Lathers -MP 4

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Unit Overview:

Lathers build structural frameworks for plaster and other materials, creating such wonders as theme park attractions and ornamental ceilings.

While lathers once worked with wooden strips called lath, they now mostly employ wire and metal mesh to create structures of various shapes. UBC lathers provide a vital trade for UBC signatory contractors and their customers.

UBC's skilled lathers rely on training, an eye for architecture, and years of experience to deliver projects that meet demanding specifications. They use everything from wire, screws, nails, clips, staples, metal studs, metal lath, and drywall to build frameworks that are often covered by plaster, drywall materials, or other finishes.

Essential Questions:

Essential Questions for Students Learning Latching:

These questions encourage students to think critically about the concept of latching and its applications.

Understanding Latching:

- What is the difference between a latch and a simple on/off switch?
- How does a latching circuit "remember" its state?
- What are the different types of latching circuits (e.g., RS latch, D latch)? How do they differ?
- How do we represent latching circuits using truth tables and timing diagrams?

Applications of Latching:

- Why are latching circuits important in digital electronics?
- In what real-world applications can we find latching circuits? (e.g., memory storage, flip-flops)
- How can we combine latching circuits with other logic gates to create more complex functionalities?
- What are some limitations or considerations when using latching circuits in a design?

Troubleshooting and Design:

- How can we troubleshoot a malfunctioning latching circuit?
- What factors should we consider when designing a system that utilizes latching circuits?
- How can we improve the efficiency or reliability of a latching circuit design?
- How does latching connect to other digital concepts like clock signals and sequential circuits?

Bonus (Thinking Ahead):

- How might latching circuits be used in future technologies?
- Are there alternative technologies that could potentially replace latching circuits?

These are just a starting point, and you can adapt them to fit the specific curriculum and learning objectives for your students.

Enduring Understandings:

Enduring Understandings for Students Learning Lathing:

These statements capture the core concepts and lasting value of learning lathing:

- Precision and Control: Machining success relies on precise control of cutting tools and workpiece movement to achieve desired dimensions and surface finishes.
- Material Properties: Understanding the properties of different materials (e.g., hardness, ductility) allows for selecting the right cutting tools, speeds, and feeds to achieve optimal results.
- Safety Awareness: Safe operation of lathes is paramount, requiring knowledge of proper setup, tool handling, and emergency procedures.
- Planning and Process: Lathing projects involve careful planning, including selecting the right tools, calculating cutting parameters, and following a logical sequence of operations.
- Versatility of the Lathe: The lathe is a versatile machine capable of creating a wide range of cylindrical and conical shapes.

These enduring understandings go beyond memorizing specific techniques. They represent the "big ideas" that students can apply throughout their lathing experience and future employees

Standards/Indicators/Student Learning Objectives (SLOs):

Standards/Indicators/Student Learning Objectives (SLOs) for Students Learning Lathing

Here's a breakdown of how these elements can be used for lathing education:

Standards:

- These are broad statements that define what students should know and be able to do in a particular subject area. Standards are often set by national or state organizations.
- Example Standard: "Students will be able to safely and effectively operate a lathe to produce parts meeting specified tolerances."

Indicators:

- Indicators are specific, observable behaviors that demonstrate a student's understanding of a standard.
- Example Indicators for the above standard:
    - Student demonstrates proper personal protective equipment (PPE) usage during lathe operation.
    - Student correctly identifies and selects appropriate cutting tools for the material and operation.
    - Student sets up the lathe according to specifications, including spindle speed, feed rate, and tool depth.
    - Student produces a part within specified dimensional tolerances and surface finish requirements.

Student Learning Objectives (SLOs):

- SLOs are specific, measurable, achievable, relevant, and time-bound (SMART) statements that describe what students will be able to do by the end of a lesson, unit, or course. They are based on the standards and indicators.
- Example SLO based on the above standard and indicators:
    - By the end of the lathing unit, students will be able to safely operate a lathe to produce a cylindrical part within ±0.01 inch tolerance and a surface finish of 125 Ra, following proper setup procedures and demonstrating proper tool handling techniques.

Here are some additional SLO examples for different lathing skills:

- Basic Operation: Students will be able to safely turn on/off the lathe, adjust spindle speed, and engage the feed mechanism.
- Facing: Students will be able to face a workpiece to achieve a flat and perpendicular surface within ±0.005 inch tolerance.
- Center Drilling and Turning: Students will be able to accurately center drill a workpiece and turn a cylindrical section within ±0.02 inch tolerance.
- Parting Off: Students will be able to safely part off a workpiece from the main stock using a parting tool, minimizing material waste.
- Threading: Students will be able to cut external threads on a workpiece to specified dimensions and thread profile using a threading tool.

Remember, these are just examples, and you can tailor them to your specific curriculum, student skill level, and available resources.

9.3.12.AC.1	Use vocabulary, symbols and formulas common to architecture and construction.
9.3.12.AC.6	Read, interpret and use technical drawings, documents and specifications to plan a project.
9.3.12.AC.7	Describe career opportunities and means to achieve those opportunities in each of the Architecture & Construction Career Pathways.
9.3.12.AC-CST.9	Safely use and maintain appropriate tools, machinery, equipment and resources to accomplish construction project goals.
9.3.12.AC-MO.3	Apply construction skills when repairing, restoring or renovating existing buildings.

Lesson Titles:

Lesson Titles for Union Lathers (Focusing on Practical

Applications):

These titles target the specific skills and knowledge needed by union lathers in a construction setting:

Safety and Regulations:

- Fall Protection Essentials for Lathers
- Understanding and Applying Lathing Safety Codes
- Respirator Use and Selection for Lathing Environments
- Fire Safety Awareness for Construction Workers

Material and Application Specifics:

- Metal Lath Installation Techniques for Walls and Ceilings
- Working with Gypsum Lath and Plaster
- Advanced Techniques for Ornamental Lathing
- Installing Suspended Ceiling Systems with Expertise
- Soundproofing Techniques using Lathing Systems
- Fireproofing Applications for Lathers

Technical Skills and Problem-Solving:

- Blueprint Reading and Interpretation for Lathing Projects
- Advanced Layout Techniques for Lathing Installations
- Troubleshooting Common Lathing Installation Issues
- Efficient Material Estimating and Ordering for Lathing Jobs
- Adhering to Building Codes and Lathing Specifications

Professional Development and Communication:

- Effective Communication Skills on a Construction Site
- Working Collaboratively with Other Trades in Construction
- Union Membership Benefits and Responsibilities for Lathers
- Time Management and Productivity Techniques for Lathers
- Preparing a Competitive Bid for Lathing Projects

Bonus:

- Guest Speaker: A Day with a Master Lather (Invite an experienced union lather to share their expertise)
- Field Trip: Lathing Techniques in Action (Visit a construction site to see lathing

Assessments

Student Assessments for Union Stucco Lathers

Here are some assessment methods specifically designed for students aiming to become union stucco lathers,

combining the strengths of previous examples and addressing stucco application:

Practical Skills Assessments:

- Hands-on Mock Projects:
    - Design projects that simulate real-world stucco application scenarios. Students demonstrate skills in applying different stucco materials (base coats, finishes), using various tools (trowels, hawks), and achieving textured finishes (smooth, sand swirl, etc.) according to industry standards.
- Safety in Action:
    - Integrate safety protocols into practical assessments. Observe students' use of personal protective equipment (PPE), proper handling of hazardous materials (like stucco mixes), and safe work practices on an elevated platform (simulating scaffolding).

Knowledge and Code Adherence:

- Stucco Material and Application Tests:
    - Develop assessments that test students' understanding of different stucco materials, their properties, appropriate mixing ratios, and application techniques specific to each type.
- Union Stucco Code and Regulation Exams:
    - Create exams that assess students' grasp of relevant union codes and regulations related to stucco application, ensuring they are familiar with safety guidelines, material specifications, and inspection procedures.

Industry-Standard Techniques:

- Crack Repair Simulations:
    - Present scenarios simulating common stucco cracks. Students demonstrate proper techniques for repairing cracks, including crack preparation, material selection, and application methods adhering to industry standards.
- Waterproofing Techniques Assessments:
    - Develop assessments that test students' understanding and application of waterproofing techniques often used in conjunction with stucco, ensuring they can select appropriate materials, prepare surfaces, and apply waterproofing layers correctly.

Communication and Collaboration:

- Team Stucco Projects:
    - Design projects requiring students to collaborate on a larger stucco application task. Evaluate their ability to communicate effectively, delegate tasks, troubleshoot issues as a team, and maintain a safe and productive work environment.
- Client Communication Role-Playing:
    - Divide students into pairs and assign roles (stucco lather, client). Present a scenario where the lather needs to explain stucco options and answer client questions. Evaluate their communication clarity, ability to address client concerns, and professional demeanor.

Authentic Assessments:

- Guest Speaker Evaluations:
    - Invite a local, experienced union stucco lather to present on their work and challenges. Students complete an evaluation assessing their active listening skills, ability to grasp real-world applications, and formulation of relevant questions.

- Field Trip Reports with Stucco Focus:
    - Organize field trips to construction sites with a stucco application component. Students write reports detailing their observations of stucco work in progress, safety practices observed, and specific questions they have about different stucco techniques used at the site.

Additional Considerations:

- Portfolio Development: Encourage students to develop a portfolio showcasing their practical work, including photos of completed projects, material samples, and written documentation of techniques used.
- Self-Assessment and Peer Review:
    - Incorporate opportunities for self-reflection on areas of strength and weakness, and peer review activities where students provide constructive feedback to each other based on pre-defined criteria.

Remember:

- Align with Union Requirements: Ensure assessments test the skills and knowledge outlined by the specific union and industry standards for stucco lathers.
- Focus on Problem-Solving: Incorporate scenarios that require students to think critically and troubleshoot common stucco application challenges they might encounter on a job site.
- Continuous Feedback: Provide ongoing, constructive feedback on assessments to help students improve their skills and understanding throughout the program.

