

# **THE INSTITUTE OF CARPENTERS**

## **FOUNDATION CERTIFICATE IN CARPENTRY AND JOINERY**

**(Operative from 1996)**

**SCAA Approved**



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## **FOREWORD**

The Institute of Carpenters is the leading authority in all forms of woodwork. Over many years it has encouraged craftsmanship in wood by providing Examination, details of craftwork and study, including Examiners for its own examinations and those of other leading authorities. It has achieved this by being completely unbiased, yet remaining convinced of the necessity for practical examinations and for adequate training and time.

The Institute of Carpenters is the only organisation that sets nationally, a timed practical examination that is clearly associated with the needs of industry.

Full information concerning the Institute and all its examinations is available upon application from Central Office.

The Institute's Foundation Certificate is a realistic approach to the requirements of current educational dictates to bridge the gap between school life and a vocation in wood and is sponsored by The Institute of Carpenters who will award certificates to those who gain success thus indicating the potential of the student or trainee.

Schools, training centres and colleges are participating in the scheme all of whom will be kept fully informed of its progress and requested to assist in any further developments.

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# **INSTITUTE OF CARPENTERS**

## **FOUNDATION CERTIFICATE SYLLABUS**

### **NOTES FOR GUIDANCE**

1. Certificates will be provided by the Institute of Carpenters, who amongst its members, has experts in every field of woodwork, including industrialists, educationalists, teachers, lecturers and craftsmen.
2. The curriculum and coursework is to be undertaken by students in schools, colleges and training centres and will fill the gap which has arisen by the withdrawal of those courses dealing specifically with craft expertise thus satisfying those who seek to enjoy the mental and physical stimulus of a career in woodworking.
3. The Institute of Carpenters, Foundation Examinations are being treated as external examinations in a similar manner to that of R.S.A., Pitmans and City and Guilds.
4. The Foundation Course may be used as part of the Craft Design and Technology Courses and as a section of these Courses, no direct application for course sanction has been necessary.
5. All Schools, head Teachers, Teachers and Lecturers, are being encouraged to make use of this woodwork course and it is imperative that we are all active in this respect.
6. The Course is simple to assimilate and to administer and thus is being welcomed. In addition to the foregoing possibilities, the teacher will be able to develop the coursework to suit local interests and industries. As project work and industrial placement are an essential concept of the Certificate of Foundation Education, together with training for the world work this course will provide the necessary bridge.
7. The Institute of Carpenters will monitor Examinations when necessary including coursework results. The Institute's decision must be accepted as Final.
8. This Course meets a fundamental teaching precept in that it stimulates a high level of mental activity whilst enjoying the bodily exertions inherent in producing craftwork.

# **INTEGRATION OF WOODWORKING COURSES INTO THE CURRICULUM OF SCHOOLS, COLLEGES AND TRAINING CENTRES**

The Institute of Carpenters Foundation Certificate course is especially suited for students up to and including 16+ and may be integrated with courses provided in schools, and those linking schools to colleges and training centres:-

## **SCHOOLS**

As a one or two year option course integrated and taught in conjunction with a 16+ course.

Examples include:

1. Woodwork
2. C.D.T.
3. As a practical course developed by the teacher - e.g. small non-examination group
4. As part of a school designed course developed to suit local needs
5. As a unit incorporated with other modular courses

## **SIXTH FORM COLLEGES**

1. As part of a general course for the sixth former
2. As a useful vocational extra to courses such as 'A' Level Technology
3. As part of a school designed course which may be developed to suit local needs

## **COLLEGES of FURTHER EDUCATION**

1. To compliment NVQ Levels I and II
2. As a course linking schools to colleges
3. As a basic introduction to wood trade courses

# THE INSTITUTE OF CARPENTERS FOUNDATION CERTIFICATE

## The Course Objectives are to:

1. promote the craft of Carpentry and Joinery
2. support existing courses and Construction Design and Technology courses
3. provide an insight into possible careers in wood-based industries

## The Aims of the Course are that it should:

1. be brief enough to be taught in the time available
2. be easily accessible to mixed ability groups
3. have an accent on practical work with a majority of the time available devoted to development of practical skills
4. provide students with an interesting insight into the many facets of Carpentry and Joinery
5. explain the links between Carpentry, Joinery and other trades in the Building Industry
6. include scope for teachers to develop the course to suit local industries
7. offer guidance for progression to continuing education, training, and/or work

