Creating Effective Education & Industry Pathways for Construction, Maintenance & Energy Careers

Stephen Healy, NCCER Executive Director, Pearson
Nearly half of what will be the built environment in 2030 doesn’t exist yet.

One million…

…is the deficit of skilled construction craft professionals needed through 2020 to support $3.5 trillion in non-residential construction spending.*

HIGHLIGHTS FROM THE 2016/2017 U.S. TALENT SHORTAGE SURVEY

In the U.S., 46% of employers are having difficulty filling jobs.

HARDEST JOBS TO FILL IN 2016

1. Skilled Trade Workers
2. Drivers
3. Sales Representatives
4. Teachers
5. Restaurant & Hotel Staff

For the seventh consecutive year, skilled trades vacancies are the hardest jobs to fill in the U.S. And for the fifth consecutive year, skilled trades are the hardest to fill globally.

WHY JOBS AREN’T FILLED

TALENT SHORTAGES ARE DRIVEN BY A LACK OF AVAILABLE APPLICANTS — this reason is cited by nearly a quarter of employers as to why they cannot fill jobs.
# Construction Craft Demand

## Craft Labor Map

**Choose your state:**

Crafts with the most demand:

Craft Professional Demand through August 2023. Data updated quarterly.

<table>
<thead>
<tr>
<th>Craft</th>
<th>Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Craft Laborer</td>
<td>1,533,709</td>
</tr>
<tr>
<td>Carpenter</td>
<td>1,357,462</td>
</tr>
<tr>
<td>Pipefitter</td>
<td>509,903</td>
</tr>
<tr>
<td>Mason</td>
<td>496,356</td>
</tr>
<tr>
<td>Heavy Equipment Operator</td>
<td>404,730</td>
</tr>
<tr>
<td>Electrician</td>
<td>351,777</td>
</tr>
<tr>
<td>Ironworker</td>
<td>328,003</td>
</tr>
<tr>
<td>Plumber</td>
<td>183,078</td>
</tr>
<tr>
<td>Sheet Metal Worker</td>
<td>176,447</td>
</tr>
<tr>
<td>Painter</td>
<td>150,673</td>
</tr>
</tbody>
</table>
A WORLD OF CAREER OPPORTUNITY

- **CONSTRUCTION** – New building, or, addition to existing structure

- **MAINTENANCE** – Repair and upkeep of industrial and commercial facilities (power plants, refineries, paper mills, transportation infrastructure, etc.)

- **ENERGY** - Construction and maintenance of electrical, gas and oil infrastructure
2018 ACTE REGION I CONFERENCE

Brad Kibbe – Executive Director

@masonryeducation
FL MASONRY APPRENTICE & EDUCATIONAL FOUNDATION

- FOUNDED IN 2002
- APPRENTICE TRAINING REPRESENTATIVE
  - MASONRY ASSOCIATION OF FLORIDA
- ACCREDITED TRAINING SPONSOR FOR NCCER
  - HIGH SCHOOLS
  - FLORIDA DEPARTMENT OF CORRECTIONS
  - AMI KIDS
  - PRIVATE INDUSTRY
FL MASONRY PROJECTS
MASONRY CRAFT LABOR DEMAND
GOALS/INITIATIVES

• DEVELOP AND MANAGE APPRENTICE PROGRAMS FOR M.A.F.
• EXPRESS THE IMPORTANCE OF CONSTRUCTION EDUCATION IN FLORIDA
• BUILD STRONG RELATIONSHIPS WITH LEA’S AND ORGANIZATIONS
• CREATE CAREER CONSTRUCTION PATHWAYS FOR STUDENTS
• DEVELOP INDUSTRY APPROVED ASSESSMENTS AND CERTIFICATIONS
Apprenticeship Program Locations

Tallahassee Community College
444 Appleyard Drive
Tallahassee, FL 32304

Mid-Florida Tech
2900 West Oak Ridge Rd
Orlando, Florida 32809

Titan Block Plant
Ft. Pierce, FL. 34947

Atlantic Technical College
4700 Coconut Creek Parkway
Coconut Creek, FL 33063

CEMEX Yard
9117 Florida Mining BLVD
Tampa, FL 33634

Manatee Technical College
6305 SR 70 East
Bradenton, FL 34203

Immokalee Technical College
508 North 9th Street
Immokalee, FL 34142

William Turner Technical School
10151 NW 19th Ave.
Miami, FL 33147

Pinellas Technical College
901 34th Street South
St. Petersburg, FL 33711
PRE-APPRENTICE PROGRAMS

- HIGH SCHOOL CTE PROGRAMS
  - 116 ACTIVE CONSTRUCTION RELATED PROGRAMS
  - 5168 SECONDARY STUDENTS TESTING ONLINE AS OF 4/12/18
  - NCCER CURRICULUM AND ACCREDITED TRAINING SPONSOR