By implementing these assessments, you can effectively evaluate your students' readiness for a successful career as a union stucco lather. They will gain valuable hands-on experience, demonstrate their understanding of industry standards, and develop the communication and collaboration skills essential for thriving in a union environment.

Summative Assessment:

Summative Assessment for Stucco Lathers:

A summative assessment serves as a comprehensive evaluation of a student's knowledge and skills acquired throughout their stucco lather training program. Here's a detailed approach to assess students aiming to become union stucco lathers:

Performance-Based Assessment:

- Comprehensive Stucco Project:
    - Design a culminating project that requires students to apply a variety of stucco techniques on a designated structure (or a large mock-up). This could involve applying multiple layers (base coat, scratch coat, finish coat), creating different textures, incorporating control joints, and demonstrating waterproofing techniques commonly used in stucco applications.
- Safety Integration:
    - Ensure safety is a core aspect of the project. Students must adhere to proper PPE usage, demonstrate safe work practices while working at heights (simulating scaffolding), and follow

safe handling procedures for stucco materials.

Evaluation Criteria:

- Technical Skills (70%):
  - Application Accuracy (25%) - Evaluate the correct application of different stucco materials and techniques according to industry standards. Consider factors like proper mixing ratios, appropriate application thickness for each layer, smooth transitions between planes, and achievement of specified textures.
  - Attention to Detail (25%) - Assess students' ability to create clean lines, achieve a uniform finish, properly integrate control joints, and minimize imperfections throughout the stucco application.
  - Problem-Solving (20%) - Observe students' ability to identify and troubleshoot common stucco application issues (e.g., cracking, uneven texture) and implement appropriate solutions while maintaining quality standards.
- Safety and Work Practices (20%):
  - PPE Usage (10%) - Evaluate the consistent and proper use of personal protective equipment throughout the project.
  - Safe Work Practices (10%) - Assess students' adherence to safe work practices while working at heights, handling tools and materials, and maintaining a clean and organized work area.

Additional Considerations:

- Project Documentation:
  - Require students to document their project with clear photographs showcasing different stages of stucco application and a written report detailing the materials used, techniques applied, and any challenges encountered.
- Oral Presentation (Optional):
  - Students can present their stucco project to a panel, explaining their approach, justifying material selections, and answering questions related to stucco application and industry standards.

Benefits of this Summative Assessment:

- Real-World Simulation: The comprehensive project simulates real-world work scenarios, allowing students to showcase their ability to apply various stucco techniques in a cohesive manner.
- Integration of Skills: The assessment integrates technical skills, problem-solving abilities, and safety protocols, reflecting the demands of professional stucco application.
- Demonstration of Knowledge: Documentation and presentations (if included) allow students to demonstrate their understanding of stucco materials, techniques, and industry best practices.

Remember:

- Align with Learning Objectives: Ensure the assessment criteria directly correspond to the learning objectives and curriculum content covered throughout the program.
- Consider Industry Standards: Base the evaluation criteria on established industry standards and union requirements for stucco lather competency.
- Provide Clear Rubric: Develop a detailed rubric that clearly outlines the expectations for each evaluation criterion and the corresponding point allocation. This provides transparency to students and ensures consistent evaluation.

By implementing this summative assessment, you can effectively assess your students' readiness to enter the

workforce as qualified union stucco lathers. It provides a valuable opportunity for them to showcase their acquired skills, knowledge, and safety awareness, preparing them for a successful career in the field.

- Alternate Assessment
- Benchmark
- Marking Period Assessment

Benchmark Assessments

Benchmark Assessments for Stucco Lathers

Benchmark assessments are administered throughout a program to measure student progress against established criteria at specific points in their learning journey. Here's a breakdown of how to implement benchmark assessments for students aiming to become stucco lathers:

Assessment Stages:

- Entrance Assessment:
    - This initial assessment establishes a baseline of students' prior knowledge and skills related to stucco application, construction practices, and safety principles. It can involve:
        - Written Knowledge Test: Assess basic understanding of stucco materials, application techniques, and safety protocols.
        - Skills Demonstration: Evaluate basic tool handling skills and awareness of safe work practices.
    - Benefits: The entrance assessment identifies areas where students might need additional support and helps tailor instruction accordingly.
- Progress Assessments:
    - Administered periodically throughout the program, these assessments measure students' development of specific skills as they progress through the curriculum. Examples include:
        - Mid-Unit Skills Assessments: Focus on newly learned techniques like applying a base coat or creating specific textures. Students demonstrate their ability to follow instructions, apply techniques correctly, and achieve desired results.
        - Project-Based Milestones: Break down a comprehensive stucco project into smaller milestones. Each milestone assessment evaluates students' mastery of specific skills required to complete that stage (e.g., proper mixing of stucco materials, application of a scratch coat).
    - Benefits: Progress assessments provide valuable feedback for both students and instructors. Students can identify areas for improvement, while instructors can adjust teaching methods as needed.
- Exit Assessment:
    - This final assessment serves as a checkpoint before students graduate from the program. It gauges their overall mastery of the necessary skills and knowledge to become competent stucco lathers. The exit assessment can build upon the comprehensive summative assessment (explained previously) and might include:
        - Advanced Stucco Techniques Demonstration: Assess proficiency in more complex

techniques like waterproofing applications or applying decorative finishes.
        - Industry Code and Regulation Test: Ensure students possess a thorough understanding of relevant union codes and safety regulations governing stucco application.
    - Benefits: The exit assessment provides confirmation that students have met the program's learning objectives and are prepared to enter the workforce with the necessary skills and knowledge.

Considerations for Benchmark Assessments:

- Alignment with Learning Objectives: Ensure each assessment directly measures the skills and knowledge outlined in the program's learning objectives for each stage of the training.
- Variety of Assessment Methods: Utilize a mix of assessment methods like written tests, skills demonstrations, and project-based evaluations to cater to different learning styles and provide a well-rounded picture of student progress.
- Clear Expectations and Rubrics: Provide students with clear assessment criteria and detailed rubrics that outline what is expected of them at each stage. This promotes transparency and helps students understand how their performance will be evaluated.
- Feedback and Improvement: Use the results of benchmark assessments to provide constructive feedback to students. This allows them to identify areas for improvement and focus their efforts accordingly.

By implementing a system of benchmark assessments, you can effectively monitor student progress, identify areas where additional support might be needed, and ensure all students graduate with the skills and knowledge necessary to thrive in their careers as stucco lathers.

Writing Prompt

Skills Based Assessment

Reading Response

Alternative Assessment

Performance tasks

Project-based assignments

Problem-based assignments

Alternative Assessments for Exterior Lathers

Here are some alternative assessment methods that can complement traditional assessments for students training to become exterior lathers:

Performance-Based Assessments with a Twist:

- Lathing Challenges: Design practical challenges that test students' ability to apply lathing skills in unforeseen scenarios. Examples include installing lath on a curved surface, accommodating for uneven walls, or working around existing obstacles. Evaluate their problem-solving skills, adaptability, and

creativity in overcoming these challenges while maintaining quality and safety standards.
- Speed and Efficiency Competition: Simulate a real-world work environment where time management is crucial. Organize a competition where students race to complete a specific lathing task (e.g., installing metal lath on a designated wall section) while adhering to safety protocols and achieving required quality standards. This assesses their speed, efficiency, and ability to work under pressure.

Technology-Aided Assessments:

- 3D Printing and Modeling Assessments: Incorporate 3D printing technology. Students design a complex lathing layout using 3D modeling software. Then, 3D print a scaled model of their design and demonstrate how they would install lath on the model, explaining their thought process and chosen techniques. This assesses their spatial reasoning skills, ability to translate plans into practical applications, and communication skills as they explain their approach.
- Virtual Reality Simulations: If available, utilize virtual reality (VR) simulations that immerse students in realistic lathing work environments. Students can practice applying lath on virtual structures, encountering different scenarios like uneven surfaces or working at heights. VR allows for safe practice and assessment of decision-making in simulated situations.

Portfolio-Based Assessments:

- Student Lathing Portfolios: Encourage students to develop comprehensive portfolios throughout their program. Portfolios can include photos of their lathing work on various projects, sketches of lathing layouts, material samples, and written reflections on their learning experiences and challenges encountered. This ongoing assessment allows students to showcase their progress, creativity, and problem-solving approaches used in different lathing tasks.

Benefits of Alternative Assessments:

- Engaging and Interactive: These methods move beyond traditional written tests and provide engaging and interactive ways for students to demonstrate their skills and knowledge.
- Real-World Application Focus: The assessments emphasize problem-solving, adaptability, and working under pressure, which are essential skills for exterior lathers in real-world construction environments.
- Encourages Creativity and Innovation: Some methods, like 3D modeling and portfolio development, allow students to think creatively and explore innovative approaches to lathing challenges.

Remember:

- Alignment with Learning Objectives: Ensure all assessments, traditional or alternative, align with the program's learning objectives and the specific skills needed by exterior lathers.
- Clear Instructions and Rubrics: Provide students with clear instructions and detailed rubrics for each alternative assessment. This ensures they understand what is expected of them and how their performance will be evaluated.
- Balance with Traditional Methods: While alternative assessments offer valuable insights, balance them with traditional methods like written tests and skills demonstrations to provide a well-rounded picture of student knowledge and proficiency.

By implementing a combination of traditional and alternative assessments, you can effectively evaluate your students' progress, cater to different learning styles, and prepare them for the multifaceted demands of a successful career as an exterior lather

Presentations

Reflective pieces

Concept maps

Case-based scenarios

Portfolios

Formative Assessment:

Formative Assessment for Student Exterior Lathers

Formative assessments are ongoing evaluations designed to monitor student progress, identify areas needing improvement, and provide feedback throughout the learning process. Here are some effective methods for formative assessment specifically tailored for students training to become exterior lathers:

In-Class Activities and Observations:

- Pre-Lab Quizzes: Before practical lathing exercises, administer short quizzes to assess students' understanding of the procedures, safety protocols, and tools involved. This helps identify knowledge gaps and allows you to address them before students begin the practical work.
- Questioning and Discussions: Throughout lessons, encourage active participation by asking open-ended questions, promoting discussions about lathing techniques, and facilitating peer-to-peer learning. Observe students' engagement, clarity of explanations, and ability to apply concepts to real-world scenarios.
- Observation Checklists: Develop checklists outlining key safety protocols, proper tool handling techniques, and expected lathing procedures. Use these checklists to observe students during practical exercises and provide immediate feedback on their adherence to these crucial aspects.

