

CW Academy

FUNDAMENTAL Level CW Curriculum

Version 1.12.1

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By CW Academy

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July 2022



Revision Record

2022 Jul – 1.0 original version

2022 Sep – 1.8 rev Bob Carter WR7Q – minor corrections

2022 Sep – 1.9 rev Bob Carter WR7Q – corrected Word Speed on page 31

2022 Oct – 1.10 rev Bob Carter WR7Q – align with recent changes to the MCT website

2022 Oct – 1.11 rev Bob Carter WR7Q – change LCWO Word Training speed to 10-12 wpm

2022 Dec – 1.12 rev Bob Carter WR7Q – lower beginning sending CPM from 25 to 10

2022 Feb – 1.12.1 rev Bob Carter WR7Q – Chgd. MCT ssn. 9 day 3 from Basic to Fundamental

CW Academy Fundamental Level Curriculum

Introduction

Welcome to CW Academy and the Fundamental Level CW Class.

Course Overview

The Fundamental Level class accepts students who have learned the Morse code characters and can copy and receive Morse code at around 6 words per minute.

The class initially concentrates on Instant Character Recognition (ICR) and on sending well-formed Morse code characters. The goal of ICR is to reduce the amount of time between hearing the character and knowing what the character is to almost instantaneous. About half the time will be spent working on sending 'readable' Morse code.

The course is eight weeks long with about an hour of homework each day during the week. Students who diligently do the homework every day and participate in the twice-weekly class activities will be successful in reaching the class objectives.

Class Objectives

By the end of the course, students should be able to copy Morse code at about 10-13 words per minute and send 'readable' Morse code at about the same rate. The student should have excellent Instant Character Recognition as well as be able to hear common two and three letter groups as words. The student should be ready to take the Intermediate Level CW Class, if desired. The student will also have experience using Morse code on the air and capable of having a QSO at about 10-13 words per minute.

Curriculum Organization

The daily homework assignments follow. Please note that the Advisor has the discretion to modify the homework assignments as needed to suit the class or individual student needs.

The homework is organized by days. Three days' worth of homework is due for each online session. In class the advisor will likely discuss the homework, your progress, and provide advice and encouragement.

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Tools

The following tools and aids will be used during the semester:

NOTE: to open each link in a new tab, so you can retain your place in this document

Learn CW Online <https://lcwo.net/> – Practice ICR, words, abbreviations, and call signs

LCWO ICR

<https://cwops.org/wp-content/uploads/2022/07/LCWO-ICR-Guidelines-1.2.pdf>

Recommend you read this document and understand the process for the Fundamental class

LCWO Video of [LCWO ICR](#)

NOTE: If you are ‘typing’ challenged, use MCT instead of LCWO. Not exactly the same, but close

Morse Code Trainer <https://morsecode.world/international/trainer/trainer.html>

ICR and copy training

MCT Demo Video [MCT ICR](#)

Daily Scales

<https://cwops.org/wp-content/uploads/2022/03/Everyday-Send-Code-WR7Q-ver.-7.pdf>

You should download and print this document. You will use them almost every practice session

Voice Recorder

You will need the ability to record and play back your sending. Most smart phones have a voice recorder function which works well to fill this requirement.

A Note about Speed

A Note about Speed. It is CW Academy’s practice to send Morse code (to the students) at a character speed of 25wpm and use Farnsworth spacing to achieve a specific effective speed. Students need to be hearing the speed at a rate where it is difficult to count dits and dahs!! Additionally, the students are NOT expected to ‘send’ at this speed.

The Fundamental class starts at an effective speed of 6wpm and gradually increases to an effective speed of at least 10 to 12wpm by the end of the class.

Students should consider the effective speed for each practice session to be the ‘minimum’ speed. If the student is capable of a higher speed, the student should use that speed or higher.

Push yourself into the learning zone.

There is no learning in the comfort zone and there is no comfort in the learning zone!

(Carl Dierschow)

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Session 1 Homework Day 1 Effective Speed: 6wpm	
COPY	SEND
<p style="text-align: right;">Send 1</p> <p style="text-align: right;">Send the 'Daily Scales' <i>Warm Up</i></p> <p>The objective is to send each group of 5 or 6 characters correctly. If a mistake is made start over for that group Set the keyer at 10wpm character speed and practice character spacing at 6wpm effective speed. That would be one character every two seconds. Send the following:</p> <p style="text-align: center;"> EEEE TTTT IIII MMMM SSSS OOOO HHHH 0000 5555 AAAA NNNN UUUU DDDD VVVV BBBB 4444 6666 </p> <p style="text-align: center;">Get into the habit of doing a warmup at the beginning of each practice session.</p>	
<p>Copy 1</p> <p>Open lcwo.net in your browser and register your account. With a registered account you can see your progress during the eight weeks of the class.</p> <p>Once registered, click on 'CW Settings' under 'Account' in the left column. Change the parameters to: Character Speed: 25wpm (always use this setting) Effective Speed: 6wpm Extra Word Spacing: 0 Tone: Your choice. Normally 600 Hz CW Player: jscwlib No transmission prefix / suffix Start Delay (seconds): 2 seconds Group length: 2 fixed Click Submit Now click on 'Code Groups' under 'Speed Practice' Parameters should read: Character Speed = 25 WPM, Effective Speed = 6 WPM, Tone = 600 Hz, Start Delay = 2 seconds Change mode to 'letters' and the duration to 1 minute. Do NOT select Use REAL speed Click the 'Play' button. Type in each character as you hear it. After each group click 'Enter' At the end of a minute, check your results. Make a note of all the characters you missed</p> <p>In this exercise, do not 'ponder' over a character. If you don't know what it is, just type a period (.) and go on to the next character. Be sure the press the Enter key after each two-letter group. Pondering will cause you to miss the next character....</p>	
<p style="text-align: right;">Send 2</p> <p style="text-align: center;">Set keyer speed at 10wpm character speed and send at 6wpm effective speed Send your first name five times</p> <p style="text-align: center;">Be deliberate with your character formation. At 6wpm you would send one character about every two seconds</p>	
<p>Copy 2</p> <p>Do a second LCWO session as described in Copy 1 above Do a third LCWO one minute session as described above</p>	
<p style="text-align: right;">Send 3</p> <p style="text-align: right;">Send your call sign five times</p>	
<p>Copy 3</p> <p>Do a final LCWO session as describe in Copy 1 above</p> <p>You should now have four lists of characters that you missed. Combine this list into one list of characters that you missed two or more times.</p>	

