



**International Association of
Bridge, Structural,
Ornamental and Reinforcing
Ironworkers**

Ironworker Apprenticeship Certification Program

Policies and Procedures



**National Ironworkers and
Employers Apprenticeship
Training and Journeyman
Upgrading Fund**

IRONWORKER APPRENTICESHIP CERTIFICATION PROGRAM

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INTRODUCTION

The Apprenticeship and Training Department of the International Association of Bridge, Structural, Ornamental and Reinforcing Ironworkers is the body responsible for the Ironworker Apprenticeship Certification Program (IACP). The purpose of the IACP is to improve and standardize the quality of apprenticeship training offered at local unions to help ensure that graduates are skilled Ironworkers able to meet the needs of our employers and contractors. The Apprenticeship and Training Department will grant certification to all mixed and specialty local union apprenticeship programs that comply with the evaluation procedure, meet established standards, and adhere to the policies in this document.

CERTIFICATION PROCESS

Internal Evaluation

The certification process begins with a comprehensive internal evaluation performed by the local union (Joint Apprenticeship Training Committee or Trade Improvement Committee [JATC/TIC], Coordinator, instructors, contractors). This internal evaluation process may involve apprentices, instructors, contractors and the Apprenticeship Coordinator or Director, all of whom contribute to the creation of a report detailing their findings.

The reasons for conducting the internal evaluation are to:

- Determine compliance with established certification standards.
- Evaluate apprentice outcomes and overall effectiveness.
- Make recommendations for improvement.

The local union will receive a set of materials containing the internal evaluation documents with instructions for completing the required forms and returning these to the Apprenticeship and Training Department. These materials are then reviewed to determine if the apprenticeship program qualifies for an external team evaluation.

Note that the cost of the external evaluation team (e.g., travel, hotel, expenses) will be covered by the Apprenticeship and Training Department and/or the National Training Fund.

External Evaluation

After the internal evaluation, a site visit will be conducted to assess the strengths and limitations of the program. This consists of a team (Apprenticeship and Training Department staff members, Apprenticeship Coordinators or Directors from certified programs) that examines data and conducts interviews to determine if the program is in compliance with established standards.

Recommendation for Certification

When the internal and external evaluations are complete, final recommendations are made. The report is used to determine whether to certify, recertify or deny certification pending improvements. With all of the information at their disposal, a final recommendation is made by the Apprenticeship and Training Department.

PROGRAM STANDARDS

The program standard categories are listed here. The specific standards within each standard category are in the IACP Evaluation Guide.

STANDARD 1 – PURPOSE AND ADMINISTRATION

The apprenticeship program should have approved standards in place with clearly stated goals related to the needs of the apprentices and the contractors served and the JATC/TIC program administration should ensure that training activities support and promote these goals.

STANDARD 2 – LEARNING RESOURCES

Learning and training materials, consistent with program goals, knowledge and skill objectives, and the core curriculum should be available to instructors and apprentices.

STANDARD 3 – APPRENTICE SERVICES

Systematic selection and record keeping procedures should be used.

STANDARD 4 – INSTRUCTION

Classroom and shop instruction should be systematic and reflect program goals. Course syllabi that include knowledge and skill objectives should be used to implement the core curriculum.

STANDARD 5 – SAFETY AND EQUIPMENT

Safety is an integral part of the apprenticeship program and as such, evidence of a safety program must be in place. In addition, equipment and tools used should be of the type and quality found in the ironworking trade and should also be the type needed to provide training to meet the program goals and knowledge and skill objectives.

STANDARD 6 – FACILITIES

The physical facilities at the training center should be adequate to permit achievement of the program goals and knowledge and skill objectives.

STANDARD 7 – INSTRUCTIONAL STAFF

The instructional staff should have the required technical and training skills competency and meet all state and local requirements for certification.

STANDARD 8 – JOB TRAINING

Written policies and procedures should be in place to provide guidance for the job training component of the apprenticeship program.