Self-Assessment and Peer Review:

- Learning Journals: Encourage students to maintain learning journals where they reflect on their daily learning experiences, document challenges encountered, and record personal learning goals. Reviewing these journals can provide valuable insights into their understanding and areas where they might need additional support.
- Peer Review Activities: Divide students into pairs or small groups and assign them lathing tasks. After completing the task, have students review each other's work based on pre-defined criteria (e.g., accuracy of lathing application, safety considerations, efficiency). This promotes critical thinking, communication skills, and self-evaluation as students provide and receive constructive feedback.

Informal Assessments:

- Exit Tickets: At the end of class sessions, use short exit tickets where students answer a question or complete a task related to the day's lesson. This provides a quick snapshot of their understanding of the material covered and allows you to adjust future lessons if needed.

- "Muddle Hunts": Pose a lathing-related challenge or problem scenario. Students work in small groups to research, brainstorm solutions, and present their findings. This assesses their problem-solving skills, collaboration abilities, and capacity to apply learned concepts to address new situations.

Benefits of Formative Assessment:

- Early Intervention: Identifying learning gaps early allows for immediate intervention and targeted support to ensure students don't fall behind.
- Personalized Learning: Formative assessments provide insights into individual student needs, enabling you to tailor instruction and learning activities to address their specific strengths and weaknesses.
- Improved Student Engagement: Regular feedback, discussions, and self-reflection activities motivate students to take ownership of their learning and actively participate in the learning process.

Remember:

- Variety of Methods: Utilize a variety of formative assessment methods to cater to different learning styles and provide a comprehensive picture of student progress.
- Focus on Improvement: The primary goal of formative assessment is to encourage learning, not penalize students. Provide constructive feedback that helps them improve their skills and understanding.
- Ongoing Process: Formative assessment is an ongoing process throughout the learning journey. Regularly integrate these methods into everyday classroom activities.

By implementing a well-designed formative assessment plan, you can effectively monitor your students' progress, provide them with the necessary support, and ensure they develop the strong foundation of knowledge and skills needed to excel as exterior lather

- Anticipatory Set
- Closure
- Warm-Up

Career Readiness, Life Literacies, & Key Skills:

Career Readiness, Life Literacies, & Key Skills for Student Exterior Lathers

Here's how to integrate Career Readiness, Life Literacies, and Key Skills (CRLFKS) into the education of student exterior lathers, preparing them not just for technical expertise but also for a successful and well-rounded career:

Career Readiness:

- Career Exploration:
    - Organize field trips to construction sites where students can observe exterior lathing work firsthand.
    - Invite guest speakers from the exterior lathing industry (union representatives, experienced lathers) to share their career paths and industry insights.
    - Explore career opportunities beyond direct lathing work, such as construction supervision, inspection, or lathing material sales.

- Resume and Interview Skills Workshops:
    - Equip students with the skills to create compelling resumes highlighting their lathing skills, experience (even if limited), and relevant coursework.
    - Conduct mock interviews to help students practice answering common interview questions with confidence and clarity.
- Apprenticeship and Union Awareness:
    - Inform students about lathing apprenticeship programs and the benefits of joining a union.
    - Explain the role of unions in protecting worker rights, ensuring fair wages, and providing opportunities for professional development.

Life Literacies:

- Financial Literacy:
    - Integrate financial literacy workshops teaching students budgeting skills, managing personal finances, and understanding the benefits of saving for retirement.
    - Discuss topics relevant to lathers, such as understanding pay structures, benefits packages offered by unions, and navigating taxes as a self-employed lather (if applicable).
- Technology Literacy:
    - Incorporate technology into lathing instruction. Students can utilize 3D modeling software to design lathing layouts and virtual reality simulations to practice lathing techniques in a safe, virtual environment.
    - Train students in using construction management software commonly used in the industry to estimate materials, collaborate on projects, and manage schedules.
- Health Literacy:
    - Educate students about workplace safety practices specific to exterior lathing, including proper use of personal protective equipment (PPE), ergonomics to prevent injuries, and recognizing and avoiding potential hazards on construction sites.
    - Discuss the importance of maintaining physical fitness for the demands of exterior lathing work.

Key Skills:

- Communication Skills:
    - Emphasize the importance of clear and concise communication on construction sites. Incorporate role-playing activities where students practice communicating with supervisors, architects, and other tradespeople about lathing plans and potential challenges.
    - Encourage students to ask questions to ensure they understand project requirements and safety protocols.
- Critical Thinking and Problem-Solving:
    - Present students with lathing scenarios that require them to think critically and identify solutions. Examples include accommodating uneven surfaces, integrating lathing around existing structures, or troubleshooting material defects.
    - Encourage students to explain their thought processes and justify their chosen solutions.
- Collaboration and Teamwork:
    - Design projects requiring students to work collaboratively as a team. This could involve installing lathing on a designated structure or completing a complex lathing layout.
    - Assess their ability to delegate tasks, communicate effectively, and resolve conflicts within the team.

By integrating these CRLFKS elements throughout your exterior lathing program, you can prepare your students not only for technical mastery but also for the multifaceted demands of a successful career in the construction industry. They will graduate with the necessary skills to navigate the job market, manage their

finances, communicate effectively with colleagues, and adapt to unforeseen challenges on the job site.

Computer Science and Design Thinking Standards

While computer science (CS) and design thinking (DT) may not be directly applicable to the everyday tasks of an exterior lather, there are some underlying principles and transferable skills that can be beneficial in their training. Here's how to explore these concepts in the context of exterior lathing education:

Computer Science (CS) Principles:

- Algorithmic Thinking: Exterior lathers often follow a series of steps to complete a lathing task. Break down these steps into a logical sequence similar to an algorithm. Students can practice identifying repetitive tasks and optimizing the overall lathing process for efficiency.

- Data Analysis (Simple Level): Exterior lathers need to consider various data points during a project, like material measurements, wall dimensions, and blueprint specifications. Incorporate exercises where students practice interpreting data from blueprints or construction plans, performing basic calculations (area, volume) to determine material needs, and identifying potential discrepancies in the data.

Design Thinking (DT) Principles:

- Empathy: Emphasize the importance of understanding the architect's vision and the needs of other tradespeople working on the construction project. Students can role-play scenarios where they communicate effectively with other workers to ensure the lathing integrates seamlessly with the overall building design.

- Ideation: Exterior lathers may encounter unforeseen challenges on the job site, requiring creative solutions. Incorporate brainstorming sessions where students explore alternative lathing techniques to overcome obstacles or improve efficiency in specific situations.

- Prototyping (Low-Fidelity): Encourage students to sketch or create basic models (using cardboard or foam) to visualize and test different lathing approaches before implementing them on the actual structure. This allows for early identification of potential issues and refinement of their ideas before investing time and materials in the final installation.

Integration Methods:

- Project-Based Learning: Frame lathing projects as design challenges. Students research different lathing techniques, consider material options based on project requirements, and plan their approach to achieve the desired outcome.
- Technology Integration (Optional): If available, introduce 3D modeling software to allow students to virtually design lathing layouts for complex structures. This can be a fun and engaging way to explore different design possibilities in a safe, virtual environment.

Remember:

- Focus on Transferable Skills: The goal is not to turn lathers into programmers or designers, but to

highlight transferable skills like logical thinking, data interpretation, creativity, problem-solving, and communication that can benefit them in their careers.
- Maintain Practical Focus: Ensure these concepts complement the core technical skills needed for exterior lathing. Don't overwhelm students with overly complex CS or DT concepts.

By incorporating these elements in a way that complements the core curriculum, you can provide exterior lather students with a well-rounded education that prepares them to think critically, adapt to changing situations, and approach challenges with a problem-solving mindset.

Inter-Disciplinary Connections:

Interdisciplinary Connections for Student Exterior Lathers

Here's how to create a more holistic learning experience for student exterior lathers by exploring connections between exterior lathing and other disciplines:

Mathematics:

- Geometry: Reinforce geometric concepts used in lathing applications. Students can calculate areas and volumes to determine material needs, apply Pythagorean theorem to ensure square corners for proper lathing installation, and understand angles when working with sloped surfaces or curved walls.

- Trigonometry (Optional): For advanced students, introduce basic trigonometry to calculate rafter angles or slopes of roofs where lathing might be needed.

Physics:

- Force and Stress: Discuss the forces acting on lathing materials (wind, weight of applied materials) and the importance of choosing appropriate lath types based on these forces. Explore concepts of stress distribution and reinforcement techniques to ensure the lathing system can withstand these forces.

Architecture and Engineering:

- Blueprint Reading and Interpretation: Expand on blueprint reading skills, focusing on architectural drawings and engineering specifications related to lathing applications. Students should understand how lathing details are represented on blueprints and how they integrate with the overall building design.

- Building Materials and Systems: Explore the interdependence between lathing and other building systems. Students can learn how lathing interacts with insulation materials, fireproofing applications, and exterior finishes.

History and Construction Techniques:

- Historical Lathing Techniques: Briefly explore historical lathing techniques and materials used in older buildings. This provides context for the evolution of lathing practices and emphasizes the importance of adapting techniques based on project requirements.

- Sustainable Construction: Discuss the role of lathing in sustainable building practices. Students can

explore environmentally friendly lathing materials and techniques that contribute to energy efficiency or resource conservation.