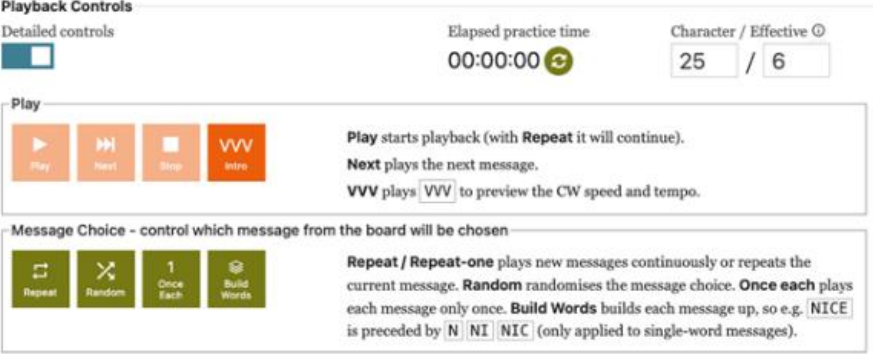
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Session 1 Homework Day 2 - Effective Speed: 6wpm	
COPY	SEND
<p style="text-align: right;">Send 1</p> <p style="text-align: right;">From the 'Daily Scales' <i>Warm Up</i></p> <p>The objective is to send each group of 5 or 6 characters correctly. If a mistake is made start over for that group. Set the keyer at 10wpm character speed and practice character spacing at 6wpm effective speed (that would be one character every two seconds). Send the following:</p> <p style="text-align: center;">ABCDEF GHIJK LMNOP QRSTU VWXYZ 12345 67890</p> <p>Send in groups of five (or six) with space between each group. Concentrate on slow, deliberate sending with good character formation</p>	
<p>Copy 1</p> <p>Using the LCWO instructions from Day 1, do two sessions of Code Groups for one minute each. Continue refining your list of characters that you miss more than once</p>	
<p style="text-align: right;">Send 2</p> <p>Send each of the characters on your list of characters that you have missed more than once. Say the character and then send the character Go through the list twice</p>	
<p>Copy 2</p> <p>In LCWO change your settings as follows: Character Speed: 25wpm Effective Speed: 6wpm Extra word spacing: 0 Group length: 2</p> <p>On the right side, check each of the letters on your list of characters that you have missed more than twice and Submit Select Code Groups</p> <p>Change the mode to 'Custom characters'</p> <p>Run a one-minute code groups typing in the characters and pressing Enter after each group of 2 characters. Check your results</p> <p>Do this twice more, keeping track of the characters that you missed more than once</p>	
<p style="text-align: right;">Send 3</p> <p>With keyer set to 10wpm, send your name five times paying attention to your character spacing and character formation.</p>	
<p>Copy 3</p> <p>Do two more one-minute sessions of LCWO using the characters that you are missing more than once. Continue refining your list</p>	

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Session 1 Homework Day 3 - Effective Speed: 6wpm	
COPY	SEND
<p style="text-align: right;">Send 1</p> <p style="text-align: right;">From the 'Daily Scales' <i>Warm Up</i></p> <p>The objective is to send each group of characters correctly. If a mistake is made start over for that group. Set the keyer at 10wpm character speed and practice character spacing at 6wpm effective speed (that would be one character every two seconds). Send the following:</p> <p style="text-align: center;">THE QUICK BROWN FOX JUMPED OVER THE LAZY DOGS BACK 70364 51289</p>	
<p>Copy 1</p> <p>Modify your LCWO settings to the characters that you're continuing to miss more than once. Do two more one-minute sessions.</p>	
<p style="text-align: right;">Send 2</p> <p>With your keyer set at 10wpm and at an effective speed of 6wpm, send your call sign followed by your name five times in this fashion:</p> <p style="text-align: center;">(NAME) DE (CALLSIGN)</p>	
<p>Copy 2</p> <p>Reset LCWO to the settings for Day 1, Copy 1. Run three one-minute sessions and refine your list of difficult characters.</p>	
<p style="text-align: right;">Send 3</p> <p>Using the voice recorder on your smart phone or on your computer, record yourself sending your callsign de your name five times. Play back the recording and analyze your sending. Are the characters well formed? That is, are you sending a 'Y' and not 'TW'? Check your spacing when sending a character and between words. Can you copy your own sending?</p>	
<p style="text-align: center;">You have finished the homework for the first 'class' session. Be prepared to report in class your code group score. Note any questions so you'll remember to ask them in class. If you have a question, it's highly probably someone else has the same question</p>	

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Session 2 Homework Day 1 Effective Speed: 6wpm	
COPY	SEND
Send 1	
<p style="text-align: right;">Send the 'Daily Scales' <i>Warm Up</i></p> <p>The objective is to send each group of 5 characters correctly. If a mistake is made start over for that group Set the keyer at 10wpm character speed and practice character spacing at 6wpm effective speed. That would be one character every two seconds. Send the following:</p> <p style="text-align: center;">EEEE TTTT IIII MMMM SSSS OOOO HHHH 0000 5555</p> <p style="text-align: center;">AAAA NNNN UUUU DDDD VVVV BBBB 4444 6666</p> <p style="text-align: right;">Get into the habit of doing a warmup at the beginning of each practice session.</p>	
Send 2	
<p>Set your keyer to 10wpm and send your list of difficult letters. Say out loud each letter as you send it. Concentrate on good character formation and good pacing ... which should be at about one letter every two seconds</p>	
Copy 1	
<p>Work on your 'difficult letters' list. Set up LCWO with those letters plus 3-5 more common letters. Run two sessions of one-minute each and revise your list</p>	
Send 3	
<p>Send your call sign five times without a mistake. If you make a mistake, stop, rewind, and start again trying to send your call sign five times without an error.</p> <p style="text-align: right;">If, after four tries, you haven't succeeded in sending your call sign five times in a row without a mistake, stop and go on to</p>	
Copy 2	
<p>Reset LCWO mode to 'Letters' so it will use all the letters. Do three more one-minute sessions, making a new list of characters that you miss more than once</p>	
Send 3	
<p>Send your call sign five times without a mistake. If you make a mistake, stop, rewind, and start again trying to send your call sign five times without an error.</p> <p style="text-align: right;">If, after four tries, you haven't succeeded in sending your call sign five times in a row without a mistake, stop and go on to</p>	
Copy 3	
<p>Using the Word List Trainer https://morsecode.world/international/trainer/trainer.html set up as described: Make sure the 'Select Ready Made' tab is selected Under 'Word list' click the down arrow on the right side of the box and select 'CWops CW Academy Fundamental: 2 letter words' Read the instructions under 'Sound Board'. Be sure that 'Board Visibility' and 'Text Visibility' are turned off. Click 'Enable All' so that all the controls under 'Playback Controls' are available Under 'Playback Controls' the switch for 'Detailed controls' should be turned on. Set 'Character' to 25wpm and 'Effective' to 6wpm. This section should look like this:</p>	
	
<p>Note the 'Message Choice' options and set 'Repeat' as desired Play the first word. Say each letter out loud as you hear it. Don't ponder over the letter or you will miss the next letter After both letters are played, what is the word? Click 'Next' to play the next two letters. Say each letter out loud as you hear it. After both letters are played, what is the word? Continue to press 'Next' until all 34 words have been played</p>	

