

**CONSTRUCTION AND ENERGY MANAGEMENT**

**CEM 151 Construction Fundamentals: Principles and Practices**

Covers the sequence of events for residential construction from both an owner's and a builder's point of view. Recommended Preparation: Eligibility for MATH 154.

Section	Days	Times	Units	Instructor	Room
62956	M	06:00PM-09:05PM	3.00	C.Mornard	825

For hands-on practice in skills taught in CEM 151, enroll in CEM 151L as well.

**CEM 151L Construction Fundamentals: Principles and Practices Lab**

Covers the methodology and techniques for residential construction from a skills and vocational point of view. Corequisite: CEM 151. Recommended Preparation: Eligibility for MATH 154.

Section	Days	Times	Units	Instructor	Room
62957	S	11:15AM-02:20PM	1.00	T.Umstead	1304
62958	T	02:00PM-05:05PM	1.00	Mornard/Compton	1304

**CEM 154 Construction Estimating**

Covers basic methods of construction estimating and cost preparation for material, labor, overhead and equipment costs and its relationship to project budgets and management. Recommended Preparation: Eligibility for MATH 154.

Section	Days	Times	Units	Instructor	Room
64601	W	06:00PM-09:05PM	3.00	C.Mornard	828

**CEM 157 Construction Law**

Introduces complex legal principles and issues confronted in the construction profession in both the public and private sectors. Recommended Preparation: Eligibility for MATH 154.

Section	Days	Times	Units	Instructor	Room
62960	T	06:00PM-09:05PM	3.00	J.Hall	828

**CEM 161 Construction Business and Related Topics**

Introduces business fundamentals, principles, practices, procedures, and topics related to construction. Recommended Preparation: Eligibility for MATH 154.

Section	Days	Times	Units	Instructor	Room
64602	TH	06:00PM-09:05PM	3.00	C.Mornard	828

**CEM 162SP Solar Photovoltaic Design and Installation**

Introduces solar photovoltaic system requirements, design and configurations, installation techniques, and their application in residential and commercial construction. Recommended Preparation: Eligibility for MATH 154.

Section	Days	Times	Units	Instructor	Room
62962	T	06:00PM-08:05PM	3.00	L.Sonsino	1301
&	T	08:15PM-10:05PM		L.Sonsino	1304
&	Arr.	Arr.		L.Sonsino	1304

+ 1 hr 5 min arranged per week.

**CEM 163 Fundamentals of Renewable Energy Systems**

Introduces renewable and alternative energy sources including grid interactive, stand-alone systems, wind, active and passive solar energy collection, site evaluation, design analysis of various systems and materials and methods of construction. Recommended preparation: Eligibility for MATH 154.

Section	Days	Times	Units	Instructor	Room
62963	TH	06:00PM-09:05PM	3.00	J.Jordan Jr.	615

**CEM 167 Fundamentals of the International Building Code II**

Provides training in the non-structural design portions of the International Building Code, including occupancy classification, types of construction and exiting. Repeatability: May be taken 2 times. Recommended Preparation: Eligibility for MATH 154.

Section	Days	Times	Units	Instructor	Room
62964	M	06:00PM-09:05PM	3.00	J.Heaney	711

**CEM 169 Fundamentals of the Uniform Mechanical Code**

Provides training in the requirements of the Uniform Mechanical Code, including mechanical systems for heating and cooling systems, combustion air, venting, ducting, refrigeration, and commercial kitchen vent hood and is designed for contractors, architects, designers, and those seeking ICBO Certification. Repeatability: May be taken 2 times. Recommended Preparation: Eligibility for MATH 154.

Section	Days	Times	Units	Instructor	Room
62965	W	06:00PM-09:05PM	3.00	J.Heaney	711

**CEM 175A Electric Code and Materials 1: Residential**

Provides training in the selection and installation of various electrical wiring systems as specified by the National Electric Code (NEC) for residential construction. Repeatability: May be taken 2 times. Recommended Preparation: Eligibility for MATH 154.

Section	Days	Times	Units	Instructor	Room
62966	TH	06:00PM-09:05PM	3.00	S.Livingston	825

**CEM 178A Residential Construction Skills 1: "Front End"**

Introduces "front end" construction: foundation layout, framing fundamentals, rough plumbing, rough HVAC, and rough electrical basics typical of residential construct Recommended Preparation: Eligibility for MATH 154.

Section	Days	Times	Units	Instructor	Room
62967	S	09:00AM-11:05AM	3.00	Mornard/Umstead	1301
&	S	11:15AM-02:20PM		T.Umstead	1304