- FLORIDA DEPARTMENT OF CORRECTION
  - 10 PROGRAMS IN FDC FACILITIES – RE-ENTRY PROGRAMS
  - 13 AMI KIDS/DJJ PROGRAMS IN THE SOUTHEAST
  - VARIOUS TRANSITION FACILITIES/ YOUTHBUILD PROGRAMS

- PRIVATE COMPANY TRAINING
FMAEF – 2018 INITIATIVES

- APPLY TO BECOME AN NCCER ACCREDITED ASSESSMENT CENTER (AAC)
- DEVELOP AND IMPLEMENT YEAR 1 & 2 KNOWLEDGE AND PERFORMANCE EXAMS (NCCER & MCAA PARTNERSHIP)
- DEVELOP PRE-APPRENTICE PROGRAM TO FRONT LOAD YEAR 1 TRAINING
  - PILOT AT SELECT MAF APPRENTICE PROGRAMS
  - PILOT AT SELECT DEPARTMENT OF CORRECTIONS PROGRAMS
  - BUILD INTO ARTICULATION PROCESS
  - RECEIVED NCMA GRANT TO DEVELOP MASONRY ONLINE CURRICULUM
PRE-APPRENTICESHIP CURRICULUM

MASSONRY RELATED TRAINING – 20 WEEK PROGRAM

YEAR 1 – TENDER/INSTALLER

NCCER - CORE AND MASONRY LEVEL1

- BASIC SAFETY / OSHA / FIRST AID
- CONSTRUCTION MATH
- COMMUNICATION / EMPLOYABILITY
- MEASUREMENT, DRAWING & SPECS
- MORTAR / MATERIAL HANDLING
- MASONRY UNITS & INSTALLATION
- RESIDENTIAL MASONRY

- 240 HOURS OF CLASSROOM AND LAB TRAINING
- DIRECTLY ARTICULATED TO APPRENTICESHIP
- JOB PLACEMENT AFTER COMPLETED TRAINING
- OSHA, FORKLIFT, FIRST-AID, CPR, SCAFFOLD
- END OF LEVEL WRITTEN AND PRACTICAL EXAM

www.masonryeducation.org
APPRENTICESHIP CURRICULUM
MASONRY RELATED TRAINING

YEAR 1 – TENDER/INSTALLER

NCCER - CORE AND MASONRY LEVEL 1
- BASIC SAFETY / OSHA / FIRST AID
- CONSTRUCTION MATH
- COMMUNICATION / EMPLOYABILITY
- MEASUREMENT, DRAWING & SPECS
- MORTAR / MATERIAL HANDLING
- MASONRY UNITS & INSTALLATION
- RESIDENTIAL MASONRY

YEAR 2 – BLOCK INSTALLER

NCCER - MASONRY LEVELS 1 & 2
- REINFORCED MASONRY
- OPENINGS & METALWORK
- ADVANCED LAYING TECHNIQUES
- EFFECTS OF CLIMATE ON MASONRY
- INSPECTION & QUALITY CONTROL
- ELEVATED MASONRY
- SPECIALIZED MATERIALS & TECHNIQUES

YEAR 3 - MASON

NCCER – MASONRY LEVELS 2 & 3
- REPAIR & RESTORATION
- COMMERCIAL DRAWINGS
- ESTIMATING
- ELEVATED MASONRY
- STONE MASONRY
- SITE LAYOUT – MEASUREMENT & LEVELING
- FUNDAMENTALS OF CREW LEADERSHIP
ARTICULATION

Levels Completed for Credit:

NCCER Core Curriculum = 75 hours (articulated credit)
NCCER Core + Masonry 1 = 150 hours related training (articulated credit)
NCCER Core + Masonry 1 + 2 = 225 hours related training (articulated credit)
NCCER Core + Masonry 1, 2 + 3 = 300 hours related training (articulated credit)

Certification Testing for Credit:

FMAEF Level 1 certification exam = 150 hours related training (articulated credit)
FMAEF Level 2 certification exam = 300 hours related training (articulated credit)

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MCAA – A TRADE ASSOCIATION

- 944 MEMBER COMPANIES
- 726 MASON CONTRACTOR COMPANIES
- 171 SUPPLIERS
- 22 INSTRUCTORS
- 2 STUDENTS
- 5 ENGINEERS
PROUD SUPPORTER OF SKILLS USA

Olivia Bruening, RiverOak Technical College
1st Place, 2017, FL SkillsUSA Masonry Contest.
TAKEAWAYS AND RESOURCES...

- **CHAPTERS OF THE MASONRY CONTRACTORS ASSOCIATION OF AMERICA**

- **BUILD YOUR FUTURE – CONSTRUCTION CAREER RESOURCES**

- **NATIONAL CENTER FOR CONSTRUCTION EDUCATION AND RESEARCH (NCCER)**

- **SKILLSUSA**

- **2018 NCCER CURRICULUM CATALOG**
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