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Session 2 Homework Day 2 - Effective Speed: 6wpm	
COPY	SEND
<p style="text-align: right;">Send 1</p> <p style="text-align: right;">From the 'Daily Scales' <i>Warm Up</i></p> <p>The objective is to send each group of 5 or 6 characters correctly. If a mistake is made start over for that group. Set the keyer at 10wpm character speed and practice character spacing at 6wpm effective speed (that would be one character every two seconds). Send the following:</p> <p style="text-align: center;">ABCDEF GHIJK LMNOP QRSTU VWXYZ 12345 67890</p> <p>Send in groups of five (or six) with space between each group. Concentrate on slow, deliberate sending with good character formation</p>	
<p>Copy 1</p> <p>Again, back to LCWO. Set the mode to 'Letters' and do three sessions of one minute each. Start a new list of letters that you miss more than once.</p>	
<p style="text-align: right;">Send 2</p> <p>Use the Word List Trainer https://morsecode.world/international/trainer/trainer.html</p> <p style="text-align: right;">Click the 'Sending' tab Set the session to 7/13 Click Play and listen to the word Using your key, send the word mimicking what you heard Click 'Next' and do the next word</p>	
<p>Copy 2</p> <p>Do another two sessions of one minute each of LCWO. Refine your list of letters missed more than once. Compare that new list to the previous list and note your improvement</p>	
<p style="text-align: right;">Send 3</p> <p>Send your name and location (QTH) five times. Many amateur radio operators shorten their name to 3-4 letters. If you QTH is complicated and difficult to send, then use a nearby city and send 'nr (nearby city)', where 'nr' is an abbreviation for 'near'.</p> <p style="text-align: right;">For example: 'nr albany ny'.</p> <p style="text-align: right;">It is common practice to send your name and qth twice. For example: John john qth is nr albany ny albany ny</p> <p>You should practice sending your name, qth, and call sign until you can send them without making a mistake. It is embarrassing to have to correct your own name on the air....</p>	

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Session 2 Homework Day 3 - Effective Speed: 6wpm	
COPY	SEND
Send 1	
From 'Daily Scales' <i>Exercise</i> send the following:	
AAA BBB CCC DDD EEE FFF GGG HHH III JJJ KKK LLL MMM	
NNN OOO PPP QQQ RRR SSS TTT UUU VVV WWW XXX YYY ZZZ	
If you make a mistake, start the group over again. If you make a second mistake in the same group, note the letters you are having trouble with, and continue through the alphabet	
Sending well-formed characters at 6wpm should take about 4 minutes to send the letters above	
You, like all the other students, can send faster than you can copy. Be deliberate and SLOW DOWN	
Copy 1	
Do three more sessions of one minute in LCWO in the mode 'Letters'. Combine your results with the list from yesterday	
Send 2	
Send your call sign five times without making a mistake. If you make a mistake, stop, take a breath, and start again. If after four tries you haven't been able to send your call sign five times in a row correctly, stop and go on to the next activity	
Copy 2	
Do three more sessions of one minute in LCWO in the mode 'Letters'. Combine your results with the list from Copy 1	
Send 3	
Send your name five times without making a mistake. If you make a mistake, stop, take a breath, and start again. If after four tries you haven't been able to send your name five times in a row correctly, stop and go on to the next activity	
Copy 3	
Set LCWO up in 'Custom' mode and select the letters from your list of letters you have gotten wrong more than once in the past two days. Do several one-minute sessions and take a break between them. Cross the letters off you list that you feel you have mastered	

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Session 3 Homework Day 1 Effective Speed: 7wpm											
COPY	SEND										
<p style="text-align: right;">Send 1</p> <p style="text-align: right;">Send the 'Daily Scales' <i>Warm Up</i></p> <p>The objective is to send each group of 5 characters correctly. If a mistake is made start over for that group Set the keyer at 15wpm character speed and practice character spacing at 7wpm effective speed. That would be one character every two seconds. Send the following:</p> <p style="text-align: center;">EEEEEE TTTTTT IIIII MMMMM SSSSS OOOOO HHHHH 00000 55555</p> <p style="text-align: center;">AAAAA NNNNN UUUUU DDDDD VVVVV BBBB 4444 66666</p> <p style="text-align: right;">Get into the habit of doing a warmup at the beginning of each practice session</p>											
<p>Copy 1</p> <p>Work on your 'difficult letters' list. Set up LCWO with those letters plus 3-5 more common letters. Run two sessions of one-minute each and revise your list</p>											
<p style="text-align: right;">Send 2</p> <p>Set your keyer to 15wpm and send your list of difficult letters. Say out loud each letter as you send it. Concentrate on good character formation and good pacing ... which should be at about one letter every two seconds</p>											
<p>Copy 2</p> <p>Reset LCWO mode to 'Letters' so it will use all the letters. Do three more one-minute sessions, making a new list of characters that you miss more than once</p>											
<p style="text-align: right;">Send 3</p> <p>Send your name five times without a mistake. If you make a mistake, stop, rewind, and start again trying to send your name five times without an error. If, after four tries, you haven't succeeded in sending your name five times in a row without a mistake, stop and go on to Copy 3</p>											
<p>Copy 3</p> <p>Listen to QSO 102 at 7wpm: https://cwops.org/wp-content/uploads/2022/07/qso-07.102.mp3 Listen and copy as best you can all the way through without stopping Fill out the following information as best you can. Then listen to the QSO as many times as needed to fill in any missing information:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">CQer Call Sign _____</td> <td style="width: 50%;">Answerer Call Sign _____</td> </tr> <tr> <td>CQer Name _____</td> <td>Answerer Name _____</td> </tr> <tr> <td>CQer RST Sent _____</td> <td>Answerer RST Sent _____</td> </tr> <tr> <td>CQer QTH _____</td> <td>Answerer QTH _____</td> </tr> <tr> <td>CQer WX Rpt _____</td> <td>Answerer WS Rpt _____</td> </tr> </table> <p>Keep this sheet handy and discuss with your advisor at your next video conference meeting</p>		CQer Call Sign _____	Answerer Call Sign _____	CQer Name _____	Answerer Name _____	CQer RST Sent _____	Answerer RST Sent _____	CQer QTH _____	Answerer QTH _____	CQer WX Rpt _____	Answerer WS Rpt _____
CQer Call Sign _____	Answerer Call Sign _____										
CQer Name _____	Answerer Name _____										
CQer RST Sent _____	Answerer RST Sent _____										
CQer QTH _____	Answerer QTH _____										
CQer WX Rpt _____	Answerer WS Rpt _____										

