### Architectural & Construction

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<tr>
<th>Course Code</th>
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<th>Credits</th>
<th>Grade Range</th>
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<tbody>
<tr>
<td>8B200</td>
<td>Architectural Design I (R)</td>
<td>1</td>
<td>10-12</td>
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<tr>
<td>8B205</td>
<td>Architectural Design I (DC)</td>
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**Prerequisite:** Algebra I and English I. Recommended prerequisites: Geometry, Principles of Architecture, and Principles of Construction or any Business and Industry Endorsement Principles course

**Description:** In Architectural Design, students gain knowledge and skills specific to those needed to enter a career in architecture and construction or prepare a foundation toward a postsecondary degree in architecture, construction science, drafting, interior design, and landscape architecture. Architectural design includes the knowledge of the design, design history, techniques, and tools related to the production of drawings, renderings, and scaled models for commercial or residential architectural purposes. **For Dual Credit** students must apply and be accepted to the DCCCD Dual Credit course.

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<tr>
<td>8B900</td>
<td>Architectural Design II (R)</td>
<td>2</td>
<td>11-12</td>
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<td>8B905</td>
<td>Architectural Design II (DC)</td>
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**Prerequisite:** Architectural Design I or Interior Design II and Geometry; Recommended prerequisites: Principles of Architecture or Principles of Construction or any Business and Industry Endorsement Principles course

**Description:** In Architectural Design II, students gain advanced knowledge and skills specific to those needed to enter a career in architecture and construction or prepare a foundation toward a postsecondary degree in architecture, construction science, drafting, interior design, and landscape architecture. Architectural Design II includes the advanced knowledge of the design, design history, techniques, and tools related to the production of drawings, renderings, and scaled models for commercial or residential architectural purposes. Student must make application and be accepted into the program. **For Dual Credit** students must apply and be accepted to the DCCCD Dual Credit course.

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<td>8B230</td>
<td>Construction Technology I (R)</td>
<td>2</td>
<td>10-12</td>
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**Prerequisite:** Prerequisite: Principles of Construction or Principles of Architecture

**Description:** In Construction Technology students gain knowledge and skills specific to those needed to enter the work force as carpenters or building maintenance, apprentices or prepare for a postsecondary degree in construction science, architecture, or engineering. Students acquire knowledge and skills in safety, tool usage, building materials, codes, and framing.

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<tr>
<td>8B240</td>
<td>Construction Technology II (R)</td>
<td>2</td>
<td>11-12</td>
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**Prerequisite:** Construction Technology I

**Description:** In Construction Technology II, students will gain advanced knowledge and skills needed to enter the workforce as carpenters, building maintenance technicians, or supervisors or to prepare for a postsecondary degree in construction management, architecture, or engineering. Students will build on the knowledge base from Construction Technology I and are introduced to exterior and interior finish out skills. Safety and liability considerations are stressed.

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<td>8B930</td>
<td>Electrical Technology I (R)</td>
<td>1</td>
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**Prerequisite:** Principles of Architecture or Principles of Construction or any Business and Industry Endorsement Principles course

**Description:** First year Electrical Technology consists of electrical theory, rules and regulations of the national electrical codes concerning residential wiring. Practical application of this knowledge will be demonstrated in actual projects using basic tools and materials. Students acquire knowledge and skills in safety, electrical theory, tools, codes, installation of electrical equipment, and the reading of electrical drawings, schematics, and specifications. Upon completion of the course students have the necessary knowledge and skills to install electrical wiring and circuits in a residential or similar structure. Interest form needed.

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<td>8B931</td>
<td>Electrical Technology I - Project Based Research (R)</td>
<td>1</td>
<td>11-12</td>
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**Prerequisite:** Electrical Technology I in the Fall

**Description:** Project-Based Research is a course for students to research a real-world problem related to Electrical Technology. Students are matched with a mentor from the business or professional community to develop an original project on a topic related to career interests. Students use scientific methods of investigation to conduct in-depth research, compile findings, and present their findings to an audience that includes experts in the field. To attain academic success, students must have opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.

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NOTE: All courses may not be offered on every campus. Update January 2018
8B940  Electrical Technology II (R)                2 credits  Gr: 11-12
Prerequisite:  Electrical Technology I
Description:  In Electrical Technology II, students gain advanced knowledge and skills specific to those needed to enter the workforce as an electrician or building maintenance technician or supervisor or prepare for postsecondary training or a degree in construction. Students learn the rules and regulations of the national electrical code concerning commercial and industrial wiring in projects and on-the-job training. Students acquire knowledge and skills in safety, electrical theory, tools, codes, installation of electrical equipment, electrical services, alternating current and direct current motors, conductor installation, and electric lighting installation.

8B220  Interior Design I (R)                      1 credit  Gr: 10-12
Prerequisite:  Algebra I and English I - R. Prerequisite: Any Business and Industry Endorsement Principles course
Description:  Interior Design I is a technical course that addresses psychological, physiological, and sociological needs of individuals by enhancing the environments in which they live and work. Students will use knowledge and skills related to interior and exterior environments, construction, and furnishings to make wise consumer decisions, increase productivity, promote sustainability, and compete in industry. Student must complete interest form for this program. Course requirement to be met.