Benefits of Interdisciplinary Connections:

- Broadened Perspective: Students gain a deeper understanding of how exterior lathing fits into the broader construction process.
- Enhanced Problem-Solving: By connecting lathing with other disciplines, students can approach challenges from a multifaceted perspective and develop more creative solutions.
- Increased Engagement: Interdisciplinary connections can make learning more engaging and meaningful for students as they see the practical applications of their studies.

Implementation Strategies:

- Guest Speakers: Invite professionals from related fields (architects, engineers, building material suppliers) to speak about the intersections between their work and exterior lathing.
- Project-Based Learning: Design projects that require students to collaborate with students from other disciplines (e.g., architectural design) on a construction project simulation.
- Field Trips: Organize field trips to construction sites where students can observe how lathing integrates with other building systems and how different tradespeople collaborate on the project.

By fostering these interdisciplinary connections, you can help your students develop a well-rounded understanding of exterior lathing and its role in the larger construction industry. This will prepare them to excel in their chosen career path and adapt to the ever-evolving demands of the building professions.

Career Education Connection

Career Education Connection for Student Exterior Lathers

A strong career education connection is vital for student exterior lathers. Here's how to integrate career-focused elements throughout their training program:

Career Exploration:

- Industry Guest Speakers: Invite local union representatives, experienced exterior lathers, and representatives from lathing material suppliers to share their career journeys and industry insights.
- Field Trips: Organize visits to construction sites with ongoing lathing work. Students can observe different lathing applications and interact with professionals on the job.
- Career Exploration Activities: Facilitate discussions and activities that help students explore various career paths within the exterior lathing field. This could include specializations like ornamental lathing or restoration work on historical buildings.

Career Planning and Preparation:

- Resume and Interview Skills Workshops: Equip students with the skills to create compelling resumes highlighting their lathing skills, relevant coursework, and any practical experience (even internships or volunteer work). Conduct mock interviews to help them practice answering common interview questions with confidence and clarity.

- Apprenticeship and Union Awareness: Provide detailed information about exterior lather apprenticeship programs offered by local unions. Explain the benefits of union membership such as higher wages, better working conditions, and access to continuing education opportunities.
- Career Development Planning: Encourage students to develop individual career development plans. This can involve setting short-term and long-term goals, identifying skills they want to develop, and researching professional development resources available to them.

Workplace Skills Development:

- Communication Skills: Integrate communication exercises into the curriculum. Role-playing activities can help students practice communicating effectively with supervisors, architects, and other tradespeople about lathing plans and potential challenges.
- Safety Focus: Embed safety principles throughout the program. Students should understand and practice proper use of personal protective equipment (PPE), ergonomic work practices to prevent injuries, and recognizing and avoiding hazards on construction sites.
- Problem-Solving and Critical Thinking: Present students with realistic lathing scenarios requiring them to think critically and identify solutions. Examples could involve accommodating uneven surfaces, integrating lathing around existing structures, or troubleshooting material defects. Encourage them to explain their thought processes and justify their chosen solutions.

Connecting with Industry:

- Job Shadowing Opportunities: Partner with local lathing companies to arrange job shadowing experiences for students. This allows them to observe professional lathers in action and gain a firsthand understanding of the daily tasks and work environment.
- Industry Mentorship Programs: Develop a mentorship program connecting students with experienced exterior lathers who can provide career guidance, answer questions, and offer support as they transition into the workforce.
- Career Fairs: Organize or encourage student participation in career fairs focused on the construction industry. This provides opportunities to network with potential employers and learn about available job opportunities in the field.

By implementing these strategies, you can equip student exterior lathers with the knowledge, skills, and connections they need to navigate the job market successfully and launch rewarding careers in the construction industry. Their education will extend beyond technical expertise, preparing them for the professional demands and opportunities that await them as skilled exterior lathers.

Diversity, Equity, and Inclusion

Diversity, Equity, and Inclusion (DE&I) for Student Exterior Lathers

Creating a diverse, equitable, and inclusive learning environment is crucial for student exterior lathers. Here's how to promote DE&I within your program:

Attracting a Diverse Student Body:

- Outreach Programs: Partner with high schools, vocational schools, and community organizations to

reach out to underrepresented groups (women, minorities, veterans) and showcase the opportunities in exterior lathing careers.
- Scholarships and Grants: Establish or promote existing scholarships and grants specifically for students from diverse backgrounds interested in pursuing exterior lathing careers.
- Inclusive Marketing Materials: Ensure your program marketing materials (website, brochures, social media) use inclusive language and imagery that reflects the diversity of the construction industry.

Fostering an Inclusive Learning Environment:

- Microaggression Awareness Training: Educate faculty, staff, and students about microaggressions that can create a hostile environment. Train them to identify and challenge microaggressions to ensure a respectful and inclusive learning space for all.
- Culturally Responsive Teaching: Incorporate culturally responsive teaching practices that acknowledge and value diverse learning styles, backgrounds, and experiences. This can involve using multilingual resources or culturally relevant examples when explaining concepts.
- Mentorship Programs: Develop mentorship programs where experienced lathers from diverse backgrounds can mentor students and provide guidance and support as they navigate their academic and professional journeys.

Promoting Equity in Learning:

- Accommodations for Learning Differences: Work with disability services to identify and implement appropriate accommodations for students with learning differences to ensure they have equal access to learning opportunities.
- Financial Aid Assistance: Provide guidance and support to students in accessing financial aid and scholarship opportunities to help alleviate financial barriers and ensure equitable access to the program.
- Flexible Learning Options (Optional): If feasible, explore offering flexible learning options (evening classes, online modules) to cater to students with work or family commitments who might otherwise struggle to participate in a traditional program format.

Benefits of DE&I:

- Richer Learning Environment: A diverse student body brings a wider range of perspectives and experiences to the classroom, enriching the learning environment for everyone.
- Enhanced Problem-Solving: Students with diverse backgrounds can approach challenges from different angles, leading to more creative and effective solutions.
- Preparation for the Workforce: The construction industry is becoming increasingly diverse. Equipping students to work effectively in inclusive teams prepares them for the realities of the workplace.

Remember:

- Ongoing Commitment: DE&I is not a one-time effort. It requires a continuous commitment from faculty, staff, and the institution to identify and address barriers to equity and inclusion within the program.
- Data-Driven Approach: Regularly assess the diversity of your student body and identify areas where improvement is needed. Use data to inform your DE&I initiatives and track progress over time.
- Open Communication: Create an environment where students feel comfortable reporting any experiences of bias or discrimination. Encourage open communication about DE&I issues and work collaboratively to find solutions.

By implementing these DE&I strategies, you can create a welcoming and inclusive learning environment that

empowers all students, regardless of background, to succeed in the rewarding field of exterior lathing. This will contribute to a more

Amistad Mandate

Amistad Mandate for exterior lathers

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The Amistad Mandate, also known as the Executive Order 14031 on Promoting Diversity, Equity, Inclusion, and Accessibility in the Federal Workforce, doesn't directly apply to exterior lathing careers in general as they are typically not part of the federal workforce. However, the spirit of the Executive Order promoting Diversity, Equity, and Inclusion (DE&I) is absolutely relevant to creating a more inclusive environment in the exterior lathing industry and educational programs.

Here's how the principles behind the Amistad Mandate can be applied to Exterior Lathin Careers:

- DE&I in Lathing Apprenticeships and Programs:
    - Educational programs and apprenticeship opportunities for exterior lathing should strive to attract a diverse pool of applicants including women, minorities, and veterans. This can be achieved through targeted outreach programs and scholarship opportunities specifically aimed at underrepresented groups.
    - Lathing programs should review admissions criteria to ensure they are fair and don't create unnecessary barriers for potential students from diverse backgrounds.
- DE&I in Lathing Workplaces:
    - Lathing unions and construction companies can implement DE&I initiatives to create a more welcoming and inclusive environment for all workers. This can involve diversity training for staff and leadership, mentorship programs pairing experienced lathers with newcomers from diverse backgrounds, and clear procedures for reporting and addressing bias or discrimination in the workplace.
- DE&I in Government-Funded Construction Projects (if applicable):
    - In cases where exterior lathing work is part of a government-funded construction project, federal contracting regulations might require contractors to demonstrate their commitment to DE&I in their hiring practices and subcontracting work. Lathing companies can prepare themselves by developing a DE&I plan outlining their strategies for attracting and retaining a diverse workforce.

Benefits of DE&I in Exterior Lathing:

- Wider Talent Pool: A more inclusive lathing industry can tap into a wider talent pool, leading to a

more qualified and skilled workforce.
- Enhanced Creativity and Problem-Solving: Diverse teams bring different perspectives to the table, fostering more creative solutions to challenges encountered on the job site.
- Positive Industry Image: A commitment to DE&I can enhance the image of the exterior lathing industry, making it more attractive to a wider range of potential apprentices and workers.

Conclusion:

While the Amistad Mandate itself might not directly apply to exterior lathing, its focus on DE&I is an important consideration for the future of the industry. By creating a more inclusive environment in educational programs, workplaces, and government-funded projects, the exterior lathing industry can ensure its long-term success and attract a diverse and talented workforce.

Topic:

Materials Used:

Addresses the Following Component of the Mandate:

- African Slave Trade
- Amistad
- Contributions of African Americans to our Society
- Slavery in America
- Vestiges of Slavery in this Country

Holocaust Mandate

T

he term "Holocaust Mandate" is likely a misunderstanding. The Holocaust was a horrific genocide that took place in World War II, and there is no mandate or law associated with it directly applicable to student exterior lathers.

Here are some possibilities for what you might have been looking for:

- Diversity, Equity, and Inclusion (DE&I): Perhaps you were thinking of Diversity, Equity, and Inclusion initiatives. Creating a welcoming and inclusive environment for students in exterior lathing programs is important. See my previous response on Diversity, Equity, and Inclusion for student exterior lathers for details on how to achieve this.

- Equal Opportunity in Education and Careers: There are laws in the United States that prohibit discrimination based on race, religion, sex, national origin, or disability in educational programs and workplaces. These laws ensure equal opportunity for all students to pursue careers in exterior lathing.