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Session 3 Homework Day 2 - Effective Speed: 7wpm	
COPY	SEND
<p style="text-align: right;">Send 1</p> <p style="text-align: right;">From the 'Daily Scales' <i>Warm Up</i></p> <p>The objective is to send each group of 5 or 6 characters correctly. If a mistake is made start over for that group. Set the keyer at 15wpm character speed and practice character spacing at 7wpm effective speed (that would be one character every two seconds). Send the following:</p> <p style="text-align: center;">ABCDEF GHIJK LMNOP QRSTU VWXYZ 12345 67890</p> <p>Send in groups of five (or six) with space between each group. Concentrate on slow, deliberate sending with good character formation</p>	
<p>Copy 1</p> <p>Set LCWO up in 'Custom' mode. Check all the letters from yesterday's Copy 2 plus three more. Do three one-minute sessions making note of the characters missed.</p>	
<p style="text-align: right;">Send 2</p> <p style="text-align: right;">Do the 'Daily Scales' <i>Exercise</i></p> <p style="text-align: center;">Keyer speed at 15wpm character speed with good Farnsworth spacing for 7wpm effective speed</p>	
<p>Copy 2</p> <p>Set LCWO up in 'Custom' mode. Check four of the difficult letters only. Do three one-minute sessions with just those four characters</p>	
<p style="text-align: right;">Send 3</p> <p>Send your call sign five times without a mistake. If you make a mistake, stop, rewind, and start again trying to send your call sign five times without an error.</p> <p>If, after four tries, you haven't succeeded in sending your call sign five times in a row without a mistake, stop and go on to Copy 3</p>	
<p>Copy 3</p> <p>Set LCWO up in 'Custom' mode. Check a different four of the difficult letters. Do three one-minute sessions with just those four characters</p>	

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Session 3 Homework Day 3 - Effective Speed: 7wpm	
COPY	SEND
<p style="text-align: right;">Send 1</p> <p style="text-align: right;">From the 'Daily Scales' <i>Warm Up</i></p> <p>The objective is to send each group of 5 or 6 characters correctly. If a mistake is made start over for that group. Set the keyer at 15wpm character speed and practice character spacing at 7wpm effective speed (that would be one character every two seconds). Send the following:</p> <p style="text-align: center;">ABCDEF GHIJK LMNOP QRSTU VWXYZ 12345 67890</p> <p style="text-align: right;">Send in groups of five with space between each group. Concentrate on slow, deliberate sending with good character formation</p>	
<p>Copy 1</p> <p>Continue working on your difficult letters, four at a time. Set LCWO up in 'Custom' mode. Check four of the difficult letters only. Do three one-minute sessions with just those four characters</p>	
<p style="text-align: right;">Send 2</p> <p style="text-align: right;">From the 'Daily Scales' <i>Drill</i></p> <p style="text-align: center;">Keyer speed at 15wpm character speed with good Farnsworth spacing for 7wpm effective speed Send the first two lines of the 'Drill'</p>	
<p>Copy 2</p> <p>If there are more difficult characters, do the same with those as outlined in Copy 1. Otherwise, set LCWO up for letters and do three one-minute sessions. Start a new list of characters missed more than once</p>	
<p style="text-align: right;">Send 3</p> <p style="text-align: center;">Using the Word List Trainer https://morsecode.world/international/trainer/trainer.html</p> <p style="text-align: right;">Click on the 'Sending' tab Set the session to 8/13 Click Play and listen to the word Using your key, send the word mimicking what you heard Click 'Next' and do the next word</p>	
<p>Copy 3</p> <p>Do two more LCWO sessions on letters. Continue to revise your list from Copy 2</p>	

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Session 4 Homework Day 1 Effective Speed: 7wpm	
COPY	SEND
Send 1 The objective is to send each group of characters correctly. If a mistake is made start over for that group Set the keyer at 15wpm character speed and practice character spacing at 7wpm effective speed. That would be one character every two seconds Send the following pangram twice: WALTZ JOB VEXED QUICK FROG NYMPHS	
Copy 1 Using LCWO, set up to run a session of 'Code Groups' Character Speed: 25wpm Effective Speed: 7wpm Letters Groups of 3 Time: 2 minutes Run one session of two minutes (15-16 groups). Check your results and revise your list of difficult characters	
Send 2 Send the following pangram twice. If a mistake is made start over for that word. Keyer speed at 15wpm character speed and send at 7wpm effective speed. Send the following: GO, LAZY FAT VIXEN. BE SHREWD, JUMP QUICK	
Copy 2 Using LCWO Code Groups, run a two-minute session of 3 letter groups at an effective speed of 7wpm. Check your results and update the list of characters missed. You should have two columns of characters missed, one from the first session and one from the second session	
Send 3 Send your call sign 5 times in a row correctly. If you make a mistake, start the five time again. If after 4 tries you're unable to send your call sign five times in a row correctly, stop and go on to the Copy exercise	
Copy 3 Using LCWO Code Groups, run two two-minute sessions of 3 letter groups as done earlier. Check your results and add to your list of difficult characters	

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Session 4 Homework Day 2 - Effective Speed: 7wpm	
COPY	SEND
<p style="text-align: right;">Send 1</p> <p style="text-align: right;">From the 'Daily Scales' <i>Warm Up</i></p> <p>The objective is to send each group of 5 or 6 characters correctly. If a mistake is made start over for that group. Set the keyer at 15wpm character speed and practice character spacing at 7wpm effective speed. That would be one character every two seconds. Send the following:</p> <p style="text-align: center;">ABCDEF GHIJK LMNOP QRSTU VWXYZ 12345 67890</p> <p style="text-align: center;">ABCDEF GHIJK LMNOP QRSTU VWXYZ 12345 67890</p> <p style="text-align: right;">Slow down and be very deliberate about character formation</p>	
<p>Copy 1</p> <p>Using LCWO, set up to run a session of 'Code Groups'</p> <p>Character Speed: 25wpm Effective Speed: 7wpm Custom from your list of difficult characters</p> <p>Groups of 3 Time: 2 minutes</p> <p>On the right side of the 'Change CW settings' page, unclick all the letters EXCEPT for the ones on your list from Day 1. Then turn on an additional 5 characters of your choice. Run two two-minute sessions, checking your results after each run. Mark your list of difficult characters as to which ones are still problematic</p>	
<p style="text-align: right;">Send 2</p> <p style="text-align: right;">From the 'Daily Scales' Drill</p> <p>Keyer speed at 15wpm character speed with good Farnsworth spacing for 7wpm effective speed. Send the following:</p> <p style="text-align: center;">BENS BEST BENT WIRE BENS BEST BENT WIRE BENS BEST BENT WIRE</p> <p style="text-align: center;">BENS BEST BENT WIRE BENS BEST BENT WIRE BENS BEST BENT WIRE</p>	
<p>Copy 2</p> <p>Using LCWO Code Groups, as set up in Copy 1, run two more two-minute sessions. Check your results after each run. Mark your list of difficult characters as to which ones are still problematic</p>	
<p style="text-align: right;">Send 3</p> <p>Send your call sign five times in a row correctly. Again, stop after 4 tries if unable to send five times in a row correctly</p>	
<p>Copy 3</p> <p>Using LCWO Code Groups as set up in Copy 1, run one more two-minute session. Check your results and update your list of difficult characters...that is, characters you missed twice or more in the five sessions</p>	

