.00
1 set	Drill Bits, speed lock power driver (Sears) 31 piece set	29.00
1 pr	Ear Plugs	10.00
1 pr	Glasses, safety	6.00
1 ea	Gauge, sliding bevel	16.00
1 set	Gauge, stair	6.00

1 ea	Hammer, 16 oz or 20 oz, ripping	22.00
1 ea	Hammer, 16 oz, straight	22.00
1 ea	Knife, Utility	5.00
1 ea	Level, 24 inches	25.00
1 ea	Measuring Tape, 25' or 30'	10.00
1 ea	Nail Apron	50.00
1 ea	Nail Sets	5.00
1 ea	Plane, block, low angle	45.00
1 ea	Pliers, slip joint	6.00
1 ea	Rasp, 4-in-1	5.00
1 ea	Saw, coping	8.00
1 ea	Saw, cross-cut hand, 12 teeth per inch x 24" to 26" long	36.00
1 ea	Screwdriver, 4-in-1 Quick Change	5.00
1 pr	Snip, Aviation straight cut or Tin Snips	15.00
1 ea	Square, combination	15.00
1 ea	Square, framing, with "rafter table"	25.00
1 ea	Square, speed	9.00
1 ea	Tape, 100 feet	15.00
1 ea	Wrench, 10 inch adjustable	8.00
<b>APPROXIMATE TOTAL TOOLS - FIRST YEAR</b>		<b>\$500.00</b>

### FIRST SEMESTER - FIRST YEAR - FALL

#### II. BOOKS LISTED BY COURSE (BCT 110, 112, 120, 121, 160)

DESCRIPTION	APPROXIMATE PRICE	
<b>BCT 110 HAND TOOLS, POWER HAND TOOLS, AND POWER TOOLS</b>		
Class Fee (BCT 110)		20.00
<b>BCT 112 CONSTRUCTION AND BLUEPRINT READING I</b>		
PRINT READING FOR RES CONST w/cd & plans (part 1), 4 <sup>th</sup> ed, by Proctor	0-8269-0409-6	45.00
<b>BCT 120 TRIM CARPENTRY TECHNIQUES</b>		
CARPENTRY, 4th ed, by Vogt	140-187-0690	90.00
CARPENTRY WHEELS OF LEARNING Level 1 Training Guide, by NCCER	0-13-060475-0	78.00
FINISH CARPENTRY, 2nd ed, by Savage	1-56158-536-X	18.00

<b>BCT 121 BASIC CABINETMAKING</b>		
BUILDING TRADITIONAL KITCHEN CABINETS, by Toplin	1-56158-058-3	20.00
<b>BCT 160 CONSTRUCTION MATHEMATICS</b>		
APPLIED MATHEMATICS, 2004, by Phagan	1-56637-995-3	54.00
<b>APPROXIMATE TOTAL BOOKS - FIRST SEMESTER</b>		<b>\$319.00</b>

<b>APPROXIMATE TOTAL BOOKS AND TOOLS - FIRST SEMESTER</b>	<b>\$819.00</b>
---	-----------------

### SECOND SEMESTER - SPRING

#### III. BOOKS (LISTED BY COURSE) & OTHER EXPENSES (BCT 115, 116, 117, 118, 142, 161)

DESCRIPTION	APPROXIMATE PRICE	
<b>BCT 117 INTRODUCTION TO STAIRWAY CONSTRUCTION</b>		
Class Fee (BCT 117)		20.00
<b>BCT 118 ROOF FRAMING CONSTRUCTION</b>		
<b>BCT 142 CONSTRUCTION AND BLUEPRINT READING II</b>		
<b>APPROXIMATE BOOKS - SECOND SEMESTER</b>		<b>\$20.00</b>

### THIRD SEMESTER - FALL

#### IV. BOOKS (LISTED BY COURSE) & OTHER EXPENSES (BCT 201, 202, 203, 204, 205, 206, 212)

DESCRIPTION	APPROXIMATE PRICE	
<b>BCT 201 CONCRETE FORMING, POURING AND FINISHING</b>		
CARPENTRY WHEELS OF LEARNING Level 2 Training Guide, by NCCER	0-13-060486-6	114.00
CORE CURRICULUM: INTRO CRAFT SKILLS, 3 <sup>rd</sup> ed, by Nat. Center Construction	013-1091-870	54.00
Boots, steel toe		100.00
Hat, Hard		20.00
<b>APPROXIMATE BOOKS &amp; OTHER EXPENSES - THIRD SEMESTER</b>		<b>\$288.00</b>

**FOURTH SEMESTER - SPRING****V. BOOKS (LISTED BY COURSE) & OTHER EXPENSES (BCT 210, 211, 213, 214, 215, 216, 217, 218)**

<b>DESCRIPTION</b>	<b>APPROXIMATE PRICE</b>
<b>BCT 210 CORNICES AND GABLE ENDS</b>	
Graduation Application fee for first Certificate/Degree	20.00
Optional fee for any additional Certificate/Degree	(10.00)
<b>APPROXIMATE BOOKS &amp; OTHER EXPENSES - FOURTH SEMESTER</b>	<b>\$20.00</b>

<b>APPROXIMATE TOTAL BOOKS, TOOLS AND OTHER EXPENSES</b>	<b>\$1,147.00</b>
--	-------------------

**TUITION AND FEES ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTIFICATION**

**Tuition** for this program is paid every August and January.

<b>TUITION PER SEMESTER</b>	<b>\$2,200.00</b>
<b>TUITION PER SEMESTER/NON-RESIDENT</b>	<b>\$6,542.00</b>
<b>STUDENT INSURANCE PREMIUM PER SEMESTER</b>	<b>\$ 523.00*</b>

\*Any student with existing health insurance coverage may be exempt from participation in the Student Insurance Plan by completing and filing a Health Insurance Waiver each academic year. This waiver can be found through the college website at <http://www.isu.edu/stuhlth/insurance/pp.html> .

<p>ANTICIPATE ADDITIONAL EXPENSES ASSOCIATED WITH THIS PROGRAM:  <b>TEXTBOOKS ASSOCIATED WITH ACADEMIC COURSES,</b>            TRANSPORTATION, PARKING, CHILD CARE, HOUSING.            YOU MUST CHECK YOUR CLASS SCHEDULE TO DETERMINE TEXTBOOKS REQUIRED BY            INSTRUCTOR.</p>
--