PROGRAM REQUIREMENTS

1. The minimum program requirements are identical for initial certification and for recertification.
2. Pursuant to Department of Labor guidelines, the Apprenticeship and Training Department requires a minimum of 204 classroom and 2000 on-the-job training hours per year for a local union apprenticeship program. This means that the minimum is 612 and 6000 hours for a three-year program and 816 and 8000 hours for a four-year program. These numbers may vary depending on hours indicated in approved local union apprenticeship program standards.
3. The outlines shown in **Appendix A** indicate the **required courses** within each core curriculum (i.e., Mixed Locals, Architectural and Ornamental Locals, Reinforcing Locals, and Structural Locals). In addition, there are **recommended courses** that locals are encouraged to add to their curriculum. Also included are **supplemental courses** that the local may select to add to their curriculum. For each course the **minimum** number of classroom and shop hours at the training center or facility used by the local union and the on-the-job training hours are indicated.
4. All **required** core curriculum courses with the minimum classroom and shop hours indicated in the appropriate outline must be included in the local union's core curriculum in order for the program to be certified.
5. All instructors must have the technical and training skills background to teach their assigned courses.
6. All instructors should attend a minimum of 20 hours per year of recognized update training relevant to the areas they are teaching. This training may be obtained through the annual Ironworker Instructor Training Program, through appropriate courses offered through the Regional Training Centers, or through training, teaching and technical skills courses offered by local colleges, universities, manufacturers or vendors.
7. The concern for safety is essential to the learning environment. Each program area has the following safety requirements preceding all related tasks:

Comply with personal and environmental safety practices associated with clothing; eye protection; hand tools; power equipment; proper ventilation; and the handling and storage of materials in accordance with local, state, and federal safety regulations.

EXTERNAL EVALUATION TEAM LEADERS (ETLs)

Evaluation Team Leaders (ETLs) are individuals from the Apprenticeship and Training Department or Apprenticeship Coordinators/Directors from certified local unions who have been trained to conduct the external evaluation. The Apprenticeship and Training Department will assign an ETL once a local union apprenticeship program has been approved for an external evaluation. One or two additional team members may be required for an external evaluation (see the next section for additional information about team members and evaluation teams).

Persons selected as ETLs should have a minimum of ten years of experience as an Ironworker including experience as an apprenticeship instructor and, if possible, as an Apprenticeship Coordinator or Director.

EXTERNAL EVALUATION TEAMS

The apprenticeship program requesting certification is responsible for submitting an initial application. They will then receive information on conducting their internal evaluation. After completing their internal evaluation, they will submit the required forms to the Executive Director of the Apprenticeship and Training Department.

The Apprenticeship and Training Department is then responsible for recruiting and recommending the external evaluation team members including the ETL. The external evaluation team members should be apprenticeship instructors or coordinators from certified apprenticeship programs. The external evaluation team may also include a member with a background in education and training. The number of team members may range from two to three depending on the needs of the program being evaluated.

RECOGNITION FOR CERTIFICATION

A program approved for certification will receive a framed certificate from the International that bears a seal, the General President's signature, and the local union's name. This plaque will also include the expiration date of certification.

Institutions receiving certification are encouraged to put a statement on the graduate's certificate indicating that the person holding this certificate has

participated in an Ironworker apprenticeship training program that was certified by the Apprenticeship and Training Department.

A program approved for recertification will receive a new framed certificate which indicates that the program is recertified.

Apprentices graduating from certified local union apprenticeship programs will receive the appropriate journeyman card and classification number.

PROCEDURES FOR CERTIFICATION/RECERTIFICATION

The Apprenticeship and Training Department recommends that apprenticeship programs maintain a file containing copies of all reference and documentation materials developed during all phases of the certification process.

1. Request and submit application materials

The apprenticeship program requesting certification must submit the following items:

- a. Application for Certification or Recertification (including the Joint Apprenticeship Training Committee/Trade Improvement Committee list)
- b. Internal Evaluation summary (a copy of the completed evaluation guide)
- c. Copy of the local union's approved apprenticeship program training standards
- d. Curriculum Outline and Documentation including the following items:
 - Sequence of the courses taught by year in the local union's apprenticeship program curriculum along with an indication of the number of classroom and hands-on or shop hours for each course. This is a list or table similar to those in Appendix A (showing only those courses in the local union's curriculum).
 - Indication of the recommended number of job training hours in each area of the curriculum (e.g., structural, welding, ornamental, pre-engineered metal buildings).
 - Syllabus for at least one course (note that the external evaluation team will want to review the syllabi for all courses during the site visit).

2. Apprenticeship and Training Department review of application

The Apprenticeship and Training Department will review the materials within 60 days. Following the review, the Apprenticeship Coordinator or Director will be notified about the status of the program. The program will be identified as one of the following:

- a. Qualified for an external evaluation.
- b. Not qualified for an external evaluation at the present time. The Apprenticeship and Training Department will indicate specific improvements that must be made before another external evaluation can be scheduled.

3. Evaluation Team Leader (ETL) and team members assigned

In cooperation with the local union JATC/TIC, the Apprenticeship and Training Department will assign an Evaluation Team Leader (ETL) to the program. The Apprenticeship and Training Department in cooperation with the local union JATC/TIC will set the dates for the external evaluation.