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Session 4 Homework Day 3 - Effective Speed: 7wpm	
Update your list of difficult characters	
COPY	SEND
Send 1	
<p>Send the following pangram twice. If a mistake is made start over for that group Set the keyer at 15wpm character speed and practice character spacing at 7wpm effective speed. That would be one character every two seconds Send the following:</p> <p style="text-align: center;">HOW RAZORBACK JUMPING FROGS CAN LEVEL SIX PIQUED GYMNASTS</p>	
Copy 1	
<p>Using LCWO, set up to run a session of 'Code Groups' Character Speed: 25wpm Effective Speed: 7wpm Custom; select letters from your list of difficult characters Groups of 3 Time: 2 minutes Run one session of two minutes (15-16 groups). Check your results and revise your list of difficult characters</p>	
Send 2	
<p>Send the following pangram twice. If a mistake is made start over for that group Set the keyer at 15wpm character speed and practice character spacing at 7wpm effective speed. That would be one character every two seconds Send the following:</p> <p style="text-align: center;">The job requires extra pluck and zeal from every young wage earner</p>	
Copy 2	
<p>Using LCWO Code Groups, set up to run custom using letters from your list of difficult letters. Run a two-minute session of 3 letter groups at an effective speed of 7wpm. Check your results and update the list of characters missed</p>	
Send 3	
<p>Send your call sign 5 times in a row correctly. If you make a mistake, start the five time again. If after 4 tries you're unable to send your call sign five times in a row correctly, stop and go on to the Copy exercise</p>	
Copy 3	
<p>Listen to QSO 106 at 7wpm: https://cwops.org/wp-content/uploads/2022/07/qso-07.106.mp3 Listen and copy as best you can all the way through without stopping Fill out the following information as best you can. Then play the qso again as often as needed to fill in the rest of the information:</p> <p>CQer Call Sign _____ Answerer Call Sign _____ CQer Name _____ Answerer Name _____ CQer RST Sent _____ Answerer RST Sent _____ CQer Park _____ Answerer QTH _____</p> <p>Now listen to the QSO a second time and fill in any missing information</p>	

CW Academy Fundamental Level Curriculum

Session 5 Homework Day 1 Effective Speed: 7wpm	
COPY	SEND
<p style="text-align: right;">Send 1</p> <p style="text-align: right;">Do the 'Daily Scales' <i>Warm Up</i></p> <p style="text-align: center;">Set the keyer at 20wpm character speed and practice character spacing at 7wpm effective speed</p>	
<p>Copy 1</p> <p>Run a three-minute session of 'Code Groups'</p> <p>Character Speed: 25wpm</p> <p>Effective Speed: 7wpm</p> <p>Mode: letters</p> <p>Groups of 3</p> <p>Time: 3 minutes</p> <p>Start a new list of difficult letters</p>	
<p style="text-align: right;">Send 2</p> <p style="text-align: right;">Practice sending your name and a signal report</p> <p style="text-align: center;">Name is (YOUR NAME) UR RST 5nn <BK></p> <p style="text-align: center;">Send this several times until you've sent it three times in a row without a mistake</p>	
<p>Copy 2</p> <p>Do another three-minute session of 'Code Groups' as in Copy 1 above and revise your list of difficult letters. That is, remove characters you are now getting right and add any new characters you're missing more than once</p>	
<p style="text-align: right;">Send 3</p> <p style="text-align: right;">Practice sending your name and your QTH</p> <p style="text-align: center;">Name is (YOUR NAME) ES QTH is (your qth)</p> <p style="text-align: center;">Send this several times until you've sent it three times in a row without making a mistake</p>	
<p>Copy 3</p> <p>Do a three-minute session of 'Code Groups', figures only</p> <p>Note the numbers that you are missing more than once</p>	

CW Academy Fundamental Level Curriculum

Session 5 Homework Day 2 - Effective Speed: 7wpm	
COPY	SEND
Send 1	
Do the 'Daily Scales' <i>Exercise</i>	
Set the keyer at 20wpm character speed and practice character spacing at 7wpm effective speed	
Copy 1	
For a different exercise, do two sentences of LCWO 'Plain Text Training'	
Character Speed: 25	
Effective Speed: 7	
Do one sentence and check results	
Do a second sentence and check results	
How did you do? If this was quite difficult, drop the effective speed to 7wpm (or even 7wpm) and try again	
Send 2	
You should now have a 'help sheet' of phrases for a QSO. If not make one up using these phrases:	
NAME IS (YOUR NAME) UR RST 5NN QTH IS (YOUR QTH) RIG IS (YOUR RADIO) ANT IS (YOUR ANTENNA) HAM SINCE (YEAR LICENSED)	
Send the list of phrases twice while reading from your 'help sheet'	
Copy 2	
Try another two sentences of LCWO 'Plain Text Training'	
Can you do 80% at 7wpm?	
Send 3	
Send Two pangrams on the CWops website: CW Academy → Additional Info & Practice Material for Students	
Exaggerate the spacing between words so it is clear when one word ends, and the next word starts	
Record your sending and play it back	
Critique your smoothness and character formation	
Copy 3	
Back to LCWO 'Code Groups'	
Set up for figures at 25wpm character speed and 7wpm effective speed	
Do two one-minute sessions of 3-letter groups	

CW Academy Fundamental Level Curriculum

Session 5 Homework Day 3 - Effective Speed: 7wpm	
COPY	SEND
<p>Pay particular attention to good character formation when sending. For instance, be sure that you are sending an 'F' and not 'I N'</p> <p>When copying, watch for the characters you are having difficulty recognizing You can change one of the Copy exercises to doing a 'Custom' code groups using only your difficult characters</p>	
<p>Send 1</p> <p>From the 'Daily Scales' <i>Drill</i></p> <p>The objective is to send each group of characters correctly. If a mistake is made start over for that group Set the keyer at 20wpm character speed and practice character spacing at 7wpm effective speed. That would be one character every two seconds Send the following:</p> <p style="text-align: center;">THE JULY SUN CAUSED A FRAGMENT OF BLACK PINE WAX TO OOZE ON THE VELVET QUILT</p>	
<p>Copy 1 Using LCWO, set up to run a session of 'Code Groups' Character Speed: 25wpm Effective Speed: 7wpm Letters Groups of 3 Time: 2 minutes Run one session of two minutes (15-16 groups). Check your results and make a list of characters missed</p>	
<p>Send 2</p> <p>Send the following pangram twice. If a mistake is made start over for that group Set the keyer at 20wpm character speed and practice character spacing at 7wpm effective speed. That would be one character every two seconds Send the following:</p> <p style="text-align: center;">THE QUICK BROWN FOX JUMPED OVER THE LAZY DOGS BACK 70364 51289</p> <p style="text-align: center;">THE QUICK BROWN FOX JUMPED OVER THE LAZY DOGS BACK 70364 51289</p>	
<p>Copy 2 Using LCWO Code Groups, run a two-minute session of 3 letter custom groups using your difficult letters at an effective speed of 7wpm. Check your results and update the list of characters missed</p>	
<p>Send 3</p> <p>Using the Word List Trainer https://morsecode.world/international/trainer/trainer.html Click the Sending' tab Set the session to 9/13 Set the Farnsworth speed to 7wpm Click Play and listen to the word Using your key, send the word mimicking what you heard Click 'Next' and do the next word</p>	
<p>Copy 3 Repeat Copy 2</p>	