If you can clarify what information you were looking for related to the Holocaust Mandate and student

exterior lathers, I may be able to provide a more relevant res

Materials Used:

Addresses the Following Component of the Mandate:

- Bias
- Bigotry
- Bullying
- Holocaust Studies
- Prejudice

LGBTQ and Disabilities Mandate

LGBTQ+ and Disability Inclusion for Student Exterior Lathas

There isn't a single overarching "mandate" that specifically addresses LGBTQ+ and disability inclusion for student exterior lathers. However, there are several federal laws and initiatives that work together to ensure equal opportunity and inclusion in education and careers. Here's a breakdown of relevant aspects:

Laws Protecting LGBTQ+ Students:

- Title IX of the Education Amendments of 1972: Prohibits discrimination on the basis of sex in any educational program or activity receiving federal financial assistance. This can be interpreted to include protection against discrimination based on sexual orientation and gender identity.

Laws Protecting Students with Disabilities:

- Americans with Disabilities Act (ADA): Prohibits discrimination against qualified individuals with disabilities in all aspects of employment, education, transportation, and access to public or private places. In educational settings, this ensures reasonable accommodations are provided to students with disabilities to participate in learning and complete programs.
- Individuals with Disabilities Education Act (IDEA): Geared specifically towards K-12 education, but sets a standard for ensuring a free and appropriate public education (FAPE) for students with disabilities.

Creating an Inclusive Environment:

- Non-Discrimination Policies: Educational programs for exterior lathing should have clear and comprehensive non-discrimination policies that protect students based on sexual orientation, gender identity, and disability status.
- Supportive Services: Provide resources and support services for students facing challenges related to sexual orientation, gender identity, or disabilities. This may include access to counselors, mentors, or disability services offices that can recommend accommodations.

- Respectful Climate: Faculty, staff, and students should all play a role in fostering a respectful and inclusive learning environment where everyone feels welcome and supported regardless of background or identity.

Organizations Promoting Inclusion:

- National Center for Lesbian Rights (NCLR): Provides resources for LGBTQ+ students, including information about their rights in educational settings.
- National Disability Rights Network (NDRN): Advocates for the rights of people with disabilities, including equal access to education and employment.
- The Trevor Project: Provides crisis intervention and suicide prevention services for LGBTQ+ youth.

Benefits of LGBTQ+ and Disability Inclusion:

- Diverse and Qualified Workforce: Creates a more diverse and qualified talent pool for the exterior lathing industry.
- Positive Learning Environment: Fosters a more positive and inclusive learning environment where all students feel valued and supported.
- Enhanced Problem-Solving: Diverse teams with a range of perspectives can lead to more creative problem-solving and innovation in the workplace.

Remember:

- Ongoing Commitment: Inclusion is an ongoing process. Regularly assess your program's climate and make adjustments to ensure it remains welcoming and inclusive for all students.
- Open Communication: Create open communication channels where students feel comfortable reporting any experiences of bias or discrimination.
- Professional Development: Provide professional development opportunities for faculty and staff on LGBTQ+ inclusion and disability awareness to ensure they can effectively support all students.

By creating an inclusive learning environment that embraces all students, regardless of sexual orientation, gender identity, or disability status, you can help empower a new generation of diverse and qualified exterior lathers to thrive in the construction industry.

Topic (Person and Contribution Addresses):

Materials Used:

Addresses the Following Component of the Mandate:

- Economic
- Political
- Social

Climate Change

Climate Change and Exterior Lathers: A Connection You Can Teach

Climate change may not seem directly related to exterior lathing at first glance, but it has a significant impact on the construction industry as a whole, and by extension, the work of exterior lathers. Here's how you can integrate climate change awareness into your curriculum for student lathers:

Understanding the Impacts:

- Heat Stress and Work Safety: Discuss the increasing frequency and intensity of heat waves, and the importance of workplace safety protocols for lathers during extreme heat conditions. This could involve proper hydration, breaks in shaded areas, and appropriate clothing.
- Extreme Weather Events: Highlight the potential impact of increased storms and heavy precipitation on construction schedules and deadlines. Explore techniques for weatherproofing lathing materials and protecting unfinished work from the elements.
- Sustainable Building Practices: Introduce students to sustainable building materials and construction techniques that can improve energy efficiency and reduce a building's environmental footprint. Lathing can play a role in supporting insulation materials and air sealing efforts.

Adapting Lathing Practices:

- Material Selection: Discuss the environmental impact of different lathing materials, and explore sustainable alternatives like recycled content or locally sourced materials where possible.
- Energy Efficiency Considerations: Explain how proper lathing techniques can contribute to improved building envelope performance, leading to reduced heating and cooling needs.
- Waste Reduction: Emphasize waste reduction practices on the job site. This could involve proper material measuring to minimize scrap, recycling opportunities for lathing materials, and responsible disposal of any waste generated.

Engaging Activities:

- Case Studies: Analyze real-world examples of construction projects that have incorporated sustainable design principles. Students can research how lathing techniques were adapted to support these goals.
- Guest Speakers: Invite sustainability experts or architects specializing in green building to speak about the role of lathing in sustainable construction.
- Project-Based Learning: Challenge students to design a hypothetical building with a focus on energy efficiency and climate resilience. Their design should incorporate appropriate lathing techniques to support these goals.

Benefits of Climate Change Education:

- Prepares Students for the Future: The construction industry is adapting to address climate change. By educating students about these trends, you prepare them for the workplace of tomorrow.
- Promotes Environmental Awareness: Instilling a sense of environmental responsibility in students encourages them to work sustainably throughout their careers.
- Enhances Problem-Solving Skills: Climate change presents challenges for construction. By teaching students about its impact, you encourage them to develop critical thinking and problem-solving skills to adapt their work practices.

Remember:

- Focus on Relevance: Frame climate change education in a way that is relevant to the work of exterior lathers. Highlight the practical applications of sustainable practices.

- Actionable Knowledge: Don't just focus on the problem; focus on solutions. Equip students with the knowledge and skills to contribute to a more sustainable construction industry.
- Empowerment: Climate change can feel overwhelming. Empower students by showing them how they can make a positive difference through their work as exterior lathers.

By integrating climate change awareness into your curriculum, you can prepare your students not only for technical mastery in lathing but also for the evolving demands of a climate-conscious construction industry.

Asian American Pacific Islander Mandate

T

There isn't a specific "Asian American Pacific Islander (AAPI)" mandate directly applicable to student exterior lathers. However, the spirit of promoting diversity and inclusion in education and careers certainly applies. Here's how to consider the AAPI community in the context of exterior lather education:

Encouraging AAPI Participation in Exterior Lathing:

- Outreach Programs: Partner with organizations serving AAPI communities to raise awareness about career opportunities in exterior lathing. This could involve presentations at career fairs, workshops, or community centers.
- Mentorship Programs: Develop mentorship programs connecting experienced lathers (including AAPI professionals) with students from AAPI backgrounds. Mentors can provide guidance, career advice, and support as students navigate their educational journey.
- Scholarships and Grants: Promote existing or establish new scholarships and grants specifically for AAPI students interested in pursuing exterior lathing careers. This can help alleviate financial barriers and increase access to the program.

Highlighting AAPI Contributions to Construction:

- Historical Context: Briefly explore the historical contributions of AAPI communities to the construction industry in the United States. This can showcase the rich history and tradition of AAPI involvement in building trades.
- AAPI Role Models: Feature successful AAPI lathers or construction professionals as guest speakers or role models for students. Sharing their stories can inspire and motivate AAPI students to pursue careers in exterior lathing.

General Diversity and Inclusion Efforts:

Remember that creating a welcoming and inclusive environment benefits all students, regardless of background. Here are some additional strategies that contribute to a diverse and inclusive learning environment:

- Inclusive Curriculum: Review your curriculum materials to ensure they are inclusive and representative of diverse cultures and ethnicities.
- Microaggression Awareness Training: Educate faculty, staff, and students about microaggressions that can create a hostile environment. Train them to identify and challenge microaggressions to ensure a respectful and inclusive learning space for all.
- Culturally Responsive Teaching: Incorporate culturally responsive teaching practices that acknowledge

and value diverse learning styles, backgrounds, and experiences.

By implementing these strategies, you can create a program that is welcoming and inclusive for all students, and that encourages greater participation from the AAPI community in the field of exterior lathing. This will contribute to a more diverse and qualified workforce in the construction industry as a whole.

opic (Person and Contribution Addresses):

Materials Used:

Addresses the Following Component of the Mandate:

- Economic
- Political
- Social

Materials:

Here are the common materials used by student exterior lathers:

- Wood Lath:

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Wood Lath

  - Traditionally the most common material, wood lath is made from spruce or pine strips.
  - It provides a strong and stable base for stucco application.
  - However, wood lath is susceptible to moisture damage and insect infestation.

- Metal Lath:

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Metal Lath

- Galvanized steel lath is now more popular than wood lath due to its durability, resistance to moisture and insects, and ease of use.
- It comes in various mesh sizes and galvanized finishes to suit different applications.

- Stucco:

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Stucco

- A traditional exterior plaster material made from portland cement, lime, sand, and water.
- Stucco is applied in multiple layers over the lathing material to create a waterproof, fire-resistant, and durable exterior finish.
- Modern stucco mixes often incorporate acrylic polymers for increased strength and flexibility.

- Corner Beads:

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Corner Beads

- Corner beads are thin metal strips used to reinforce external corners of walls and protect them from damage and cracks.
- They come in pre-formed angles to match common wall angles (90 degrees for corners and 135 degrees for outside corners of windows or doors).
- Corner beads are typically made from galvanized steel or aluminum and are installed with staples or stucco veneer adhesive.

- Scratch Coat:

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Scratch Coat

- The first layer of stucco applied over the lath. It's a rough, brown-colored mortar mix that provides a key for the subsequent stucco layers to adhere to.
- The scratch coat is typically brown because it often contains pigments of portland cement or lime.