## EXAMINATIONS

Paper 1	40 short answer questions set and marked by the Institute of Carpenters Time - One and a half hours.	<b>MARKS = 40%</b>
Paper 2	A practical test piece set by the Institute and marked by the teacher /lecturer to a specific Marking Scheme supplied by the Institute Time - Three hours.	<b>MARKS = 30%</b>
Paper 3	Three practical assignments - marked by the teacher /lecturer e.g. marks for skill, effort, attitude etc.	<b>MARKS = 30%</b>

# **SYLLABUS**

## **PRACTICAL COURSEWORK**

The practical coursework may be developed by the individual teacher/lecturer.

The aim is to interest the student and to allow him/her to make themselves something useful. The work should be progressive and enable students to acquire tool skills and to learn basic joint construction. Team projects may be undertaken.

Suggestions:

Book Racks, Shelves, Coffee Table, Stools.

Small items of Furniture, Tool Box, Steps.

Items of Carpentry, Joinery and Shopfitting etc.

Should more details be required the Institute will supply a selection of drawings for the coursework.

## **THEORY**

The syllabus indicates the topics to be covered and the required depth of study. The individual teacher/lecturer may then teach in whatever manner suits the class. Many of the topics will be covered in the practical lessons by the type of work undertaken. Others will require the student to make notes and sketches from information supplied, either as theory lessons, homework or in the form of projects. A portfolio of evidence should be kept. The student must be encouraged to look at examples of Carpentry and Joinery in the home and relate them to the theory work.

The examination questions will be based on the following syllabus and past papers are available on the website.

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## FOUNDATION EXAMINATION

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### 1. Materials:

**The candidate shall be able to**

- a) Describe the identification characteristics of softwoods to include :- Norway Spruce (Whitewood), Scots Pine, (European Redwood);
- b) Describe the identification characteristics of hardwoods to include :- Beech, Mahogany; Oak;
- c) Explain the growth, structure, properties and uses of the softwoods and hardwoods listed at (a) and (b) above;
- d) Describe and illustrate basic methods of timber conversion to include; Through and through, Quarter Sawn;
- e) Describe and illustrate the composition and state the uses of Manufactured Boards/Sheets to include :- Plywood, Chipboard, Blockboard, Hardboard, Medium Density Fibre Board (MDF).

### 2. Craft Related Drawing:

**The candidate shall be able to**

- a) Display a knowledge of British Standard recommendations for Building Drawing Practice 1192;
- b) Use a scale rule to produce construction drawings;
- c) Identify types of construction drawings to include Location; Component and Assembly;
- d) Produce drawings using projection types to include Orthographic and Pictorial, 1st angle projections;
- e) Display methods of bisecting angles and lines;
- f) Demonstrate the geometrical construction of squares, right angled triangles;
- g) Demonstrate the geometrical construction of the circle, naming the parts.



### **3. Timber Related Science:**

**The candidate shall be able to**

- a) State the reasons for seasoning timber;
- b) Describe the process of natural/air seasoning of timber;
- c) Identify natural timber growth defects and state their effects on usage;
- d) Explain the application, properties and uses, including storage requirements, for Animal, Polyvinyl Acetate (PVA) and Contact;
- e) Outline the causes, effects and methods of treatment related to Wet and Dry Rot;
- f) State the causes, effects and methods of preventing condensation;
- g) State the effects on timber component manufacture for capillary attraction and surface tension;
- h) Explain the basic principles of bracing and triangulation.

### **4. Wood Trades Calculations:**

**The candidate shall be able to**

- a) Solve simple decimal problems of addition, subtraction, multiplication and division;
- b) Demonstrate the use of pocket calculators.

### **5. Safety:**

**Range:** Health & Safety at Work Act 1974 (**H.A.S.A.W.A.**),  
Woodworking Machines Regulations 1974, Control of  
Substances Hazardous to Health Regulations 1988 , PUWER  
(**C.O.S.H.H.**).