The Apprenticeship and Training Department will identify the other members of the external evaluation team (if required). These members (2-3 depending on the situation at the local union) may include Apprenticeship Coordinators or Directors from certified programs as well as staff members from the Apprenticeship and Training Department.

4. Send the application for certification or recertification, the internal evaluation summary, a copy of local apprenticeship standards, and the curriculum information to the ETL

The application for certification or recertification, internal evaluation summary, local apprenticeship standards, and the curriculum outline and documentation must be sent to the ETL. These documents must be received by the ETL at least two weeks prior to the external evaluation.

Once materials have been received and the external evaluation team members have been approved by the ETL, the local union apprenticeship JATC/TIC or coordinator and the ETL will make arrangements for the evaluation day(s).

5. External evaluation

The initial external evaluation visit requires 1 1/2- 2 days. At least one apprenticeship class should be taught during the evaluation visit. This also allows time for the review of all the standards and to talk with instructor(s) and apprentices.

Recertification requires a 1-day external evaluation while apprentices are in class.

Place supporting materials for each of the eight standards in a notebook prior to the external evaluation. This helps the evaluation team to move through the evaluation process more efficiently and provides documentation of the IACP process for your program.

6. ETL reports results to the Apprenticeship and Training Department

Upon completion of the external evaluation, the ETL will submit all evaluation materials and a final report to the Apprenticeship and Training Department with a recommendation for or against program certification.

7. Program certification

The Apprenticeship and Training Department will review the final report and all additional evaluation materials to determine whether the program meets the requirements for certification and will make their recommendation.

If a program fails any of the Critical Areas or receives a 1 (Not Acceptable – Requires Immediate Attention), or a 2 (Minimally Acceptable – Improvement Needed) in one or more of the Quality Questions, the JATC/TIC or Apprenticeship Coordinator or Director will have 60 days to correct the item(s) and submit appropriate documentation. Upon satisfactory review of this documentation, the Apprenticeship and Training Department will determine whether the program meets the requirements for certification.

If the item(s) are not corrected within the 60 days, the program is subject to a new site visitation.

Programs that do not earn certification will be given a written report specifying improvements that must be made to qualify for certification. If necessary, another evaluation visit will be scheduled after the improvements have been made. The decision of the Apprenticeship and Training Department will be final unless appealed as described in these guidelines.

8. Display and reporting of certification materials

A wall plaque identifying the apprenticeship program as certified will be forwarded from the Apprenticeship and Training Department to the JATC or TIC.

9. Certified Ironworker Apprenticeship Training Program List

The Apprenticeship and Training Department will maintain a current listing of all certified programs. The list will be available on the Apprenticeship and Training Department website.

10. Length of Certification

A program will be certified for five (5) years.

11. Recertification

The Apprenticeship and Training Department will contact the apprenticeship coordinator six (6) months prior to the certification expiration date. The coordinator must formally request recertification materials and follow the process outlined above.

APPEALS PROCESS

Notice of Noncompliance

Upon a finding that an apprenticeship program is not in substantial compliance with the certification standards, the Apprenticeship and Training Department (i.e., Executive Director of Apprenticeship and Training and technical staff) shall promptly notify the local union in writing and describe the specific areas of noncompliance. The Apprenticeship and Training Department also shall inform the local union of the right to appeal.

Notice of Appeal

If the local union wishes to appeal the Apprenticeship and Training Department's decision, the local union must notify the Apprenticeship and Training Department within thirty (30) calendar days from the date of receipt of the notification. Such Notice of Appeal must be addressed to the Apprenticeship and Training Department and must contain a concise statement of why the local union believes that the Apprenticeship and Training Department's action was improper. If no written request for an appeal is received by the Apprenticeship and Training Department within thirty (30) days, the Apprenticeship and Training Department's initial action shall constitute final action.

The Appeal Process

The appeal process consists of two steps: (1) review by an independent ad hoc review committee and (2) Apprenticeship and Training Department review with or without a hearing. In order to expedite the process, the local union may waive review by an independent ad hoc review committee by providing a written waiver to the Apprenticeship and Training Department. At the end of the appeal process, the Apprenticeship and Training Department will make a final decision whether to affirm, modify, or reverse its initial certification decision.

Step 1: Review by an Independent Review Committee

The first step in the appeal process is review by an ad hoc Review Committee, which will be advisory to the Apprenticeship and Training Department. The Review Committee shall be appointed by the National Training Fund Trustees. No person shall be included on a Review Committee for a given program if he or she has participated in an evaluation visit that triggered the Apprenticeship and Training Department action; has reviewed recent survey findings, progress reports, or other Apprenticeship and Training Department findings or conclusions regarding that program; or has a conflict of interest.

Once the Review Committee has been established, neither the local union nor any member of the Apprenticeship and Training Department shall contact any member of the Review Committee concerning the matter under appeal.