- Brown Coat:


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Brown Coat

- The second layer of stucco, applied after the scratch coat has cured. It's a denser and smoother mortar mix that provides the bulk of the stucco finish.
- The brown coat is usually brown for similar reasons as the scratch coat, but it can also be gray depending on the chosen stucco color.

- Stucco Finish Coat:

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Stucco Finish Coat

- The final layer of stucco, providing the aesthetic and weatherproof exterior surface. It's a thin and smooth mortar mix available in a wide range of colors.

These are just some of the basic materials used by exterior lathers. The specific materials used on a project will depend on the design requirements, budget, and local building codes.

Core Instructional Materials

Core Instructional Materials for Student Exterior Lath Students

A well-rounded exterior lather program should equip students with both the technical skills and theoretical knowledge necessary for a successful career. Here are some core instructional materials to consider

incorporating:

Technical Skills Manuals and Textbooks:

- Exterior Lathing Techniques: A comprehensive textbook covering all aspects of exterior lathing, including:
    - Different lathing materials (wood lath, metal lath, wire lath) and their applications
    - Installation techniques for various lathing applications (walls, ceilings, soffits)
    - Working with corner beads, control joints, and other accessories
    - Stucco application basics (scratch coat, brown coat, finish coat)
    - Tools and equipment used in exterior lathing
- Safety Manuals:
    - Construction safety standards specific to exterior lathing work (e.g., fall protection, working at heights, proper use of personal protective equipment)
    - Material safety data sheets (MSDS) for common lathing materials

Online Resources and Software:

- Interactive Lathing Tutorials: Online tutorials or simulations that allow students to practice lathing techniques in a virtual environment.
- 3D Modeling Software (Optional): While not essential, introducing students to 3D modeling software can help them visualize complex lathing layouts and designs.

Hands-On Learning Materials:

- Lathing Practice Stations: Dedicated areas equipped with workbenches, lathing materials (wood and metal lath), tools, and mock wall structures for students to practice cutting, installing, and fastening lath.
- Stucco Application Stations (Optional): If stucco application is part of the curriculum, designated areas with mixing stations, trowels, and mock wall structures for students to practice applying scratch coat, brown coat, and finish coat stucco.
- Field Trips: Visits to construction sites where exterior lathing work is ongoing. Students can observe experienced lathers in action and ask questions about real-world applications.

Additional Resources:

- Trade Association Materials: The National Lathing and Plastering Bureau (NLAPB) and International Union of Bricklayers and Allied Craftworkers (BAC Local Unions) may offer educational resources, apprenticeship information, and safety guidelines relevant to exterior lathing.
- Industry Publications: Subscriptions to industry magazines or online publications can keep students updated on the latest trends, materials, and techniques in exterior lathing.

Remember:

- Balance Theory and Practice: The curriculum should strike a balance between theoretical knowledge and practical skills development.
- Safety First: Always prioritize safety by emphasizing proper use of personal protective equipment and adherence to safety protocols throughout the program.
- Stay Current: The construction industry is constantly evolving. Regularly review and update

instructional materials to ensure they reflect the latest industry standards and best practices.

By incorporating these core instructional materials and fostering a balance between theory and practical application, you can equip your students with the necessary skills and knowledge to excel in their chosen career path as exterior lathers.

Supplemental Materials

Supplemental Materials to Enhance Exterior Lather Training

Beyond the core instructional materials, here are some supplemental resources to enrich your student exterior lathers' learning experience and broaden their professional development:

Visual Learning and Inspiration:

- **Lathing Video Library:** Curate a collection of high-quality instructional videos demonstrating various lathing techniques for different applications (e.g., curved surfaces, openings around windows/doors). Platforms like YouTube can offer valuable resources.
- **Online Lathing Project Galleries:** Showcase online galleries featuring exceptional examples of exterior lathing work on different building styles (residential, commercial, historical). This can inspire students and expose them to diverse design possibilities.
- **Historical Lathing Techniques:** Dedicate some time to exploring historical lathing methods used in older buildings. This provides context for the evolution of lathing practices and emphasizes the importance of adapting techniques based on project requirements.

Professional Development Resources:

- **Industry Podcasts:** Encourage students to listen to podcasts hosted by experienced lathers, architects, or construction professionals. Podcasts can offer insights into current industry trends, challenges, and career paths.
- **Online Courses:** Promote relevant online courses or webinars offered by industry associations, building code authorities, or material manufacturers. These courses can provide in-depth information on specific topics like advanced lathing techniques, sustainable building practices, or building code compliance for exterior lathing applications.
- **Lathing and Plastering Industry Certifications (Optional):** Depending on your program structure and local requirements, explore opportunities for students to pursue industry certifications offered by organizations like the NLAPB. These certifications can demonstrate their expertise and enhance their job prospects.

Communication and Collaboration Skills:

- **Role-Playing Activities:** Design role-playing exercises where students practice communication with other tradespeople on the construction site. Scenarios could involve collaborating with architects to clarify lathing details on blueprints or discussing potential challenges with other workers.
- **Guest Speakers:** Invite professionals from related fields (architects, building inspectors, stucco applicators) to speak about their roles in the construction process and how their work interacts with exterior lathing. This fosters collaboration and problem-solving skills.
- **Project Presentations:** After completing projects, have students present their work to the class. This

allows them to develop public speaking skills, explain their design choices, and answer questions from their peers.

Enrichment Activities:

- **Lathing Competitions (Optional):** Consider organizing local or regional lathing skills competitions for students. This can be a fun and engaging way to test their abilities, promote healthy competition, and showcase their work to the industry.
- **Career Shadowing:** Facilitate opportunities for students to shadow experienced lathers on actual job sites. This allows them to observe professional practices in real-world settings and gain valuable insights into the daily life of an exterior lather.
- **Community Service Projects (Optional):** Incorporate community service projects where students can apply their lathing skills to benefit the local community. This could involve restoration work on historical buildings or assisting with building projects for non-profit organizations.

By providing these supplemental materials, you can create a well-rounded learning environment that fosters not only technical expertise but also critical thinking, communication, collaboration, and problem-solving skills - all essential for success in the exterior lathing profession. These resources can spark curiosity, encourage professional development, and help students become well-prepared and adaptable exterior lathers

Texts at Various Levels

Sure, here are texts at various levels for student exterior lathers:

Beginner Level:

- Textbook Title: Introduction to Exterior Lathing
- Target Audience: Students with no prior experience in exterior lathing.
- Content: This text should provide a foundational understanding of the following:
    - The history and purpose of exterior lathing
    - Different lathing materials (wood lath, metal lath, wire lath) and their properties
    - Basic lathing tools and equipment (hammers, snips, staplers, hammers)
    - Safe work practices for exterior lathing
    - An overview of the lathing installation process (attaching lath to a wall structure)

Intermediate Level:

- Textbook Title: Exterior Lathing Techniques
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  Opens in a new window www.amazon.com
  Exterior Lathing Techniques Book
- Target Audience: Students with a basic understanding of exterior lathing who are ready to develop their practical skills.
- Content: This text should delve deeper into specific lathing techniques, including:
    - Installation methods for various lathing applications (walls, ceilings, soffits, curved surfaces)
    - Working with corner beads, control joints, and other accessories

    - Application of stucco (optional): scratch coat, brown coat, finish coat
    - Troubleshooting common lathing challenges

Advanced Level:

- Textbook Title: Advanced Exterior Lathing and Restoration
- Target Audience: Advanced students or experienced lathers seeking to expand their knowledge and expertise.
- Content: This text should cover advanced topics such as:
    - Historical lathing techniques used in older buildings
    - Lathing for complex architectural features (arches, domes, decorative elements)
    - Sustainable building practices and how they relate to exterior lathing
    - Building code compliance for exterior lathing applications
    - Business management for lathing contractors (optional)

In addition to these textbooks, students can benefit from a variety of supplemental materials such as:

- Instructional videos: Online platforms like YouTube can offer valuable resources demonstrating various lathing techniques.
- Online lathing project galleries: Showcasing exceptional examples of exterior lathing work on different building styles can inspire students and expose them to diverse design possibilities.
- Industry podcasts: Podcasts hosted by experienced lathers, architects, or construction professionals can provide insights into current industry trends, challenges, and career paths.

By providing a variety of texts and resources at different levels, you can cater to the individual learning needs of your students and ensure they have a strong foundation for a successful career in exterior lathing.

Instructional Strategies, Learning Activities, and Levels of Blooms/DOK:

Instructional Strategies, Learning Activities, and Levels of Blooms/DOK: for students in exterior

Instructional Strategies, Learning Activities, and Levels of Bloom's/DOK for Exterior Lathing Students

Here's a breakdown of instructional strategies, learning activities, and their corresponding levels of Bloom's Taxonomy (cognitive) and Depth of Knowledge (DOK) for students in exterior lather programs:

Learning Objectives:

- Students will be able to identify different exterior lathing materials and their applications. (Remembering/DOK 1)
- Students will be able to demonstrate safe work practices for exterior lathing. (Understanding/DOK 2)
- Students will be able to properly install lath on a wall structure. (Applying/DOK 3)

- Students will be able to troubleshoot common lathing challenges and adjust techniques accordingly. (Analyzing/DOK 4)
- Students will be able to create a plan for lathing a complex architectural feature. (Evaluating/DOK 5)

Instructional Strategies:

- Direct Instruction (Remembering/DOK 1):
    - Deliver clear explanations of key concepts like lathing materials, safety protocols, and basic installation techniques.
    - Use visual aids like diagrams, pictures, or short video demonstrations.
- Hands-on Practice (Applying/DOK 3):
    - Provide ample opportunities for students to practice lathing skills in a controlled environment.
    - This could involve setting up lathing stations with mock wall structures and various materials.
- Interactive Learning (Understanding/DOK 2):
    - Conduct group discussions or Q&A sessions to address student questions and clarify concepts.
    - Use case studies or real-world examples to illustrate the application of lathing techniques in different scenarios.
- Problem-Solving Activities (Analyzing/DOK 4):
    - Present students with common lathing challenges (uneven surfaces, working around obstacles) and ask them to brainstorm solutions.
    - Encourage them to explain their reasoning and justify their chosen techniques.
- Project-Based Learning (Evaluating/DOK 5):
    - Challenge students with complex lathing projects, such as creating a plan for lathing a curved surface or a decorative element.
    - Require them to research, design, and present their plans, considering factors like material selection, application methods, and potential challenges.