**Competence requirements:**

**With regard to safety, health and welfare on the site and in the workshop, the candidate shall be able to.**

- a) Define the requirements of current legislation;
- b) Define the duties of employers/employees;
- c) Define and explain safe methods of working;
- d) Understand methods of responding to an accident.

## **6. Protection, Storage and Safe Handling:**

**Range:** Timber and Associated Sheet Materials.

**The candidate shall be able to**

- a) State the factors affecting the handling and storage of materials and components on-site and in the workshop.

## **7. Hand Tools:**

**Range:** Measuring, Setting/Marking-Out, Sawing, Planing, Chiselling and Paring, Drilling/Boring, Impelling.

**Competence Requirements:**

**The candidate shall be able to**

- a) Name and state the function of hand tools;
- b) Correctly select tools for specific purpose;
- c) Describe the care use and maintenance of hand tools;
- d) Explain precautions to be taken when storing/guarding tools not in use.

## **8. Timber Jointing:**

**Range:** Common Joints. Corner Halving, Housing, Through and Stopped. Mortice and Tenon, Single and Haunched. Through Dovetail.

**Competence requirements:**

**The candidate shall be able to**

- a) Sketch methods of jointing timber components;
- b) State the factors affecting choice of jointing method.

## **9. Fixings:**

**Range:**      **Nails:** Oval, Round Head and Panel Pins. **Screws:** Countersunk, Raised, Slotted and “Pozi” Head Types. Proprietary Plastic Plugs For Fixing into Brickwork and Blockwork.

**Competence requirements:**

**The candidate shall be able to**

- a) Explain the factors effecting item choice;
- b) Recognise and correctly specify items;
- c) Describe and illustrate the function and correct use of items.

## **10. Hardware and Ironmongery:**

**Range:**      Butt Hinge, Tee Hinge. Cylinder Night Latch, Mortice Latch. Domestic Fitments.

**Competence requirements:**

**The candidate shall be able to**

- a) Explain the factors effecting item choice;
- b) Recognise and correctly specify items;
- c) Describe and illustrate the function and correct use of items.

## **11. Portable Powered Tools:**

**Range:**      Orbital Sander, Screwdriver and Drill.  
Electrical Power Supplies - Reduced Voltage.

**Competence Requirements:**

**The candidate shall be able to**

- a) Correctly select tools for specific purpose;
- b) Describe functions, capacities and limitations;
- c) Explain maintenance and safe use;
- d) Explain the function and use of transformers;
- e) Identify types and uses of abrasive papers and grits.

## **12. Doors:**

**Range:** Domestic, Side hung - Battened, Framed, Panelled, Glazed.

### **Competence requirements:**

**The candidate shall be able to**

- a) Identify related elements and components;
- b) Describe methods of construction.

## **13. Door Frames & Linings:**

**Range:** Plain and Rebated linings.  
Moulded and Rebated Door Frames.

### **Competence requirements:**

**The candidate shall be able to**

- a) Identify related elements and components;
- b) Describe methods of construction and procedures.

## **14. Casement Windows:**

**Range:** Single Light Traditional Casement Window With Side Hung Sash.

### **Competence requirements:**

**The candidate shall be able to**

- a) Identify related elements and components;
- b) Describe methods of construction, sequence of manufacture and methods of fixing;
- c) Describe the purpose and function of and constructional requirements for single glazing systems.

## **15. Fitments:**

**Range:** Domestic Free Standing Units. Purpose-Made Shelving Units.  
Purpose-Made Work Surfaces.

### **Competence requirements:**

**The candidate shall be able to**

- a) Identify related elements and components;
- b) Describe and illustrate
  - i) procedures for assembly, fitting, fixing and finishing;
  - ii) correct procedures when fitting plastic laminates to worktops.

## **16. Floors:**

**Range:** Hollow Ground & Single Span Upper Floors in Timber.

### **Competence requirements:**

**The candidate shall be able to**

- a) Identify related elements and components;
- b) Describe and illustrate
  - i) methods of construction;
  - ii) the laying, jointing and fixing of all types of timber flooring and sheet materials;
  - iii) the function, purpose, fitting and fixing of strutting to upper floors.

