

This Spring learn about **roofing**: the **industry, technology,**  
& **management skills** from industry experts.



**NEW COURSE**

*Principles of Roofing From Design to  
Installation and Beyond*

**CSM 4980-003 (CRN #19938)**

**CSM 8900-002 (CRN #16250)**

**12:30 pm—3:00 pm on Thursdays**

For More Information

Contact:

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*This 3-credit course can be  
applied to your degree  
program.*

- Types of Roof Systems
- Installation Details
- Reading Blueprints
- Reading Specifications
- Safety
- Estimating
- Building Codes In Roofing
- Roof Repair
- Roof Maintenance
- Technology In Roofing
- Career Options In Roofing
- The Roofing Industry

**Industry led course—over 50+ companies participating**

**Course Syllabus Schedule**  
**Principles of Roofing from Design to Installation and Beyond**  
**CSM 4980 – 003 (Undergraduate)**  
**CSM 8900 – 002 (Graduate)**

Instructor: Dr. Dhaval Gajjar  
Office: 2-137 Lee Hall  
Office Phone: 864-656-7581  
Email: [dgajjar@clemsun.edu](mailto:dgajjar@clemsun.edu)  
Class Meeting Times: Thursday, 12:30 PM to 3:00 PM – Location TBD

Tentative Schedule:

<b>Date</b>	<b>Subject</b>
January 9	Course Introduction; Introduction to Roofing; Career Options in Roofing <ul style="list-style-type: none"> <li>- Course expectations</li> <li>- Course grading policies</li> <li>- Introduction to different types of roofing systems, different entities and their roles in the roofing industry</li> <li>- Different career options in the roofing industry</li> </ul>
January 16	Steep Slope Roofing Systems - Asphalt Shingles, Concrete / Clay Tiles, Wood Shakes <ul style="list-style-type: none"> <li>- Different product details</li> <li>- Installation details for different membranes</li> <li>- Roofing components</li> </ul>
January 23	Steep Slope Roofing Systems – Slate, Metal Panels <ul style="list-style-type: none"> <li>- Different product details</li> <li>- Installation details for different membranes</li> <li>- Roofing components</li> </ul>
January 30	Low Slope Roofing Systems – Built-up Roofing, Modified Bitumen <ul style="list-style-type: none"> <li>- Different product details</li> <li>- Installation details for different membranes</li> <li>- Roofing components</li> </ul>
February 6	Low Slope Roofing Systems – Single-ply Thermoset and Thermoplastic <ul style="list-style-type: none"> <li>- Different product details</li> <li>- Installation details for different membranes</li> <li>- Roofing components</li> </ul>
February 13	<i>No Class – Career Fair</i>
February 20	Low Slope Roofing Systems – Fluid Applied Roofing Systems, Photovoltaic Roof, Vegetative / Green Roof <ul style="list-style-type: none"> <li>- Different product details</li> <li>- Installation details for different membranes</li> <li>- Roofing components</li> </ul>
February 27	Reading Blueprints <ul style="list-style-type: none"> <li>- Understand how to navigate blueprints specific to the roofing scope</li> <li>- Understand and interpret the overall roofing drawings</li> <li>- Understand details and sections on the drawings for connections, flashing, penetrations, parapet wall, etc.</li> </ul>

March 5	<p>Reading Specifications</p> <ul style="list-style-type: none"> <li>- Understand how to navigate roofing specifications</li> <li>- What is included in the roofing specifications?</li> <li>- How to find the relevant information on the roofing specifications?</li> </ul>
March 12	<i>Mid-term Examination</i>
March 19	<i>No Class – Spring Break</i>
March 26	<p>Roofing Estimating I</p> <ul style="list-style-type: none"> <li>- Basic aspects of roofing estimating i.e. what to include in the roofing estimate</li> <li>- Different product pricing</li> <li>- Quantity take-offs from blueprints (membrane, insulation, drains, gutters, downspouts, fasteners, etc.)</li> </ul>
April 2	<p>Roofing Estimating II</p> <ul style="list-style-type: none"> <li>- Labor &amp; crew cost estimating</li> <li>- Equipment and mobilization estimating</li> <li>- General conditions</li> </ul>
April 9	<p>Safety in the Roofing Industry</p> <ul style="list-style-type: none"> <li>- Safety plan overview</li> <li>- Key aspects of roofing safety (material handling, ladder safety, equipment safety, fall protection systems, etc.)</li> </ul>
April 16	<p>Roof Repair &amp; Maintenance</p> <ul style="list-style-type: none"> <li>- Conducting visual inspections</li> <li>- Key techniques in finding leaks and defects in the roofing system</li> <li>- Proactive roof maintenance techniques</li> </ul>
April 23	<p>Technology in Roofing</p> <ul style="list-style-type: none"> <li>- Technological innovations in roofing (drones, software, innovative roofing materials, smart equipment, etc.)</li> </ul>
April 30	Final Exam

### Course Evaluation

The final grade for the course will be based on the following percentages:

#### Undergraduate

Homework/ Assignments.....	20%
Quizzes .....	20%
Mid-term Exam .....	20%
Final Exam .....	25%
Participation (Outside Class).....	5%
Roofing Personnel Interview.....	10%

#### Graduate

Homework/ Assignments.....	15%
Quizzes .....	15%
Mid-term Exam .....	15%
Final Exam .....	25%
Participation (Outside Class).....	5%
Semester Project .....	25%

#### Grading Scale:

A (90% and above), B (80%-89.99%), C (70%-79.99%), D (60%-69.99%), F (59% and below)