CW Academy Fundamental Level Curriculum

Session 6 Homework Day 1 Effective Speed: 8wpm	
COPY	SEND
Send 1 From the 'Daily Scales' <i>Warm Up</i> Set the keyer at 20wpm character speed and practice character spacing at 8wpm effective speed. Send the first two lines of the Warmup Daily Scales	
Copy 1 Run LCWO Code Groups 2-minute session, letters 25wpm Character Speed, 8wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Start a new list of difficult characters	
Send 2 From the 'Daily Scales' <i>Drill</i> Keyer speed at 20wpm character speed and send at 8wpm effective speed Send the first two lines	
Copy 2 Run LCWO Code Groups twice 2-minute session, letters 25wpm Character Speed, 8wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Update your list of difficult characters	
Send 3 Practice sending the following pangram:	
PACK MY BOX WITH FIVE DOZEN LIQUOR JUGS	
Send the pangram 5 times using good 8wpm pacing and error correction	
Send 4 Send your name and qth five times using good 8wpm pacing and error correction:	
NAME IS (YOUR NAME) (YOUR NAME) <BT> QTH HR (YOUR QTH) (YOUR QTH)	
Copy 3 Run LCWO Code Groups for two sessions 2-minute session, Custom characters Select from the Change CW Settings only those characters from the earlier LCWO sessions then add five more random characters and numbers 25wpm Character Speed, 8wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Check your results and note characters you missed	

CW Academy Fundamental Level Curriculum

Session 6 Homework Day 2 - Effective Speed: 8wpm	
COPY	SEND
Send 1	
From the 'Daily Scales' <i>Warm Up</i>	
Set the keyer at 20wpm character speed and practice character spacing at 8wpm effective speed. Send the first two lines	
Copy 1	
Run LCWO Code Groups	
2-minute session, figures	
25wpm Character Speed, 8wpm Effective speed	
Set Extra Word Spacing to 2 (give yourself a bit more time between groups)	
Set Start Delay at 2 seconds	
Groups of 5 characters	
Update your list of difficult figures	
Send 2	
From the 'Daily Scales' <i>Exercise</i>	
Keyer speed at 20wpm character speed with good Farnsworth spacing for 8wpm effective speed. Send the letters of the alphabet, each character repeated 3 times. For example:	
AAA BBB CCC DDD EEE ...	
Copy 2	
Run LCWO Code Groups twice	
2-minute session, figures	
25wpm Character Speed, 8wpm Effective speed	
Set Extra Word Spacing to 2 (give yourself a bit more time between groups)	
Set Start Delay at 2 seconds	
Groups of 5 characters	
Update your list of difficult figures	
Send 3	
Practice sending the following:	
JAMES LOVED HIS CAR <BT>	
IT WAS FAST AND A PLEASURE TO DRIVE.	
HE WISHED HE COULD SPEND THE ENTIRE DAY	
DRIVING HIS NEW CAR BUT THAT WOULD NOT BE POSSIBLE.	
JAMES SADLY PARKED THE CAR AND WENT TO HIS OFFICE.	
Send using good 8wpm pacing and error correction	
Copy 3	
Run LCWO Code Groups for two sessions	
2-minute session, Custom characters (choose from your list of difficult figures)	
Select from the Change CW Settings only those figures from the earlier LCWO sessions then add two more random numbers	
25wpm Character Speed, 8wpm Effective speed	
Set Extra Word Spacing to 2 (give yourself a bit more time between groups)	
Set Start Delay at 2 seconds	
Groups of 5 characters	
Check your results and note characters you missed	

CW Academy Fundamental Level Curriculum

Session 6 Homework Day 3 - Effective Speed: 8wpm	
COPY	SEND
Send 1 From the 'Daily Scales' <i>Warm Up</i> Set the keyer at 20wpm character speed and practice character spacing at 8wpm effective speed. Send the first two line	
Copy 1 Run LCWO Code Groups twice 2-minute session, Letters 25wpm Character Speed, 8wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Update your list of difficult characters	
Send 2 Do the 'Daily Scales' <i>Exercise</i> Keyer speed at 20wpm character speed with good Farnsworth spacing for 8wpm effective speed. Send the alphabet repeating each letter three times. For example: AAA BBB CCC DDD EEE ...	
Copy 2 Run LCWO Code Groups for two sessions 2-minute session, Custom characters Select from the Change CW Settings only those characters from the earlier LCWO sessions then add five more random characters and numbers 25wpm Character Speed, 8wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Check your results and note characters you missed	
Send 3 Using the Word List Trainer https://morsecode.world/international/trainer/trainer.html Click the 'Sending' tab Set the session to 10/13 Set the Farnsworth speed to 8wpm Click Play and listen to the word Using your key, send the word mimicking what you heard Click 'Next' and do the next word	

CW Academy Fundamental Level Curriculum

Session 7 Homework Day 1 Effective Speed: 8wpm	
COPY	SEND
<p style="text-align: right;">Send 1</p> <p style="text-align: right;">Do the 'Daily Scales' <i>Warm Up</i></p> <p>Set the keyer at 25wpm character speed and practice character spacing at 8wpm effective speed. Send the entire Warm Up</p>	
<p>Copy 1</p> <p>Note the speed increase to 8wpm effective speed</p> <p>Run LCWO Code Groups 1-minute session, letters 25wpm Character Speed, 8wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Run the 1-minute session, check results, and repeat three times</p>	
<p style="text-align: right;">Send 2</p> <p style="text-align: right;">Do the 'Daily Scales' <i>Drill</i></p> <p style="text-align: center;">Keyer speed at 25wpm character speed and send at 8wpm effective speed Send the last two lines, including the pro signs</p>	
<p>Copy 2</p> <p>Run LCWO Code Groups 1-minute session, figures 25wpm Character Speed, 8wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Run the 1-minute session, check results, and repeat three times</p>	
<p style="text-align: right;">Send 3</p> <p style="text-align: right;">Send your side of a QSO:</p> <p style="text-align: center;"> UR SIG 5NN NAME IS (YOUR NAME TWICE) QTH IS (YOUR QTH TWICE) RIG IS (YOUR RADIO) RUNNING (POWER) CUL 73 73 </p> <p style="text-align: right;">pay attention to pacing and exaggerate spacing between words</p>	
<p>Copy 3</p> <p>Do a set of 'Callsign Training'. Filter out the difficult call signs. Start at 8wpm and set your preference for the maximum speed:</p> <p>Speed: <input type="text" value="8"/> WPM min. Character Speed: <input type="text" value="25"/> WPM max. Speed: <input style="border: 1px solid red;" type="text" value="10"/> WPM Fixed speed*: <input type="checkbox"/> Tone: <input type="radio"/> <input type="text" value="600"/> Hz <input checked="" type="radio"/> random (500-900Hz) Filter callsigns: <input type="text" value="Filter long calls (like DL60DARC)"/> Stop on error: <input type="checkbox"/> Blind mode: <input type="checkbox"/> <input type="button" value="Start"/></p> <p><small>* For training; makes scores ineligible for the highscore list.</small></p>	