8B950  Interior Design II (R)                     2 credits  Gr: 11-12
Prerequisite:  English II, Geometry, and Interior Design I
Description:  This course is a technical laboratory course that includes the application of the employability characteristics, principles, processes, technologies, communication, tools, equipment, and materials related to interior design to meet industry standards.

8B360  Mill & Cabinetmaking Technology I (R)      2 credits  Gr: 10-12
Prerequisite:  R. Prerequisites are Principles of Architecture and Principles of Construction or any Business and Industry Endorsement Principles course
Description:  (GHS only) In Mill and Cabinetmaking Technology, students gain knowledge and skills specific to those needed to enter the workforce in the area of millwork and cabinet manufacturing and installation. The student may also apply these skills to professions in carpentry or building maintenance supervision or use the skills as a foundation for postsecondary training or a degree in construction management, architecture, or engineering. Students acquire knowledge and skills in cabinet design, tool usage, joining methods, finishes, and numerical and computer control production methods.

8B700  MST Architectural Design I (R)             1 credit  Gr: 10-12
8B705  MST Architectural Design I (DC) D
MST
Prerequisite:  Algebra I and English I. Recommended prerequisites: Geometry, Principles of Architecture or Principles of Construction or any Business and Industry Endorsement Principles course
Description:  [MST only at NGHS]  In Architectural Design I, students gain knowledge and skills specific to those needed to enter a career in architecture and construction or prepare a foundation toward a postsecondary degree in architecture, construction science, drafting, interior design, and landscape architecture. Architectural Design I includes the knowledge of the design, design history, techniques, and tools related to the production of drawings, renderings, and scaled models for commercial or residential architectural purposes. For Dual Credit Students must apply and be accepted to the DCCCD Dual Credit course.

8B710  MST Architectural Design II (R)            2 credits  Gr: 11-12
8B715  MST Architectural Design II (DC) D
MST
Prerequisite:  Architectural Design I or Interior Design II and Geometry; Recommended prerequisites: Principles of Architecture or Principles of Construction or any Business and Industry Endorsement Principles course.
Description:  [MST only at NGHS]  In Architectural Design II, students will gain advanced knowledge and skills needed to enter a career in architecture or construction or prepare a foundation toward a postsecondary degree in architecture, construction science, drafting, interior design, or landscape architecture. Architectural Design II includes the advanced knowledge of the design, design history, techniques, and tools related to the production of drawings, renderings, and scaled models for nonresidential or residential architectural purposes. For Dual Credit Students must apply and be accepted to the DCCCD Dual Credit course.

8B950  Practicum in Architectural Design I (LAB) (R)  2 credits  Gr: 11-12

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8B915  Practicum in Architectural Design I (LAB) (DC)  
GRCTC
Prerequisite: Architectural Design II
Description: Practicum in Architectural Design is an occupationally specific course designed to provide technical instruction in architectural design. The student will learn safety, work ethics, employability characteristics of a successful worker, and ethical and legal practices for careers in the architectural-related workplaces. The student learns the function and application of the tools, equipment, technologies, and materials used in the student’s chosen field. The student selects and designs multimedia communications and animation technology to meet specific architectural design needs. Student must make application and be accepted into the program. For Dual Credit Students must apply and be accepted to the DCCCD Dual Credit course.

8B913  Practicum in Architectural Design/Extended (R)  
GRCTC
Prerequisite: Architectural Design II
Description: Practicum in Architectural Design is an occupationally specific course designed to provide technical instruction in architectural design. The student will learn safety, work ethics, employability characteristics of a successful worker, and ethical and legal practices for careers in the architectural-related workplaces. The student learns the function and application of the tools, equipment, technologies, and materials used in the student’s chosen field. The student selects and designs multimedia communications and animation technology to meet specific architectural design needs. Student must make application and be accepted into the program.

8B450  Practicum in Construction Management I (LAB) (R)  
2 credits  Gr: 11-12
GRCTC
Prerequisite: Construction Management II
Description: (GHS only) The advanced cabinetmaking course provides a continuation of the skills and knowledge developed in Mill & Cabinetmaking I. Emphasis centers on basic cabinetry, special design cabinets and light commercial applications. Mass production techniques and the use of new and different materials are a part of the cabinetmaking curriculum.

8B460  Practicum in Construction Technology (R)  
2 credits  Gr: 12
Prerequisite: Construction Technology II
Description: (GHS, SGHS, NFHS only) this is a continuation of the occupationally specific course designed to provide classroom technical instruction or on-the-job training experiences. Safety and career opportunities are included in addition to work ethics and job-related study in the classroom.

8B470  Practicum in Construction Technology/Extended Practicum (R)  
3 credits  Gr: 12
Prerequisite: Construction Technology II
Description: (GHS, SGHS, NFHS only) this is a continuation of the occupationally specific course designed to provide classroom technical instruction or on-the-job training experiences. Safety and career opportunities are included in addition to work ethics and job-related study in the classroom.