The Apprenticeship and Training Department shall forward to each of the members of the Review Committee the documents from the internal and external evaluations along with the evaluation team's recommendations.

If the Review Committee determines that there is no reason to alter the initial Apprenticeship and Training Department action, it shall recommend that the action be affirmed. If the Review Committee determines that the Apprenticeship and Training Department's action is not supported by the evidence, or was not made in substantial accordance with Apprenticeship and Training Department policies and procedures, it shall recommend reconsideration of the action. The Review Committee shall forward a written report of its recommendation, and the reasons therefore, to the Apprenticeship and Training Department. The Review Committee process, including the filing of the report with the Apprenticeship and Training Department, shall be completed within sixty (60) days from the time that the local union files its decision to appeal.

Step 2: Hearing before the Apprenticeship and Training Department

The second step of the appeal process is a hearing before the Apprenticeship and Training Department. No person shall be present for or participate in a hearing if he or she has a conflict of interest.

Timing of Apprenticeship and Training Department Hearing

The Apprenticeship and Training Department shall schedule the appeal hearing that will occur no more than sixty (60) calendar days after receipt of the report of the Review Committee. The Apprenticeship and Training Department shall notify the local union in writing of the date, time and place of the hearing. The notice shall be provided at least forty-five (45) calendar days prior to the hearing.

Conduct of the Hearing before the Apprenticeship and Training Department

The hearing before the Apprenticeship and Training Department shall be chaired by the Executive Director of the Apprenticeship and Training Department. The hearing will be limited to a consideration of the circumstances that triggered the initial Apprenticeship and Training Department decision. Descriptions of changes made since that time shall not be considered. The local union will present their case for certification and the Apprenticeship and Training Department representative will present the rationale for their decision.

Decision of the Apprenticeship and Training Department

At the conclusion of the hearing, the Apprenticeship and Training Department shall meet in executive session to review the proceedings and to reach a decision. The Apprenticeship and Training Department shall consider the Appeal Record and the information presented during the hearing. The Apprenticeship and Training Department shall determine whether each of the cited areas of noncompliance with the certification standards is supported by substantial evidence.

The Apprenticeship and Training Department shall notify the local union in writing of their decision, including the reasons therefore, within thirty (30) calendar days after the hearing.

Apprenticeship and Training Department Review without a Hearing

A local union may inform the Apprenticeship and Training Department in writing that it does not wish to appear before the Apprenticeship and Training Department. In such event, the Apprenticeship and Training Department will consider the certification status of the program based on the Appeal Record. The Apprenticeship and Training Department shall determine whether to affirm, modify or reverse its initial action. The Apprenticeship and Training Department shall notify the local union in writing of the final decision, including the reasons therefore, within thirty (30) calendar days.

Such decision shall constitute final action by the Apprenticeship and Training Department.

APPENDIX A
CORE CURRICULUM OUTLINES

MIXED LOCAL UNION CORE CURRICULUM OUTLINE

Local union apprenticeship programs prepare the Ironworkers of tomorrow. In order to prepare competent Journeyman Ironworkers for our contractors and employers, the apprenticeship programs at mixed local unions include classroom and hands-on training across a number of subject areas. These subject areas comprise the core curriculum in the form of courses.

In order to standardize what is taught at mixed local unions, the Apprenticeship and Training Department is in the process of establishing a **certification program** for local apprenticeship programs. The foundation of this program is the **core curriculum** which includes the training center courses (classroom and shop) and job training hours included in the local apprenticeship program.

Pursuant to Department of Labor guidelines, the Apprenticeship and Training Department requires a minimum of 204 classroom and 2000 on-the-job training hours per year for a local union apprenticeship program. This means that the minimum is 612 and 6000 hours for a three-year program and 816 and 8000 hours for a four-year program. The International has established a minimum requirement of **612 hours for a three-year apprenticeship program** in order to be eligible for the Journeyman Ironworker card. While the three-year program is the minimum requirement, the International suggests that local union apprenticeship programs consider 816 hours, which ideally is built into a four-year program. While the number of hours per year approved in local standards may be greater or less than 204, the primary focus is on ensuring that the required core curriculum is included in the local apprenticeship program curriculum.

The outline on the following page lists the **required courses** within the core curriculum. In addition, there are **recommended courses** that locals are encouraged to add to their curriculum. Also included are **supplemental courses** that the local may select to add to their curriculum. For each course the number of classroom and shop hours at the training center or facility used by the local union and the on-the-job training hours are indicated. Please note the following:

- The **3-year apprenticeship program** requires a minimum of **612 hours**. As seen in the table, the **core curriculum** requires a minimum of **485 classroom and shop hours** at the training center and 6000 on-the-job training hours. The remaining hours to reach 612 is 127 hours and may include a combination of the recommended and supplemental courses and/or more time added to the required courses.

