Department of Architecture & Construction

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http://www.byui.edu/ArchitectureandConstruction/

Department of Architecture and Construction

The Architecture and Construction Industry encompasses a wide range of career options. There are many excellent employment opportunities within this dynamic and growing industry. The Educational programs offered by the Architecture and Construction Department are designed to prepare students to fulfill challenging employment opportunities within the industry.

The department offers two degree programs; an Applied Associate of Science Degree in Architectural Technology (345) and an Integrated Bachelor of Science Degree in Construction Management (605). Both degrees offer a range of options that will allow students to customize their course of study to fulfill future employment ambitions. Both degrees also require a high level of academic and technical abilities and students should have developed good math, science, art, and manual skills prior to enrollment in the program.

Graduation Requirements

To receive either an AAS in Architectural Technology or a BS in Construction Management, a student will need to complete the prescribed course of study with a minimum GPA of 2.25 or higher. No grade less than a C- will be accepted for any major course requirement. Students wishing to complete a BS in Construction Management are required to complete at least two semester long full time internships (Const 398 & Const 498). The internships are usually completed on the students “off track” between their Sophomore/Junior and Junior/Senior years. Students who complete an AAS in Architectural Technology are also required to complete an internship.

General Interest Courses.

The department also offers woodworking classes of general interest open to the student body and community.
# AAS in Architectural Technology (345)

**Take required Foundations courses**

<table>
<thead>
<tr>
<th>Take these courses:</th>
<th>Take 8 credits:</th>
<th>Take 1 course:</th>
<th>Program Notes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCH 100 3</td>
<td>CONST 210 3</td>
<td>ART 101 3</td>
<td></td>
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<tr>
<td>ARCH 110 3</td>
<td>CONST 230 3</td>
<td>ART 102 3</td>
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<tr>
<td>ARCH 160 3</td>
<td>CONST 240 3</td>
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<tr>
<td>ARCH 210 3</td>
<td>CONST 250 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARCH 260 3</td>
<td>CONST 298R 1-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARCH 270 3</td>
<td>CONST 320 2</td>
<td></td>
<td></td>
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<tr>
<td>ARCH 280 3</td>
<td>CONST 340 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONST 120 3</td>
<td>CONST 370 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONST 260 3</td>
<td>CONST 380 3</td>
<td>ME 115 2</td>
<td></td>
</tr>
<tr>
<td>CONST 330 3</td>
<td>CONST 398R 0.5</td>
<td></td>
<td></td>
</tr>
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<td>ENG 319 3</td>
<td>CONST 450 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 111 2</td>
<td>HED 140 3</td>
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<td></td>
<td>HORT 235 3</td>
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<tr>
<td></td>
<td>CONST 320 3</td>
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<tr>
<td></td>
<td>CONST 330 3</td>
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<tr>
<td></td>
<td>CONST 370 3</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>CONST 390R 1-2</td>
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<td></td>
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<tr>
<td></td>
<td>MATH 111 3</td>
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</tbody>
</table>

**Total Major Credits=51**

- Fall-Winter---- YES
- Winter-Spring---- YES
- Spring-Fall---- YES

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# BS in Construction Management (605)

**Take required Foundations courses**

<table>
<thead>
<tr>
<th>Take these courses:</th>
<th>Repeat 4 times:</th>
<th>Program Notes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Students are required to complete 2 credits each of Const 398 and Const 498R)</td>
<td>CONST 398R 0.5</td>
<td>Students majoring in Construction Management are required to select either the Business Management Minor or a Business Management Cluster. If a Business Management cluster is chosen, an additional cluster must be chosen from the CM clusters list, which includes Commercial Construction, Residential Construction and Architectural clusters. Students wishing to “custom design” clusters will need to counsel with their Advisor.</td>
</tr>
<tr>
<td>ARCH 100 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONST 120 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONST 260 3</td>
<td></td>
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<tr>
<td>CONST 320 2</td>
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<tr>
<td>CONST 330 3</td>
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</tr>
<tr>
<td>CONST 380 3</td>
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<td></td>
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<tr>
<td>CONST 398R 1-2</td>
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<tr>
<td>CONST 420 3</td>
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<td>CONST 430 3</td>
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<tr>
<td>CONST 450 3</td>
<td></td>
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</tr>
<tr>
<td>CONST 498R 1-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 111 3</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