8B942  Practicum in Construction Technology - Electrical (LAB) (R)  
2 credits  Gr: 12
GRCTC
Prerequisite: Prerequisite: Electrical Technology I
Description: This is a continuation of the occupationally specific course designed to provide classroom technical instruction or on-the-job training experiences. Safety and career opportunities are included in addition to work ethics and job-related study in the classroom.

8B943  Practicum in Construction Technology - Electrical / Extended (R)  
3 credits  Gr: 12
GRCTC
Prerequisite: Prerequisite: Electrical Technology II
Description: This is a continuation of the occupationally specific course designed to provide classroom technical instruction or on-the-job training experiences. Safety and career opportunities are included in addition to work ethics and job-related study in the classroom.

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| 8B350       | Practicum in Construction Management I (LAB) (R)  | 3       | 11-12 | Prerequisite: Construction Management II  
**Description:** (GHS, SGHS, NFHS only) this is an occupationally specific course designed to provide classroom technical instruction or on-the-job training experiences. Safety and career opportunities are included in addition to work ethics and job-related study in the classroom. |
| 8B960       | Practicum in Interior Design I (R)                | 2       | 11-12 | Prerequisite: Interior Design II  
**Description:** Practicum in Interior Design is an occupationally specific course designed to provide job-specific skills through laboratory training, job shadowing, or work situations in areas compatible with identified career goals in interior design. In addition, students will be expected to develop knowledge and skills related to housing, furnishings, and equipment management and services. |
| 8B970       | Practicum in Interior Design I w/extended practicum (R) | 3       | 11-12 | Prerequisite: Interior Design II Co-requisite: Practicum in Interior Design I  
**Description:** This extended course is paired with Practicum in Interior Design I; this course must be taken concurrently with Practicum in Interior Design and may not be taken as a stand-alone course. Extended Practicum in Interior Design is an occupationally specific course designed to provide job-specific skills through laboratory training, job shadowing, or work situations in areas compatible with identified career goals in interior design. In addition, students will be expected to develop knowledge and skills related to housing, furnishings, and equipment construction or equipment management and services. |
| 8B980       | Practicum in Interior Design II (R)               | 2       | 11-12 | Prerequisite: Practicum in Interior Design I  
**Description:** A student may repeat this course once for credit provided that the student is experiencing different aspects of the industry and demonstrating proficiency in additional and more advanced knowledge and skills. Practicum in Interior Design II is an occupationally specific course designed to provide job-specific skills through laboratory training, job shadowing, or work situations in areas compatible with identified career goals in interior design. In addition, students will be expected to develop knowledge and skills related to housing, furnishings, and equipment construction or equipment management and services. |
| 8B990       | Practicum in Interior Design II w/extended practicum (R) | 3       | 11-12 | Prerequisite: Interior Design II Co-requisite: Practicum in Interior Design II  
**Description:** This extended course is paired with Practicum in Interior Design II; this course must be taken concurrently with Practicum in Interior Design II and may not be taken as a stand-alone course. A student may repeat this course once for credit provided that the student is experiencing different aspects of the industry and demonstrating proficiency in additional and more advanced knowledge and skills. This course must be taken concurrently with Practicum in Interior Design II and may not be taken as a stand-alone course. Extended Practicum in Interior Design is an occupationally specific course designed to provide job-specific skills through laboratory training, job shadowing, or work situations in areas compatible with identified career goals in interior design. In addition, students will be expected to develop knowledge and skills related to housing, furnishings, and equipment construction or equipment management and services. |
| 8B100       | Principles of Architecture (R)                    | 1       | 9-12  | Prerequisite: None  
**Description:** Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management. Achieving proficiency in decision making and problem solving is an essential skill for career planning and lifelong learning. Students use self-knowledge, education, and career information to set and achieve realistic career and educational goals. Job-specific training can be provided through training modules that identify career goals in trade and industry areas. Classroom studies include topics such as safety, work ethics, communication, information technology applications, systems, health, environment, leadership, teamwork, ethical and legal responsibility, employability, and career development and include skills such as problem solving, critical thinking, and reading technical drawings. |

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8B150  Principles of Construction (R)  
1 credit  
Gr: 9-12

Prerequisite: None
Description: Principles of Construction is intended to provide an introduction and lay a solid foundation for those students entering the construction or craft skilled areas. The course provides a strong knowledge of construction safety, construction mathematics, and common hand and power tools. Safety and liability considerations, are stressed. This course also provides communication and occupation skills to assist the student in obtaining and maintaining employment.

8I450  Food Science (R)  
1 credit  
Gr: 11-12

Optional course awarding science credit in the Business and Industry Endorsement if needed to complete a pathway
Prerequisite: Three units of science, including chemistry and biology. R. Prerequisite: Principles of Hospitality and Tourism or any Business and Industry Endorsement Principles course
Description: In this course students conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Food Science is the study of the nature of foods, the causes of deterioration, the principles underlying food processing, and the improvement of foods for the consuming public. Students must meet the 40% laboratory and fieldwork requirement. This course satisfies a high school science graduation requirement.