- The **4-year apprenticeship program** requires approximately 816 hours. The **recommended curriculum** includes the core courses and the recommended courses and requires **670 classroom and shop hours** at the training center and 8000 on-the-job training hours. The remaining hours to reach 816 hours is 146 and may include a combination of the supplemental courses and/or more time added to the required or recommended courses.

MIXED LOCAL UNION CORE CURRICULUM OUTLINE

Subject Area	Training Center Hours			Minimum Job Training Hours
	Total	Classroom	Shop	
Required Core Curriculum (485 hours)				
Orientation	8	8	0	
Blueprint reading	20	20	0	
Welding	110	30	80	1200
Rigging and cranes	80	40	40	700
Structural steel erection (1 & 2)*	100	60	40	1200
Reinforcing concrete	75	45	30	800
Architectural and ornamental construction 1*	50	30	20	550
<i>Core safety courses:</i>				
10-hour OSHA training	10	10	0	
Scaffold User – E/D	16	12	4	
OSHA sub-part R	8	8	0	
First Aid/CPR	8	8	0	
Recommended additions to the Core Curriculum				
Architectural and ornamental construction 2*	50	30	20	550
Pre-engineered metal buildings	45	15	30	500
Post tensioned reinforcing systems	60	45	15	500
Mathematics for Ironworkers	30	30	0	
Supplemental Courses				
History of the Ironworkers Union	34	34		
Hazardous material training	40	30	10	
Lead hazard training for Ironworkers	32	24	8	
Mine Safety and Health Administration (MSHA) Training for Ironworkers	24	24		
Disaster response training for Ironworkers	16	16		
Precast safety and erection	30	20	10	
Fork lift	8	6	2	
Metrics for Ironworkers	20	20		
OSHA 30-hour safety course	30	30		

* These courses are designed to be taught as one course or divided into two equal courses. Note that Architectural and ornamental construction course #1 is required as part of the core while #2 is a recommended course.

ARCHITECTURAL AND ORNAMENTAL CORE CURRICULUM OUTLINE

Local union apprenticeship programs prepare the Ironworkers of tomorrow. In order to prepare competent Journeyman Ironworkers for our contractors and employers, the apprenticeship programs at architectural and ornamental local unions include classroom and hands-on training across a number of subject areas. These subject areas comprise the core curriculum in the form of courses.

In order to standardize what is taught at architectural and ornamental local unions, the Apprenticeship and Training Department is in the process of establishing a **certification program** for local apprenticeship programs. The foundation of this program is the **core curriculum** which includes the training center courses (classroom and shop) and job training hours included in the local apprenticeship program.

Pursuant to Department of Labor guidelines, the Apprenticeship and Training Department requires a minimum of 204 classroom and 2000 on-the-job training hours per year for a local union apprenticeship program. This means that the minimum is 612 and 6000 hours for a three-year program and 816 and 8000 hours for a four-year program. The International has established a minimum requirement of **612 hours for a three-year apprenticeship program** in order to be eligible for the Journeyman Architectural and Ornamental Ironworker card. While the three-year program is the minimum requirement, the International suggests that local union apprenticeship programs consider 816 hours, which ideally is built into a four-year program. While the number of hours per year approved in local standards may be greater or less than 204, the primary focus is on ensuring that the required core curriculum is included in the local apprenticeship program curriculum.

The outline on the following page lists the **required courses** within the core curriculum. In addition, there are **recommended courses** that locals are encouraged to add to their curriculum. Also included are **supplemental courses** that the local may select to add to their curriculum. For each course the number of classroom and shop hours at the training center or facility used by the local union and the on-the-job training hours are indicated. Please note the following:

- The **3-year apprenticeship program** requires a minimum of 612 hours. As seen in the table, the core curriculum requires a minimum of 390 classroom and shop hours at the training center and 6000 on-the-job training hours. The remaining hours to reach 612 is 222 hours and may include a combination of the recommended and supplemental courses and/or more time added to the required courses. The minimum job training hours in each area are indicated.
- A **4-year apprenticeship program** requires 816 hours. The curriculum includes the core courses and a combination of the recommended and supplemental courses and/or more time added to the required courses.