Learning Activities:

- Matching exercises: Match lathing materials (wood lath, metal lath) to their appropriate applications. (Remembering/DOK 1)
- Safety quizzes: Test students' understanding of safe work practices through written quizzes or practical scenarios. (Understanding/DOK 2)
- Lathing skill stations: Set up stations where students can practice cutting, installing, and fastening lath on mock wall structures. (Applying/DOK 3)
- Troubleshooting simulations: Present students with pictures or videos of lathing mistakes and ask them to identify the problem and suggest corrective actions. (Analyzing/DOK 4)
- Lathing design projects: Students design a lathing plan for a complex architectural feature, considering factors like material selection, application methods, and potential challenges. (Evaluating/DOK 5)

Bloom's Taxonomy (Cognitive) Levels:

- Remembering: Recalling factual information (e.g., identifying lathing materials).
- Understanding: Grasping the meaning of concepts and explaining them in their own words (e.g., explaining the purpose of corner beads).
- Applying: Using learned knowledge and skills to perform specific tasks (e.g., properly installing lath on a wall).
- Analyzing: Breaking down information, identifying problems, and finding solutions (e.g., troubleshooting lathing challenges).
- Evaluating: Making judgments based on criteria and justifying choices (e.g., selecting the best lathing material for a specific application).

- Creating: Generating new ideas or products (e.g., designing a lathing plan for a complex architectural feature).

Depth of Knowledge (DOK) Levels:

- DOK 1: Recall and reproduction of factual knowledge.
- DOK 2: Basic comprehension and understanding of concepts.
- DOK 3: Applying learned skills and knowledge to perform tasks.
- DOK 4: Analyzing, interpreting, and solving problems.
- DOK 5: Evaluating, critiquing, and justifying solutions.

By using a variety of instructional strategies and learning activities that target different Bloom's/DOK levels, you can cater to the diverse learning needs of your students and ensure they develop a well-rounded skillset for a successful career in exterior lathing.

Modifications

Modifications for Students Learning Exterior Lathing

Here are some modifications you can make to your exterior lathing program to accommodate students with different learning styles, physical abilities, or backgrounds:

Learning Styles:

- Visual Learners:
    - Utilize diagrams, pictures, and instructional videos to demonstrate lathing techniques.
    - Encourage students to draw diagrams or create visual aids to represent their understanding of concepts.
- Kinesthetic Learners:
    - Provide ample opportunities for hands-on practice in a safe environment.
    - Consider using manipulatives like different lathing materials or mock wall structures for students to explore and experiment.
- Auditory Learners:
    - Encourage group discussions and verbal explanations during demonstrations.
    - Offer audio recordings of key concepts or allow students to record their own explanations to solidify their understanding.

Physical Abilities:

- Modifications for Students with Limited Mobility:
    - Provide adjustable workstations or alternative tools that can be used while seated or with limited movement.
    - Break down complex tasks into smaller, more manageable steps.
- Modifications for Students with Visual Impairments:
    - Utilize tactile learning aids like textured materials or raised models to represent different lathing materials.
    - Provide audio descriptions of visual aids and demonstrations.
- Modifications for Students with Hearing Impairments:

    - Offer written instructions and visual aids in addition to verbal explanations.
    - Consider using assistive listening devices to amplify instructions during demonstrations.

Background and Language:

- Modifications for Students with Limited English Proficiency (LEP):
    - Use clear and concise language with simple vocabulary.
    - Provide glossaries of key terms translated into multiple languages.
    - Encourage the use of visual aids and gestures to support understanding.
- Modifications for Students with Learning Disabilities:
    - Break down complex tasks into smaller steps.
    - Offer extended time for completing assignments or tests.
    - Allow students to use alternative assessment methods demonstrating their understanding.

Additional Considerations:

- Mentorship Programs: Pair students with experienced lathers who can provide individualized guidance and support.
- Assistive Technology: Explore the use of assistive technologies like screen readers or text-to-speech software to assist students with learning disabilities.
- Culturally Responsive Teaching: Be mindful of cultural backgrounds and learning styles of your students.
    - Incorporate examples relevant to their experiences to enhance engagement.

By implementing these modifications, you can create a more inclusive learning environment that caters to the diverse needs of your students and allows them to thrive in the exterior lathing program. Remember, the key is to identify individual needs and provide flexible learning opportunities so all students can develop the skills and knowledge necessary for success in the field.

MLL Modifications:

MLL stands for "Multi-Language Learner" and refers to students who are learning English as an additional language (EAL) or who come from bilingual or multilingual backgrounds. Here are some specific modifications you can make to your exterior lathing program to support MLL students:

Language Acquisition:

- Scaffolding: Break down complex tasks and concepts into smaller, more manageable steps. Use clear and concise language with simple vocabulary.
- Visual Aids: Utilize diagrams, pictures, instructional videos, and demonstrations extensively. Encourage students to create their own visual aids to solidify their understanding.
- Graphic Organizers: Provide graphic organizers like flowcharts or concept maps to help students visualize relationships between concepts related to exterior lathing techniques and materials.
- Kinesthetic Learning: Balance theoretical knowledge with ample opportunities for hands-on practice. Manipulatives like different lathing materials or mock wall structures can be particularly helpful for MLL students.

Building Vocabulary:

- Glossary of Terms: Create a class glossary with key terms related to exterior lathing translated into the students' native languages. Encourage them to refer to it and add new terms as they learn.
- Word Walls: Display vocabulary words prominently in the classroom with visuals and definitions in both English and the students' native languages.
- Context Clues: Emphasize the use of context clues to deduce the meaning of unfamiliar vocabulary in written or spoken instructions.
- Sentence Starters: Provide sentence starters or sentence frames to help MLL students construct grammatically correct sentences when discussing lathing concepts.

Assessment and Communication:

- Multiple Means of Assessment: Use a variety of assessment methods beyond traditional written tests. Consider using demonstrations, portfolios, presentations, or hands-on skills assessments to evaluate student understanding.
- Wait Time: Allow ample wait time for MLL students to formulate their thoughts and respond to questions.
- Peer Collaboration: Encourage collaboration with native English speakers in the class. Peer tutoring or group projects can provide opportunities for MLL students to practice their English communication skills.
- Culturally Responsive Teaching: Be mindful of cultural backgrounds and learning styles of your MLL students.
    - Incorporate examples relevant to their experiences to enhance engagement and understanding of exterior lathing concepts.

Additional Resources:

- ESL/EAL Specialists: Collaborate with ESL/EAL specialists in your school or district to develop effective strategies for supporting MLL students in the exterior lathing program.
- Online Resources: Many online resources offer vocabulary building activities and grammar lessons specifically designed for MLL students.

By implementing these MLL modifications, you can create a more inclusive learning environment for your students and ensure they have the opportunity to succeed in the exterior lathing program regardless of their language background. Remember, the key is to be patient, provide scaffolding and differentiation, and celebrate the multilingualism of your students!

- Choice of test format (multiple-choice, essay, true-false)
- Continue practicing vocabulary
- Provide study guides prior to tests
- Read directions to the student
- Read test passages aloud (for comprehension assessment)
- Vary test formats

G&T Modifications:

MLL stands for "Multi-Language Learner" and refers to students who are learning English as an additional language (EAL) or who come from bilingual or multilingual backgrounds. Here are some specific modifications you can make to your exterior lathing program to support MLL students:

Language Acquisition:

- Scaffolding: Break down complex tasks and concepts into smaller, more manageable steps. Use clear and concise language with simple vocabulary.
- Visual Aids: Utilize diagrams, pictures, instructional videos, and demonstrations extensively. Encourage students to create their own visual aids to solidify their understanding.
- Graphic Organizers: Provide graphic organizers like flowcharts or concept maps to help students visualize relationships between concepts related to exterior lathing techniques and materials.
- Kinesthetic Learning: Balance theoretical knowledge with ample opportunities for hands-on practice. Manipulatives like different lathing materials or mock wall structures can be particularly helpful for MLL students.

Building Vocabulary:

- Glossary of Terms: Create a class glossary with key terms related to exterior lathing translated into the students' native languages. Encourage them to refer to it and add new terms as they learn.
- Word Walls: Display vocabulary words prominently in the classroom with visuals and definitions in both English and the students' native languages.
- Context Clues: Emphasize the use of context clues to deduce the meaning of unfamiliar vocabulary in written or spoken instructions.
- Sentence Starters: Provide sentence starters or sentence frames to help MLL students construct grammatically correct sentences when discussing lathing concepts.

Assessment and Communication:

- Multiple Means of Assessment: Use a variety of assessment methods beyond traditional written tests. Consider using demonstrations, portfolios, presentations, or hands-on skills assessments to evaluate student understanding.
- Wait Time: Allow ample wait time for MLL students to formulate their thoughts and respond to questions.
- Peer Collaboration: Encourage collaboration with native English speakers in the class. Peer tutoring or group projects can provide opportunities for MLL students to practice their English communication skills.
- Culturally Responsive Teaching: Be mindful of cultural backgrounds and learning styles of your MLL students.
    - Incorporate examples relevant to their experiences to enhance engagement and understanding of exterior lathing concepts.

Additional Resources:

- ESL/EAL Specialists: Collaborate with ESL/EAL specialists in your school or district to develop effective strategies for supporting MLL students in the exterior lathing program.
- Online Resources: Many online resources offer vocabulary building activities and grammar lessons specifically designed for MLL students.