## **17. Finishings:**

**Range:** Architraves, Skirting Boards, Dado and Picture Rails.

### **Competence requirements:**

**The candidate shall be able to**

- a) Identify related elements and components;
- b) Explain methods of cutting and fixing vertical and horizontal mouldings to include forming scribes, mitres and header joints.

## **18. Roofs:**

**Range:** Flat, Lean to, Single and Double Roofs with Hipped or Gabled Ends over Square and Rectangular on Plan.

### **Competence requirements:**

**The candidate shall be able to**

- a) Identify related elements and components;
- b) Describe and illustrate methods of
  - i) construction and erection to comply with current legislation;
  - ii) construction and finishing at verges, eaves and abutments;
  - iii) construction and finishing access traps to loft spaces;
  - iv) providing adequate ventilation to roof spaces to comply with current legislation.

## **19. Formwork:**

**Range:** Simple Mould Box for Pre-Cast Lintel.

### **Competence requirements:**

**The candidate shall be able to**

- a) Identify related elements and components;
- b) Explain the types, function and methods of application of release agents;
- c) Describe and illustrate
  - i) design and construction for concrete which is to be pre-cast;
  - ii) difference between pre-cast and in-situ.

## **20. Access Equipment:**

**Range:** Ladders and Stepladders.

### **Competence requirements:**

**The candidate shall be able to**

- a) Recognise and state the function of commonly used components;
- b) Describe and illustrate
  - i) securing, dismantling and safe use;
  - ii) Types indicated in the range.
- c) Describe the procedure for correct storage, safe usage, and inspection.

## **21. Setting Out and Levelling:**

**Range:** Straight Edge, Spirit Level.

### **Competence requirements:**

**The candidate shall be able to**

- a) Explain methods of transferring levels, vertical and horizontal;
- b) Describe and illustrate methods of
  - ii) plumbing and levelling;
  - iii) setting out and checking right angles.

## **22. Industrial Studies**

**Range:** Professions, Careers Progression, Integration With Other Trades, House Construction.

**Competence requirements:**

**The candidate shall be able to**

- a) Describe the role of the following :-
  - i) Architect;
  - ii) Quantity Surveyor;
  - iii) Estimator;
  - iv) Site Agent, General Foreperson/Supervisor;
  - v) Clerk of Works;
- b) Describe the careers available in the wood based industries and the work undertaken by each;
- c) Describe the relationship with other trades in relation to house construction;
- d) Identify the main elements of a domestic dwelling and state the operational sequence.



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## **Intermediate, Licentiate/Advanced Craft Examinations**

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The Institute of Carpenters offer further examinations to students, craftsman and woodworkers who wish to gain a recognised qualification in Carpentry and Joinery.

### **INTERMEDIATE**

The Intermediate award is aimed at candidates completing the gathering of competence evidence toward gaining a Level 11 Scottish or National Vocational Qualification (SVQ/NVQ), and will require success in two papers. Candidates should be aware that a study of additional material may be required.

**i) Paper One: Craft Skills Competence -**

A practical test piece, set by the Institute, to be completed by the candidate in a continuous period of time not exceeding **four hours** duration.

Marking of the completed test piece is to be undertaken by the Examination Centre with the aid of a marking schedule devised by the Board.

**ii) Paper Two: Associated Vocational Technology – (Theory)**

A written paper composed of 20 questions to be attempted by the candidate in a continuous period of time not exceeding **one and a half hours** duration.

All questions carry equal marks and require answers that shall be submitted on the question paper provided and be short in nature (sketched, written, calculated etc.)

Marking of the completed scripts shall be undertaken by the Institute.

### **ADVANCED CRAFT**

This award is aimed at candidates completing the gathering of competence evidence towards gaining a Level 111 Scottish or National Vocational Qualification (SVQ/NVQ) and will require success in two papers. Candidates should be aware that a study of additional materials may also be required.

**i) Paper One: Craft Skills Competence -**

A practical test piece set by the Institute to be completed in a period of time not exceeding **seven hours** duration within a single day.