**Total Major Credits=55**

- Fall-Winter---- YES
- Winter-Spring---- YES
- Spring-Fall---- YES

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## Architecture and Construction Pre-approved Clusters
(For Construction Management Majors Only)

### Construction Management Business Management

**Choose 1 Option**

**Option 1**

**Take this course:**
- ACCTG 180 Survey of Accounting 3
- ACCTG 201 Financial Accounting 3
- ACCTG 202 Managerial Accounting 3

**Take 1 course:**
- B 101 Introduction to Business 3
- B 283 Entrepreneurship Skills 3

**OR**

**Option 2**

**Take these courses:**
- ACCTG 201 Financial Accounting 3
- ACCTG 202 Managerial Accounting 3

**AND**

**Enrichment - Take 2 courses:**
- B 201 Introduction to Finance 3
- B 347 Principles of Marketing 3
- B 370 Human Resource Management 3
- B 380 Introduction to International Business 2
- ECON 112 Economic Principles and Problems - Micro 3
- FMAT 221 Business Statistics 3

**Total Credits 12**

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### Commercial Construction

**Take 12 Credits:**
- ARCH 270 Specifications 3
- CONST 340 Fundamentals of Land Survey 3
- CONST 350 Soils and Equipment 3
- CONST 400 Advanced Estimating 3
- GEOL 404 Environmental Geology 3
- ME 105 Basic Welding 4
- SPAN Any Spanish Course 3-4

**Total Credits 12**

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### Architecture

**Take 12 Credits:**
- ARCH 110 Architectural Computer Aided Design 3
- ARCH 160 Architectural Design and Drafting 3
- ARCH 210 Advanced Architectural CAD 3
- ARCH 260 Rendering and Perspective 3
- ARCH 270 Specifications 3
- ARCH 280 Building Information Modeling 3
- ME 115 Computerized Technical Illustration 2

**Total Credits 12**

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### Residential Construction

**Take 12 Credits:**
- CONST 210 Finishing Systems 3
- CONST 230 Mechanical Systems 3
- CONST 240 Electrical Systems 3
- CONST 250 Steel Structural Systems 3
- CONST 300 Cabinetmaking 3
- CONST 460 Residential Construction Practice 2
- ME 105 Basic Welding 4
- SPAN Any Spanish Course 3-4

**Total Credits 12**

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**NOTE:** Students may choose from one of the CM clusters below or they may establish a Specialized Cluster by selecting 12 credits from any of the other CM clusters. Clusters using classes that are not in the CM cluster lists need to be approved and signed by your academic advisor before beginning the coursework.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCH 270</td>
<td>Specifications</td>
<td>(3:3:0)</td>
<td>Arch 100, Arch 110, Arch 160, Sophomore status</td>
</tr>
<tr>
<td>ARCH 210</td>
<td>Advanced Architectural Computer Aided Design</td>
<td>(3:2:4)</td>
<td>Arch 100, Const 120, Arch 210, and Const 330 (can be taken concurrently).</td>
</tr>
<tr>
<td>ARCH 100</td>
<td>Construction Documents</td>
<td>(3:3:1)</td>
<td>Arch 100, Const 120, Arch 160, Sophomore status</td>
</tr>
<tr>
<td>ARCH 110</td>
<td>Architectural Computer Aided Design</td>
<td>(3:2:4)</td>
<td>Prerequisite: Arch 100, Const 120 or concurrent enrollment.</td>
</tr>
<tr>
<td>ARCH 160</td>
<td>Architectural Design and Drafting</td>
<td>(3:2:4)</td>
<td>Prerequisite: Arch 100, Const 120, Arch 160</td>
</tr>
<tr>
<td>ARCH 280</td>
<td>Building Information Modeling</td>
<td>(3:2:2)</td>
<td>Arch 110, Const 120, Arch 210, and Const 330.</td>
</tr>
<tr>
<td>CONST 100</td>
<td>Basic Woodworking</td>
<td>(3:2:2)</td>
<td>Fee: $10.00</td>
</tr>
<tr>
<td>CONST 110</td>
<td>Home Maintenance</td>
<td>(3:2:2)</td>
<td>Prerequisite: Arch 100, Const 120, Arch 210, and Const 330.</td>
</tr>
<tr>
<td>CONST 200</td>
<td>Advanced Woodworking</td>
<td>(3:2:4)</td>
<td>Fee: $10.00</td>
</tr>
<tr>
<td>CONST 210</td>
<td>Finishing Systems</td>
<td>(3:2:3)</td>
<td>Prerequisite: Arch 100, Const 120, Arch 210.</td>
</tr>
<tr>
<td>CONST 230</td>
<td>Mechanical Environmental Systems</td>
<td>(3:2:2)</td>
<td>Prerequisite: Arch 100, Const 120, Arch 210.</td>
</tr>
</tbody>
</table>