ARCHITECTURAL AND ORNAMENTAL CORE CURRICULUM OUTLINE

Subject Area	Training Center Hours			Minimum Job Training Hours
	Total	Classroom	Shop	
Required Core Curriculum (390 hours)				
Orientation	8	8	0	
Blueprint reading	20	20	0	
Welding	110	30	80	1200
Rigging and cranes	80	40	40	700
Architectural and ornamental construction (1 & 2)*	100	60	40	1100
Mathematics for Ironworkers	30	30	0	
<i>Core safety courses:</i>				
10-hour OSHA training	10	10	0	
Scaffold User – E/D	16	12	4	
OSHA sub-part R	8	8	0	
First Aid/CPR	8	8	0	
Recommended additions to the Core Curriculum				
Structural steel erection (1 & 2)*	100	60	40	1200
Reinforcing concrete	75	45	30	800
Pre-engineered metal buildings	45	15	30	500
Post tensioned reinforcing systems	60	45	15	500
Supplemental Courses				
History of the Ironworkers Union	34	34		
Hazardous material training	40	30	10	
Lead hazard training for Ironworkers	32	24	8	
Mine Safety and Health Administration (MSHA) Training for Ironworkers	24	24		
Disaster response training for Ironworkers	16	16		
Precast safety and erection	30	20	10	
Fork lift	8	6	2	
Metrics for Ironworkers	20	20		
OSHA 30-hour safety course	30	30		

* These courses are designed to be taught as one course or divided into two equal courses.

REINFORCING CONCRETE CORE CURRICULUM OUTLINE

Local union apprenticeship programs prepare the Ironworkers of tomorrow. In order to prepare competent Journeyman Ironworkers for our contractors and employers, the apprenticeship programs at reinforcing concrete local unions include classroom and hands-on training across a number of subject areas. These subject areas comprise the core curriculum in the form of courses.

In order to standardize what is taught at reinforcing concrete local unions, the Apprenticeship and Training Department is in the process of establishing a **certification program** for local apprenticeship programs. The foundation of this program is the **core curriculum** which includes the training center courses (classroom and shop) and job training hours included in the local apprenticeship program.

Pursuant to Department of Labor guidelines, the Apprenticeship and Training Department requires a minimum of 204 classroom and 2000 on-the-job training hours per year for a local union apprenticeship program. This means that the minimum is 612 and 6000 hours for a three-year program and 816 and 8000 hours for a four-year program. The International has established a minimum requirement of **612 hours for a three-year apprenticeship program** in order to be eligible for the Journeyman Reinforcing Concrete Ironworker card. While the three-year program is the minimum requirement, the International suggests that local union apprenticeship programs consider 816 hours, which ideally is built into a four-year program. While the number of hours per year approved in local standards may be greater or less than 204, the primary focus is on ensuring that the required core curriculum is included in the local apprenticeship program curriculum.

The outline on the following page lists the **required courses** within the core curriculum. In addition, there are **recommended courses** that locals are encouraged to add to their curriculum. Also included are **supplemental courses** that the local may select to add to their curriculum. For each course the number of classroom and shop hours at the training center or facility used by the local union and the on-the-job training hours are indicated. Please note the following:

- The **3-year apprenticeship program** requires a minimum of 612 hours. As seen in the table, the core curriculum requires a minimum of 459 classroom and shop hours at the training center and 6000 on-the-job training hours. The remaining hours to reach 612 is 153 hours and may include a combination of the recommended and supplemental courses and/or more time added to the required courses. The minimum job training hours in each area are indicated.
- A **4-year apprenticeship program** requires 816 hours. The curriculum includes the core courses and a combination of the recommended and supplemental courses and/or more time added to the required courses.

REINFORCING CONCRETE CORE CURRICULUM OUTLINE

Subject Area	Training Center Hours			Minimum Job Training Hours
	Total	Classroom	Shop	
Required Core Curriculum (459 hours)				
Orientation	8	8	0	
Blueprint reading	20	20	0	
Welding	110	30	80	1200
Rigging and cranes	80	40	40	700
Post tensioned reinforcing systems	60	45	15	500
Reinforcing concrete	75	45	30	800
Mathematics for Ironworkers	30	30	0	
History of the Ironworkers Union	34	34	0	
<i>Core safety courses:</i>				
10-hour OSHA training	10	10	0	
Scaffold User – E/D	16	12	4	
OSHA sub-part R	8	8	0	
First Aid/CPR	8	8	0	
Recommended additions to the Core Curriculum				
Architectural and ornamental construction (1 & 2)*	100	60	40	1100
Structural steel erection (1 & 2)*	100	60	40	1200
Pre-engineered metal buildings	45	15	30	500
Supplemental Courses				
Hazardous material training	40	30	10	
Disaster response training for Ironworkers	16	16		
OSHA 30-hour safety course	30	30		
Lead hazard training for Ironworkers	32	24	8	
Fork lift	8	6	2	
Mine Safety and Health Administration (MSHA) Training for Ironworkers	24	24		
Precast safety and erection	30	20	10	
Metrics for Ironworkers	20	20		

* These courses are designed to be taught as one course or divided into two equal courses.