By implementing these MLL modifications, you can create a more inclusive learning environment for your students and ensure they have the opportunity to succeed in the exterior lathing program regardless of their language background. Remember, the key is to be patient, provide scaffolding and differentiation, and celebrate the multilingualism of your students!

- Alternate assignments/enrichment assignments

- Enrichment projects
- Extension activities
- Higher-level cooperative learning activities
- Pairing direct instruction with coaching to promote self-directed learning
- Provide higher-order questioning and discussion opportunities
- Provide texts at a higher reading level
- Tiered assignments
- Tiered centers

At Risk Modifications

Here are some modifications you can make to your exterior lathing program to support students considered "at-risk":

Addressing Academic Challenges:

- Small Group Instruction: Break down the class into smaller groups for focused instruction and targeted support. This allows you to address individual needs and ensure all students grasp key concepts before moving on.
- Tiered Instruction: Provide differentiated instruction with varying levels of complexity to cater to students with diverse learning abilities. Offer additional support and resources to students who may struggle with certain topics.
- Peer Tutoring: Pair struggling students with stronger classmates for peer tutoring sessions. This can provide valuable one-on-one support and encourage collaboration.
- Alternative Learning Activities: Offer alternative learning activities that cater to different learning styles. This could include visual aids, hands-on projects, manipulatives, or kinesthetic learning activities to reinforce understanding.

Motivation and Engagement:

- Relevance and Context: Connect lathing concepts to real-world applications and career opportunities. Show students how the skills they learn are relevant to their future goals.
- Positive Reinforcement: Acknowledge and celebrate student progress, no matter how small. Positive reinforcement can boost motivation and encourage continued effort.
- Project-Based Learning: Incorporate project-based learning activities that allow students to apply their knowledge and skills in a meaningful way. This can spark interest and make learning more engaging.
- Choice and Autonomy: Offer students some choice in their learning activities whenever possible. This can increase engagement and ownership over their learning.

Addressing Social-Emotional Needs:

- Building Relationships: Take time to build positive relationships with at-risk students. Provide a safe and supportive classroom environment where they feel comfortable asking questions and seeking help.
- Mentorship Programs: Connect students with mentors who can provide guidance and support both inside and outside the classroom. Mentors can be experienced lathers, educators, or community members.
- Social-Emotional Learning (SEL): Integrate social-emotional learning activities to help students develop coping mechanisms, communication skills, and positive self-esteem. These skills can contribute to their overall academic success.

- Addressing Attendance Issues: Work with students and their families to address any underlying reasons for attendance problems. Offer support services or flexible learning options to help them stay on track.

Additional Considerations:

- Individualized Education Plans (IEPs): If a student has an IEP, collaborate with special education specialists to ensure the lathing program modifications align with their specific needs and learning goals.
- Cultural Sensitivity: Be mindful of cultural backgrounds of your at-risk students. Tailor your teaching methods and examples to increase their engagement and understanding.

By implementing these modifications, you can create a more supportive learning environment for at-risk students in your exterior lathing program. Remember, early intervention and individualized support are key to helping these students succeed and develop the skills they need for a fulfilling career

- Additional time for assignments
- Adjusted assignment timelines
- Agenda book and checklists
- Answers to be dictated
- Assistance in maintaining uncluttered space
- Books on tape
- Concrete examples
- Extra visual and verbal cues and prompts
- Follow a routine/schedule
- Graphic organizers
- Have students restate information
- No penalty for spelling errors or sloppy handwriting
- Peer or scribe note-taking
- Personalized examples
- Preferential seating
- Provision of notes or outlines
- Reduction of distractions
- Review of directions
- Review sessions
- Space for movement or breaks
- Support auditory presentations with visuals
- Teach time management skills
- Use of a study carrel
- Varied reinforcement procedures

IEP & 504 Modifications:

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IEP and 504 Modifications for Exterior Lather Students

IEPs (Individualized Education Plans) and 504 plans provide guidelines for modifying instruction and assessments to meet the specific needs of students with disabilities. Here's how these plans can be applied in an exterior lathing program:

Understanding the Differences:

- IEPs: Focus on students with disabilities that significantly impact their learning. IEPs outline specific learning goals, modifications, accommodations, and related services needed for the student to access and progress in the program.
- 504 plans: Address disabilities that may not require extensive modifications but can still hinder a student's ability to perform on an equal level with their peers. 504 plans typically focus on accommodations to ensure equal access to the curriculum.

General Modifications for IEPs and 504s:

- Instructional Delivery:
    - Break down complex tasks into smaller, more manageable steps.
    - Utilize visual aids, graphic organizers, and manipulatives to enhance understanding.
    - Offer alternative instructional methods like hands-on activities or individualized instruction if needed.
- Assessment:
    - Provide alternative assessment methods that don't rely solely on traditional written tests. This could include performance-based assessments, oral presentations, or portfolios demonstrating practical skills.
    - Extend time limits for tests or assignments.
    - Offer testing in a distraction-free environment if necessary.
- Physical Needs:
    - For students with mobility limitations, provide adjustable workstations or alternative tools that can be used while seated or with limited movement.
    - Break down complex physical tasks into smaller steps with clear instructions.
- Sensory Processing:
    - For students with sensory sensitivities, modify the learning environment to minimize distractions. This might involve noise-canceling headphones, fidget toys to manage tactile needs, or designated quiet areas to take breaks.

Specific Modifications for Exterior Lathing:

- Learning Disabilities:
    - Provide written instructions and checklists for completing lathing tasks.
    - Offer graphic organizers to visualize the sequence of steps involved in a lathing project.
    - Allow students to use assistive technology like text-to-speech software or screen readers if applicable.
- Attention Deficit Hyperactivity Disorder (ADHD):
    - Break down lathing projects into smaller, timed tasks to maintain focus.
    - Allow for frequent movement breaks to release energy.
    - Provide clear and concise instructions repeated as needed.
- Visual Impairments:

- Utilize tactile models of lathing materials and tools.
- Provide audio descriptions of demonstrations and visual aids.
- Allow students to use screen readers or magnifying devices to access written materials.

Collaboration is Key:

- Develop IEPs and 504 plans in collaboration with special education specialists, parents/guardians, and the lathing instructor.
- Regularly review and update the plans to reflect the student's progress and changing needs.

Remember:

The goal of IEPs and 504 plans is to ensure that students with disabilities have equal access to the learning opportunities and can develop the skills necessary to succeed in the exterior lather program. By providing individualized support and appropriate modifications, you can create an inclusive learning environment where all students can thrive.

All teachers of students with special needs must review each student's IEP. Teachers must then select the appropriate modifications and/or accommodations necessary to enable the student to appropriately progress in the general curriculum.

Possible Modifications/Accommodations: (See listed items below):

- Allow for redos/retakes
- Assign fewer problems at one time (e.g., assign only odds or evens)
- Differentiated center-based small group instruction
- Extra time on assessments
- Highlight key directions
- If a manipulative is used during instruction, allow its use on a test
- Opportunities for cooperative partner work
- Provide reteach pages if necessary
- Provide several ways to solve a problem if possible
- Provide visual aids and anchor charts
- Test in alternative site
- Tiered lessons and assignments
- Use of a graphic organizer
- Use of concrete materials and objects (manipulatives)
- Use of word processor

Technology Materials and Standards

Technology Materials and Standards for Students Learning Exterior Lathing

Technology can be a valuable tool in enhancing the learning experience for students in exterior lathing

programs. Here's a breakdown of how technology can be integrated while considering relevant standards:

Technology Materials:

- Instructional Videos: Platforms like YouTube offer a wealth of high-quality instructional videos demonstrating various lathing techniques for different applications (walls, ceilings, soffits).
    - Consider standards like video length (shorter, focused videos are better for learning) and production quality (clear audio and visuals are essential).
    - Curate a playlist of videos that align with your curriculum and learning objectives.
- Interactive Learning Applications: Explore apps or software programs that allow students to practice lathing techniques in a virtual environment.
    - Look for features like 3D modeling of lathing materials and tools, simulations of installation processes, and the ability to experiment with different design layouts.
    - There are no specific industry standards for such apps, but focus on user-friendliness, educational value, and alignment with real-world practices.
- Online Lathing Project Galleries: Showcase online galleries featuring exceptional examples of exterior lathing work on different building styles (residential, commercial, historical).
    - There are no set standards for these galleries, but look for high-resolution photos, informative captions detailing materials and techniques used, and diverse project types to broaden student perspectives.
- Building Code Resources: Provide access to online databases or resources containing relevant building codes for exterior lathing applications.
    - Building codes are established by organizations like the International Code Council (ICC) and may vary by region. Ensure students have access to the most recent codes applicable to your location.

Technology Integration Standards:

- SAMR Model: Consider the SAMR model (Substitution, Augmentation, Modification, Redefinition) when integrating technology.
    - Substitution: Using a video to replace a lecture (low-level integration).
    - Augmentation: Adding quizzes or interactive elements to a video (medium-level integration).
    - Modification: Using a virtual reality simulation to practice lathing techniques (high-level integration).
    - Redefinition: Designing a project where students create 3D models of lathing layouts for complex architectural features (transformative integration).
- Student Privacy: Ensure all online resources and platforms used comply with student privacy regulations like the Family Educational Rights and Privacy Act (FERPA).
- Accessibility: Select technology tools that are accessible to students with disabilities. This may include features like closed captioning for videos, text-to-speech options, or compatible interfaces for screen readers.

Additional Considerations:

- Technology Access: Ensure all students have access to the necessary technology to utilize these resources. This may involve providing devices in the classroom or offering alternative learning options for students with limited access.
- Digital Literacy Skills: Integrate basic digital literacy skills development into your program. This could involve teaching students how to navigate online resources, evaluate the credibility of information, and use technology effectively for learning purposes.

By incorporating these technology materials and considering relevant standards, you can create a dynamic and engaging learning environment for your exterior lathing students. Technology can supplement traditional instruction, provide opportunities for self-paced learning, and expose students to a wider range of lathing techniques and applications.