* Credit Description (Credit Hours : Lecture Hours per week : Lab Hours per week)
Architecture & Construction

** CONST 240 Electrical Systems **
(3:2:2)
Prerequisite: Arch 100
Study of materials, design of circuits and inspection for electrical heat, light and power installation in homes and small buildings. The class covers the National Electrical Code (NEC) and applicable local codes. The course applies the NEC as a standard for the layout and installation of residential electrical systems. Basic electrical theory will be presented and applications and basic wiring skills will be introduced.
(Fall, Winter, Spring)

** CONST 250 Steel Structural Systems **
(3:2:2)
Prerequisite: Arch 100
A study of steel construction technology including steel frame construction of light gauge and heavy structural and tube steels. Classroom and lab experiences will include construction methods, materials, connection design, prints, symbols, tools and equipment, joining methods, welding processes and skills, coded, specifications, quality, safety and nomenclature.
(Fall, Winter)

** CONST 260 Statics & Strength of Materials **
(3:3:0)
Prerequisite: Arch 100, Math 111, Const 120
The course provides an introduction to force systems in static equilibrium and an elemental understanding of strength of material, or the relationship between applied loads and the internal forces and deformations induced in the structural element. Major topics that are covered in the course include forces, moments, couples, free body diagrams, trusses, frames, centroids, stress, strain, deformation and load, shear and moment diagrams.
(Fall, Winter, Spring)

** CONST 290 Special Problems **
(1-4:0:0)
Prerequisite: Approved after consultation with Instructor in charge.
Selected problem solving in a variety of construction and architectural areas. May involve special assignment, laboratory, and on-the-job experience.

** CONST 298R Internship **
(1-2:0:0)
Prerequisite: For Students with less than 60 credit hours
An internship is a cooperative program between BYU-Idaho Architecture and Construction Department and approved Experience Providers (employers). Professional internships correlate actual work experience in the building construction industry with the architecture and construction coursework. Internships approved by the internship coordinator provide students with knowledge of career opportunities and actual work experience in preparation for employment after graduation. The ideal internship would take place during the student’s off-track semester and be a full time, paid, employment opportunity. The length of time for your internship experience is intended to be equal to a 14 week semester, 40 hours per week or approximately 560 hours. Students should not wait until after graduation to complete their internship courses and are encouraged to begin as early as possible.
(Fall, Winter, Spring)

** CONST 300 Cabinetmaking **
(3:2:4)
Cabinetmaking is a study of the materials and methods used in professional cabinetmaking. The class will study designing, planning, cost estimating, materials, and construction techniques for kitchen, bathroom, and other built-in type of cabinets using both traditional and metric construction methods. It will also cover the safe setup and operation of professional cabinetmaking equipment.
(Winter, Spring)

** CONST 320 Construction Safety **
(2:2:0)
Prerequisite: Arch 100
This course introduces students to OSHA policies, procedures, and standards, as well as construction safety and health principles. Topics include scope and application of OSHA construction standards. Special emphasis will be placed on the most common safety hazards in the construction industry. Upon successful course completion, the student will receive an OSHA construction safety and health 30-hour course certification card.
(Fall, Winter, Spring)

** CONST 330 Construction Estimating **
(3:3:3)
Prerequisite: CONST 120, ARCH 100
The purpose of Const 330 (Construction Estimating) is to introduce the student to the principles of construction cost estimates, including organizing and planning an estimate, developing material and labor databases, preparing accurate quantity takeoffs, and developing an understanding of overhead and profit.
(Fall, Winter, Spring)

** CONST 340 Fundamentals of Land Surveying **
(3:2:4)
Prerequisite: Math 111
Theory and use of instruments dealing with measurements pertaining to plane surveying. Application of surveying methods of practical problems.
(Fall, Winter)

** CONST 350 Soils & Equipment **
(3:2:2)
Prerequisite: Arch 100
An introduction to soil mechanics, soils classification, soils exploration and testing. Cost and control of excavating, hauling, grading, compacting, lifting, and other heavy equipment.
(Fall, Winter, Spring)

