

Construction Program of Study

Construction



A program of study serves as a guide, along with other career planning materials, as learners continue along a career path. Courses listed are only recommended coursework and should be individualized to meet each learner's educational and career goals.

Ultimately, a program of study should be customized with course titles and appropriate high school graduation requirements as well as college entrance requirements. Additional career exploration opportunities should also be offered at upper elementary grade levels to promote higher engagement and learner focus in subsequent years. Student Success Plans outlining career goals should be utilized through the advisement process.

Requires on-the-job training or industry-recognized credential

- Construction Carpenters
- Electrician
- Pipefitters & Steamfitters
- Plumber
- Equipment Operator

Requires an associate degree

- Architectural Drafter
- Construction Project Manager
- Construction Estimator
- Construction and Building Inspector
- Construction Sales Representative
- Construction Foreman

Requires a bachelor's degree

- Construction Manager
- Construction Superintendent
- Occupational Health and Safety Specialist
- Construction Engineer
- Civil Engineer
- Construction Sales Manager

Sample occupations



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May 2022

Course examples

Career Exploration (22151A001)

Career Exploration courses help students identify and evaluate personal goals, priorities, aptitudes, and interests with the goal of helping them make informed decisions about their careers. These courses expose students to various sources of information on career and training options and may also assist them in developing job search and employability skills.

Introduction to Technology and Industrial Engineering (21052A002)

Introduction to Technology and Engineering is composed of the following areas: production, transportation, communication, energy utilization, and engineering design, but is not limited to these areas only. This course will cover the resources, technical processes, industrial applications, material sciences, technological impact and occupations encompassed by that system.

Foundations of Technology (21052A001)

The course employs teaching/learning strategies that enable students to build their own understanding of new ideas. It is designed to engage students in exploring and deepening their understanding of “big ideas” regarding technology and apply technological processes to solve real problems and develop knowledge and skills to design, modify, use, and apply technology in the following areas: engineering design, manufacturing technologies, construction technologies, energy and power, information and communication technologies and emerging technologies.

Beginning Construction (17001A001)

Beginning Construction course expose students to the opportunities available in construction-related trades, such as carpentry, masonry, air conditioning/refrigeration, plumbing, and so on. Students learn about the processes involved in construction projects and may engage in a variety of small projects.

Construction Trades I (12151A001)

This course provides experiences related to the erection, installation, and maintenance of residential buildings and related fixtures. Planned learning activities allow students to understand fundamental principles and methods and develop technical skills related to masonry, carpentry, and finish work. Instruction includes safety principles and practices, recognition of standard lumber sizes; foundation layout methods; building concepts and procedures; local, state, and national codes; cost estimating; and blueprint reading.

Construction Trades II (17002A002)

This course provides learning experiences related to the erection, installation, maintenance, and repair of building structures and related utilities. Student technical skill experiences include instruction and activities in safety principles and practices; performing maintenance control functions; joining pipes; building water distribution lines and drains; installing and maintaining plumbing fixtures and systems; installing switch and outlet boxes, light fixtures and service entrances; roughing in and trimming out electrical devices and appliances; preparing foundations and footings; constructing residential chimneys and fireplaces; laying, jointing, and pointing brick; and advanced building and construction methods and codes. All learning experiences are designed to allow the student to acquire job-entry skills and knowledge.

Architecture and Construction Workplace Experience (17998A003)

Architecture and Construction Workplace Experience courses provide work experience in a field related to the Architecture and Construction cluster. Goals must be set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses must include classroom instruction at least once per week, that involve further study of the field, discussion of relevant topics that are responsive to the workplace experience, and employability skill development. Workplace Experience courses must be taught by an approved work-based learning educator-coordinator. These courses should be aligned to a Career Development Experience that could include Student-led Enterprises; School-based Enterprises; Immersion Supervised Agricultural Experiences; Clinical Experiences in Health Science and Technology programs; Internships; and Apprenticeship programs, including Youth Apprenticeships, Pre-apprenticeships, and Registered Apprenticeships.

Full sequence

| | Grade | English | Math | Science | Social Studies | Required Courses, Electives, and Learner Activities | Career and Technical Courses |
|---------------|-------|--|---|-------------------------|--|---|---|
| Middle School | 7 | ELA 7 | Math 7 | Science 7 | Social Studies 7 | | Career Exploration |
| | 8 | ELA 8 | Math 8 | Science 8 | Social Studies 8 | | Introduction to Technology and Industrial Engineering |
| Secondary | 9 | ELA 9 | Algebra I | NGSS Aligned Science 9 | U.S. History | All programs of study should meet local and state high school graduation requirements and college entrance requirements. Participation in a Career and Technical Student Organization is also important for developing appropriate skills and competencies. | Foundations of Technology |
| | 10 | ELA 10 | Geometry | NGSS Aligned Science 10 | World History | | Beginning Construction |
| | 11 | ELA 11 | Algebra II | Biology* | Economics | | Construction Trades I* |
| | 12 | Transitional English or English Composition* | TM Technical Math or TM STEM* or College Algebra* | Physics* or AP Physics | U.S. Government | | Construction Trades II* Architecture & Construction Workplace Experience |
| Postsecondary | 13 | English Composition** | College Algebra** or Calculus | Science Sequence** | All programs of study should meet learner's career goals with regard to required degrees, licenses, certifications, or journey worker status. Participation in appropriate student organizations is also important for developing appropriate skills and competencies. | Continue required courses in learner's chosen area of specialization to complete the desired certification and/or credential. | |
| | 14 | | | | | | |
| | 15 | Continue courses in learner's chosen area of specialization. | | | | | |
| | 16 | Continue courses in learner's chosen area of specialization. | | | | | |

* AP/dual credit opportunities

** Skip to next course in sequence if accomplished through credit transfer opportunity

† Postsecondary course affiliated with Illinois Articulation Initiative Code

Additional opportunities

Early career opportunities learning about work

- Career Planning
- Career Fairs
- Industry Speakers
- Informational Interviews
- Career Presentations
- Worksite Tours
- Cooperative Education
- Job Shadow
- Simulated Skill Development
- Other

Credit Transfer and WBL opportunities

- Dual Enrollment/Dual Credit
- Advanced Placement
- Articulated Credit
- Career-Related Service Learning
- School-Based Enterprise
- Student-Led Enterprise
- Project-Based Learning
- Internships
- Apprenticeships (e.g., youth, pre-registered, non-registered, research)
- Other

Industry-recognized credentials

- Certification
- License
- Other

Student organizations

- Business Professionals of America
- Educators Rising
- Future Business Leaders of America
- Family, Career and Community Leaders of America
- National FFA Organization (Illinois Association FFA)
- Future Health Professionals
- Illinois Distributive Education Clubs of America
- Science Olympiad
- Skills USA Illinois
- Technology Student Association
- Other
- Team-Based Challenge