STRUCTURAL CORE CURRICULUM OUTLINE

Local union apprenticeship programs prepare the Ironworkers of tomorrow. In order to prepare competent Journeyman Ironworkers for our contractors and employers, the apprenticeship programs at structural local unions include classroom and hands-on training across a number of subject areas. These subject areas comprise the core curriculum in the form of courses.

In order to standardize what is taught at structural local unions, the Apprenticeship and Training Department is in the process of establishing a **certification program** for local apprenticeship programs. The foundation of this program is the **core curriculum** which includes the training center courses (classroom and shop) and job training hours included in the local apprenticeship program.

Pursuant to Department of Labor guidelines, the Apprenticeship and Training Department requires a minimum of 204 classroom and 2000 on-the-job training hours per year for a local union apprenticeship program. This means that the minimum is 612 and 6000 hours for a three-year program and 816 and 8000 hours for a four-year program. The International has established a minimum requirement of **612 hours for a three-year apprenticeship program** in order to be eligible for the Journeyman Structural Ironworker card. While the three-year program is the minimum requirement, the International suggests that local union apprenticeship programs consider 816 hours, which ideally is built into a four-year program. While the number of hours per year approved in local standards may be greater or less than 204, the primary focus is on ensuring that the required core curriculum is included in the local apprenticeship program curriculum.

The outline on the following page lists the **required courses** within the core curriculum. In addition, there are **recommended courses** that locals are encouraged to add to their curriculum. Also included are **supplemental courses** that the local may select to add to their curriculum. For each course the number of classroom and shop hours at the training center or facility used by the local union and the on-the-job training hours are indicated. Please note the following:

- The **3-year apprenticeship program** requires a minimum of 612 hours. As seen in the table, the core curriculum requires a minimum of 435 classroom and shop hours at the training center and 6000 on-the-job training hours. The remaining hours to reach 612 is 177 hours and may include a combination of the recommended and supplemental courses and/or more time added to the required courses. The minimum job training hours in each area are indicated.
- A **4-year apprenticeship program** requires 816 hours. The curriculum includes the core courses and a combination of the recommended and supplemental courses and/or more time added to the required courses.

STRUCTURAL CORE CURRICULUM OUTLINE

Subject Area	Training Center Hours			Minimum Job Training Hours
	Total	Classroom	Shop	
Required Core Curriculum (435)				
Orientation	8	8	0	
Blueprint reading	20	20	0	
Welding	110	30	80	1200
Rigging and cranes	80	40	40	700
Structural steel erection (1 & 2)*	100	60	40	1200
Pre-engineered metal buildings	45	15	30	500
Precast safety and erection	30	20	10	
<i>Core safety courses:</i>				
10-hour OSHA training	10	10	0	
Scaffold User – E/D	16	12	4	
OSHA sub-part R	8	8	0	
First Aid/CPR	8	8	0	
Recommended additions to the Core Curriculum				
Architectural and ornamental construction (1 & 2)*	100	60	40	1100
Reinforcing concrete	75	45	30	800
Post tensioned reinforcing systems	60	45	15	500
Mathematics for Ironworkers	30	30	0	
Lead hazard training for Ironworkers	32	24	8	
Supplemental Courses				
History of the Ironworkers Union	34	34		
Hazardous material training	40	30	10	
Mine Safety and Health Administration (MSHA) Training for Ironworkers	24	24		
Disaster response training for Ironworkers	16	16		
Fork lift	8	6	2	
Metrics for Ironworkers	20	20		
OSHA 30-hour safety course	30	30		

* These courses are designed to be taught as one course or divided into two equal courses.

APPENDIX B

TOOLS AND EQUIPMENT

The section lists the **minimum basic tools and equipment** that should be available for use in the local union apprenticeship program. Many tools and much of the equipment are the same for some or all of the core curriculum areas. However, some equipment is specialized and should be available for use in the selected program areas.

Note that in many locals, the apprentices are required to purchase and provide their own tools for use in school and on the job. The remaining tools and equipment will be provided by the JATC/TIC. As the requirement for apprentices to provide their own tools is a local decision, all of the tools and equipment are listed here. Then each local can determine which of the basic tools (if any) the apprentice is required to provide.