CW Academy Fundamental Level Curriculum

Session 7 Homework Day 2 - Effective Speed: 8wpm	
COPY	SEND
<p>Send 1 Do the 'Daily Scales' <i>Warm Up</i> Set the keyer at 25wpm character speed and practice character spacing at 8wpm effective speed. Send the entire Warmup</p>	
<p>Copy 1 Using LCWO, do a session of 'Word training' using CW abbreviations and check your results Repeat by doing another 'Word training' session</p>	
<p>Send 2 From the 'Daily Scales' <i>Exercise</i> Keyer speed at 25wpm character speed with good Farnsworth spacing for 8wpm effective speed Send each letter of the alphabet and each number three times. For example: AAA BBB CCC DDD EEE... 111 222 333...</p>	
<p>Copy 2 Using LCWO, do a session of 'Word training' using CW abbreviations and check your results Repeat by doing another 'Word training' session</p>	
<p>Send 3 Using a magazine or newspaper, send several sentences Record your sending and play it back Can you copy what you sent? Note what you need to improve</p>	
<p>Copy 3 Do an LCWO session of 'Word training' using CW abbreviations. Uncheck 'fixed speed' and allow the speed to increase or decrease. Note the speed you ended</p>	

CW Academy Fundamental Level Curriculum

Session 7 Homework Day 3 - Effective Speed: 8wpm	
COPY	SEND
Send 1 Do the 'Daily Scales' <i>Warm Up</i>	
<p>Copy 1 Run LCWO Code Groups 1-minute session, letters 25wpm Character Speed, 8wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Run the 1-minute session, check results, and repeat three times</p>	
Send 2 Do the 'Daily Scales' <i>Drill</i>	
<p>Copy 2 Run LCWO Code Groups 1-minute session, figures 25wpm Character Speed, 8wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Run the 1-minute session, check results, and repeat three times</p>	
Send 3	
Using the Word List Trainer https://morsecode.world/international/trainer/trainer.html Select 'Sending' tab Set the session to 10/13 Set the Farnsworth speed to 8wpm Click Play and listen to the word Using your key, send the word mimicking what you heard Click 'Next' then 'Play' to do the next word Click 'Next' and do the next word	
<p>Copy 3 Run a session of LCWO call sign training</p>	

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Session 8 Homework Day 1 Effective Speed: 8wpm	
COPY	SEND
Send 1 Do the 'Daily Scales' <i>Warm Up</i> Set the keyer at 25wpm character speed and practice character spacing at 8wpm effective speed	
Copy 1 Run LCWO Code Groups 1-minute session, letters 25wpm Character Speed, 8wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Run the 1-minute session, check results, and repeat three times	
Send 2 The practice today is to begin working on going from your head to the key without first writing it down Think of a favorite song, poem, story, or nursery rhyme Send it with your eyes closed. Don't worry about error correction, just send it as best you can	
Copy 2 Do 'copy 1' again ... three one-minute sessions	
Send 3 Do 'send 2' again, this time using error correction	
Copy 3 Do a session of LCWO call sign training. Set up and described in the homework for Copy 3 in Session 7 Day 1	

CW Academy Fundamental Level Curriculum

Session 8 Homework Day 2 - Effective Speed: 8wpm	
COPY	SEND
Send 1	
Do the 'Daily Scales' <i>Exercise</i>	
Set the keyer at 25wpm character speed and practice character spacing at 8wpm effective speed	
Copy 1	
Run LCWO Code Groups	
1-minute session, letters	
25wpm Character Speed, 8wpm Effective speed	
Set Extra Word Spacing to 2 (give yourself a bit more time between groups)	
Set Start Delay at 2 seconds	
Groups of 5 characters	
Run the 1-minute session, check results, and repeat three times	
Send 2	
Send at an effective speed of at least 8wpm the things that are around you	
Look at the thing and send it. No writing it down first	
Send at least 15 items	
Copy 2	
Run LCWO Word training	
Speed: 25wpm	
Min Character Speed: 8wpm	
Characters from lesson 40	
English words	
Maximum length: 3	
Fixed speed	
Send 3	
For this short session you'll send a list of common two-letter words. The list:	
BE TO OF IN IT ON HE AS DO AT BY WE OR AN MY SO UP IF GO	
Send the list through one time without stopping	
Then send the list a second time with error correction as needed	
Copy 3	
Run LCWO Word training	
Speed: 25wpm	
Min Character Speed: 8wpm	
Characters from lesson 40	
English words	
Maximum length: 3	
Uncheck fixed speed	

CW Academy Fundamental Level Curriculum

Session 8 Homework Day 3 - Effective Speed: 8wpm	
COPY	SEND
Send 1 Do the 'Daily Scales' <i>Drill</i> Set the keyer at 25wpm character speed and practice character spacing at 8wpm effective speed.	
Copy 1 Run LCWO Code Groups 1-minute session, figures 25wpm Character Speed, 8wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Do three 1-minute sessions	
Send 2 Practice sending your call sign and name ten times in a row Use error correction If you heard your call sign in Morse Code while you were taking a nap, would it wake you up?	
Copy 2 Run LCWO Code Groups 2-minute session, figures 25wpm Character Speed, 8wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Do at least one 2-minute session in preparation for 'copy 3' below	
Send 3 For this session you'll send a list of common two-letter words. The list: BE TO OF IN IT ON HE AS DO AT BY WE OR AN MY SO UP IF GO Send the list through one time without stopping Then send the list a second time with error correction as needed	
Copy 3 Do a session of LCWO Code Groups Effective speed: 8wpm (minimum ... if you wish you can go higher) figures Five-character groups Extra word spacing as you wish Run a 2-minute session	