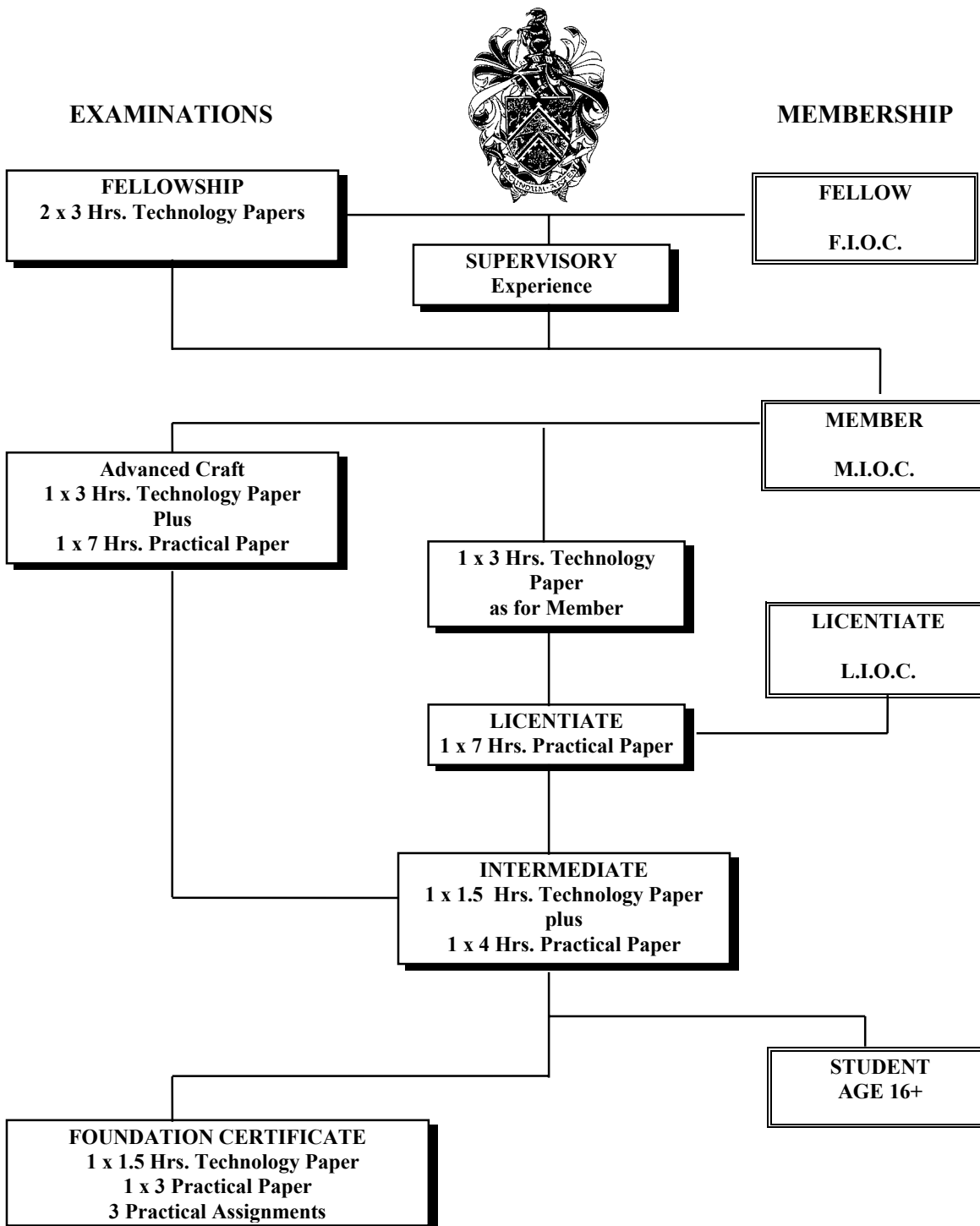
**ii) Paper Two: Associated Vocational Technology -**

A General and Specialist Technology element which comprises of a Single Associated Vocational paper set and marked by the Institute and consists of two parts to be attempted in a continuous time period not exceeding **three hours**.

**More details of these Examinations can be obtained from Central Office**

# THE INSTITUTE OF CARPENTERS

## EXAMINATIONS AND MEMBERSHIP STRUCTURE



Pre-School Leavers, Craft Based  
Trainees

**FURTHER INFORMATION**

**Chairman of the Examinations Board**

Mr D. Riley MIOC

**Examinations Registrar**

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