Although no brand names are listed, the equipment and tools should address the following:

1. Safety – Equipment and tools must have all shields, guards, and other safety devices in place, operable, and used.
2. Type and Quality – The tools and equipment used in a certified program must be of the type and quality found on the job. They must also be adequate and in sufficient quantity to meet the program goals and apprentice knowledge and skill objectives.
3. Consumable Supplies – Supplies should be in sufficient quantity to assure continuous instruction. Consumable supplies, such as welding electrodes, hacksaw blades, solvents, sand paper, etc. are not listed.
4. Maintenance – A preventive maintenance schedule should be used to minimize equipment down time.
5. Replacement – A systematic schedule for replacement should be used to maintain up-to-date tools and equipment at industry and safety standards. Information gained from apprentice program evaluations as well as JATC/TIC input should be used in the replacement process.
6. Inventory – An inventory system should be used to account for tools, equipment, parts, and supplies.
7. Storage – Adequate storage of tools should be provided.

The following tool lists are organized into basic categories: hand tools, power tools and lab/shop equipment. When referring to the tools and equipment list, please note the following:

1. The organization of the tool list is not intended to dictate how a program organizes its tool storage.
2. Quantities for each tool or piece of equipment are determined by the program needs; however, sufficient quantities to provide quality instruction should be on hand.
3. No specific brand names for tools and equipment are specified or required.

TOOL LIST

Each apprentice will be required to have the following hand tools when attending courses.

Required for all courses

- Hard hat
- Safety glasses
- Tool belt
- Gloves
- Pocket knife
- Note pad
- Pencil
- 25' Tape measure
- Side cutting pliers
- 12" adjustable wrench
- Soap stone
- Striker
- Burning goggles
- 8' long 1/2" diameter manila rope
- Keel

Reinforcing Concrete

- Wire Reel
- Folding ruler
- Dikes
- Multi-pocket pouch or holster
- Positioning belt with wall hook

Rigging

- Spud wrenches
- Sleever bar

Welding

- Torch tip cleaners
- Welding gloves
- Protective leather
- Wire brush
- Slag hammer
- 12" combination square
- "C" type vise grips
- Welding hood with hard hat

Structural Steel Erection

- 4 pound sledge hammer
- Bolt bag
- Spud wrench – 3/4" and 7/8" hard bolt
- Bull pin
- Sleever bar

Architectural and Ornamental Construction

- Tool box or bucket
- Chalk box and calk
- "C" type vise grips
- 12" combination square
- Bevel square
- Socket set 3/8" or 1/2" drive
- Screw drivers – assorted
- Hack saw
- Center punch
- Bolt bag
- Allen wrenches
- Plumb bob
- Tap handle
- Torpedo level
- Caulk gun

Precast Safety and Erection

- Torpedo level
- Chalk box and chalk
- Spud wrench
- Bolt bag
- Sleever bar

Pre-engineered Metal Buildings

- Spud wrench
- Sleever bar
- Bolt bag
- Sheet metal snips – left & right
- Chalk box with chalk
- Vice grips
- Chisel
- Ball peen hammer

POWER TOOLS AND EQUIPMENT

Power Tools

- Impact wrenches (pneumatic & electric)
- Pneumatic drill
- Magnetic drill press
- Rotary hammer drill
- Screw gun
- Electric disk grinders (various sizes)
- Deck saw
- Chop saw
- Reciprocating saw
- Circular saw and various types of blades
- Portable band saw
- Powder actuated tools
- Drill motor

Equipment

- Welding machines (electric & fuel)
- Welding cables and hardware
- Oxyacetylene torch outfit
- Compressed gas cylinders
- Bench grinder
- Jacks (screw, ratchet, steamboat, hydraulic, port-a-power)
- Chain hoist
- Come-a-long
- Chokers (various sizes)
- Shackles (various sizes)
- Turnbuckles
- Levels
- Leveling instruments
- Air compressor and air hose
- Face shields
- Air arc equipment
- First aid kit

APPENDIX C
INSTRUCTOR OBSERVATION INSTRUMENT

IRONWORKER INSTRUCTIONAL OBSERVATION

Instructor: _____ Date: _____

Presentation Skill	Skill Demonstrated		
	Yes	To Some Extent	No
1. Definite objectives were made known.			
2. Topic had a good introduction.			
3. Instructor's appearance was professional.			
4. Questions were asked at proper check points.			
5. Instructor asked group and direct questions.			
6. Learners asked questions.			
7. Instructor provided positive reinforcement.			
8. Instructor followed a plan.			
9. Instructor was enthusiastic.			
10. Instructor displayed a sense of humor.			
11. Instructor maintained eye contact.			
12. Instructor used an effective voice level.			
13. Instructor moved throughout the room.			
14. Instructor used learner's names.			
15. Topic had a good summary.			
16. Presentation included a learner activity.			
17. Instructor correctly used audio visuals.			
18. Instructor correctly made the presentation.			
Comments and Suggestions:			