** CONST 370 Concrete & Masonry Construction **
(3:2:2)
Prerequisite: Arch 100
A study of concrete construction technology including footings, foundations, cement types, admixtures, mixing, forming, reinforcing, placement, curing, testing, hot and cold weather applications. Materials and methods used in modern masonry construction. Applicable building codes will be reviewed.
(Fall, Winter, Spring)

** CONST 380 Project Management **
(3:3:0)
Prerequisite: Arch 100, Const 310, or concurrent registration.
Project Management is an introduction to onsite management and control of construction projects including overall project management, the management of people, materials and time, and the management of financial resources.
(Fall, Winter, Spring)

** CONST 390R Construction Seminar **
(0.5:1:0)
Prerequisite: Completed 45 hours coursework. Sophomore status
Construction 390R is a Junior/Senior level lecture series which will introduce students to relevant topics and leaders within the construction industry. Possible topics to be covered include: estimating, scheduling, safety, team building, sales, and marketing. Additional topics such as developing internship and employment opportunities, interviewing, resume and letter writing, and salary negotiations, will also be covered.
(Fall, Winter, Spring)

** CONST 398R Junior Internship **
(1-2:0:0)
Prerequisite: For students with less than 90 credit hours
An internship is a cooperative program between BYU-Idaho Architecture and Construction Department and approved Experience Providers (employers). Professional internships correlate actual work experience in the building construction industry with the architecture and construction coursework. Internships approved by the internship coordinator provide students with knowledge of career opportunities and actual work experience in preparation for employment after graduation. The ideal internship would take place during the student’s off-track semester and be a full time, paid, employment opportunity. The length of time for your internship experience is intended to be equal to a 14 week semester, 40 hours per week or approximately 560 hours. Students should not wait until after graduation to complete their internship courses and are encouraged to begin as early as possible.
(Fall, Winter, Spring)

** CONST 400 Advanced Estimating & Bidding **
(3:3:3)
Prerequisite: Arch 100, Const 330
The purpose of Const 400 Advanced Estimating is to help students contemplating a career as an estimator to further gain knowledge and skills required to estimate in building construction. An in depth analysis of estimating methods, fundamental skills, the estimator’s responsibilities and computer software applications for construction cost estimates, are covered. Evolving estimating methods will also be introduced.
(Fall, Winter)
**CONST 420 Construction Scheduling**  
(3:2:2)  
Prerequisite: Arch 100, Const 310, Const 330, Const 498  
This course is an introduction to concepts of construction project scheduling, including: planning and developing efficient construction schedules, methods of preparing construction schedules, and using schedules to efficiently manage job resources and control costs.  
(Fall, Winter, Spring)

**CONST 430 Construction Law**  
(3:3:0)  
Prerequisite: Arch 100, Const 310, Const 330, Const 498  
The purpose of this course is to provide an introduction to contract law and the legal requirements and regulations associated with the operation of a construction company and execution of construction projects.  
(Fall, Winter, Spring)

**CONST 450 Construction Management**  
(3:3:0)  
Prerequisite: Arch 100, Const 498  
An introduction to organizing, controlling, and directing operations of construction companies including business ownership and management, company organization, business methods, bonds, insurance, safety, building and land use regulations, and labor relations.  
(Fall, Winter, Spring)

**CONST 460 Residential Construction Practices**  
(2:2:0)  
Prerequisite: Arch 100, Const 120, Const 220, and Const 330.  
An overview of construction management practices in residential construction. Focuses on construction and contracting methods, productivity, work activity sequencing, and company organizations. Leadership and communication skills, construction ethics will also be covered.  
(Fall, Spring)

**CONST 498 Construction Internship**  
(1:2:0)  
Prerequisite: Final internship prior to employment  
An internship is a cooperative program between BYU-Idaho Architecture and Construction Department and approved Experience Providers (employers). Professional internships correlate actual work experience in the building construction industry with the architecture and construction coursework. Internships approved by the internship coordinator provide students with knowledge of career opportunities and actual work experience in preparation for employment after graduation. The ideal internship would take place during the student's off-track semester and be a full time, paid, employment opportunity. The length of time for your internship experience is intended to be equal to a 14 week semester, 40 hours per week or approximately 560 hours. Students should not wait until after graduation to complete their internship courses and are encouraged to begin as early as possible.  
(Fall, Winter, Spring)