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Session 9 Homework Day 1 Effective Speed: 9wpm	
COPY	SEND
Send 1	
Do the 'Daily Scales' <i>Warm Up</i>	
Set the keyer at 25wpm character speed and practice character spacing at 9wpm effective speed	
<p>Copy 1</p> <p>Run LCWO Code Groups 1-minute session, letters 25wpm Character Speed, 9wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Run the 1-minute session and check results</p> <p>If score is less than 80%, repeat until 80% or 5 times</p>	
Send 2	
Using Morse Code Trainer https://morsecode.world/international/trainer/trainer.html	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%; border: 1px solid #ccc; padding: 5px;"> <p>Session</p> <p>Choose your session and then practise the copying and sending segments.</p> <div style="display: flex; justify-content: center; align-items: center; gap: 10px;"> ⏪ 11/13 ⏩ </div> <div style="display: flex; justify-content: space-between; font-size: 8px;"> Previous Session Next </div> </div> <div style="width: 45%; border: 1px solid #ccc; padding: 5px;"> <p>Feedback</p> <p>For <i>Copying</i> and <i>Random</i> activities, choose whether you want to hide the text, or see a flashcard displayed afterwards.</p> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;"> <div style="display: flex; gap: 5px;"> 👁 📄 </div> <div style="text-align: right;"> <p>Thinking time ⌵</p> <div style="display: flex; align-items: center; gap: 5px;"> <input style="width: 30px; text-align: center; border: 1px solid #ccc;" type="text" value="75"/> % </div> </div> </div> </div> </div> <div style="margin-top: 10px; text-align: center;"> <div style="display: flex; justify-content: center; gap: 10px; border-bottom: 1px solid #ccc; padding-bottom: 5px;"> Copying Sending Free-form Random </div> <p style="font-size: 8px; margin-top: 5px;">Play a segment, then try to imitate it, exactly, using your key or keyer. Repeat it as many times as it takes to feel that you've got the correct word pattern.</p> <div style="border: 1px solid #ccc; padding: 5px; margin: 5px 0; font-family: monospace; font-size: 8px;"> k6rb de [your callsign] - ur rst 57n in [your town/city and state abbreviation] - name is [your name] btu k6rb de [your callsign] k </div> <div style="display: flex; justify-content: center; align-items: center; gap: 10px; margin-top: 5px;"> ▶ ⏸ ⏹ ⏪ 1/3 ⏩ 🔄 🔀 ⬇️ </div> </div>	
<p>Set the session to 11/13</p> <p>Set your Farnsworth speed to at least 9wpm</p> <p>In the text box, click on 'k6rb', listen to the code, then mimic what you heard</p> <p>When you feel you are sending that call sign correctly, click on the next word and send it</p> <p>Send what is indicated in the red text</p> <p>Do at least the first of the three segments</p>	

CW Academy Fundamental Level Curriculum

Session 9 Homework Day - 2 Effective Speed: 9wpm	
COPY	SEND
Send 1	
Do the 'Daily Scales' <i>Exercise</i>	
Set the keyer at 25wpm character speed and practice character spacing at 9wpm effective speed	
Copy 1	
Run LCWO Code Groups	
1-minute session, letters	
25wpm Character Speed, 9wpm Effective speed	
Set Extra Word Spacing to 2 (give yourself a bit more time between groups)	
Set Start Delay at 2 seconds	
Groups of 5 characters	
Run the 1-minute session, check results, and repeat three times	
Send 2	
Send at an effective speed of at least 9wpm the things that are around you	
Look at the thing and send it. No writing it down first	
Send at least 15 items	
Copy 2	
Run LCWO Plain text training	
Character Speed: 25wpm	
Effective Speed: 9wpm	
English Proverbs	
Run through 5 sentences	
Send 3	
Send the following pangrams:	
<p>JACK AMAZED A FEW GIRLS BY DROPPING THE ANTIQUE ONYX VASE <BT> WE PROMPTLY JUDGED ANTIQUE IVORY BUCKLES FOR THE NEXT PRIZE <BT> SIX BIG JUICY STEAKS SIZZLED IN A PAN AS FIVE WORKMEN LEFT THE QUARRY</p>	
Record sending all three pangrams and then play the recording back. What do you need to work on? Pacing? Breaks between words? Character formation?	
Use correct error correction. If you make a mistake in a word, send several dits and start the word over again. If you make another mistake in the same word, pause, and start the word over again	
Copy 3	
Run LCWO Word training	
Speed: 25wpm	
Min Character Speed: 9wpm	
Characters from lesson 40	
English words	
Maximum length: 3	
Uncheck fixed speed	
Note your score and maximum speed	

CW Academy Fundamental Level Curriculum

Session 9 Homework Day 3 - Effective Speed: 9wpm	
COPY	SEND
<p style="text-align: right;">Send 1 Do the 'Daily Scales' <i>Drill</i></p> <p style="text-align: center;">Set the keyer at 25wpm character speed and practice character spacing at 9wpm effective speed</p>	
<p>Copy 1 Run LCWO Code Groups 1-minute session, mixed characters 25wpm Character Speed, 9wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Do three 1-minute sessions</p>	
<p style="text-align: right;">Send 2 end a list of common two-letter words</p> <p style="text-align: center;">BE TO OF IN IT ON HE AS DO AT BY WE OR AN MY SO UP IF GO</p> <p style="text-align: right;">Send the list through one time without stopping Then send the list a second time with error correction as needed</p>	
<p>Copy 2 Back to Morse Code Trainer https://morsecode.world/international/trainer/words.html The link should take you to the 'Word List' tab. If not, click on 'Word List' in the orange navigation bar Select 'Ready Made' Select Word list: CWops CW Academy Fundamental: 2 letter words Set 25wpm Character Speed and 9wpm Effective speed Turn on the controls with the red arrows</p> <p>Playback Controls</p> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;"> <div style="display: flex; justify-content: space-between;"> <div style="border-right: 1px solid #ccc; padding: 5px;"> <p>Play</p> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #4CAF50; color: white; padding: 5px; text-align: center;">▶ Play</div> <div style="background-color: #4CAF50; color: white; padding: 5px; text-align: center;">▶▶ Play Next</div> <div style="background-color: #4CAF50; color: white; padding: 5px; text-align: center;">▶▶▶ Next</div> <div style="background-color: #4CAF50; color: white; padding: 5px; text-align: center;">■ Stop</div> </div> </div> <div style="padding: 5px;"> <p>Word List Sequencing</p> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #009688; color: white; padding: 5px; text-align: center;">↺ Repeat</div> <div style="background-color: #009688; color: white; padding: 5px; text-align: center;">↻ Shuffle</div> <div style="background-color: #009688; color: white; padding: 5px; text-align: center;">1 Once each</div> <div style="background-color: #009688; color: white; padding: 5px; text-align: center;">↺ Reset</div> </div> </div> </div> </div> <p>Choose what sequence to play and show for each message:</p> <div style="display: flex; flex-wrap: wrap; gap: 10px;"> <div style="border: 1px solid #ccc; padding: 5px; width: 25%;"> <p>1: Show & Say Before</p> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #009688; color: white; padding: 5px; text-align: center;">📄 Flashcard</div> <div style="background-color: #009688; color: white; padding: 5px; text-align: center;">🗣️ Speech</div> </div> </div> <div style="border: 1px solid #ccc; padding: 5px; width: 25%;"> <p>2: Morse</p> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #009688; color: white; padding: 5px; text-align: center;">🎵 Sound</div> <div style="background-color: #009688; color: white; padding: 5px; text-align: center;">💡 Light</div> <div style="background-color: #009688; color: white; padding: 5px; text-align: center;">1 Count</div> </div> </div> <div style="border: 1px solid #ccc; padding: 5px; width: 25%;"> <p>3: Thinking</p> <div style="background-color: #009688; color: white; padding: 5px; text-align: center;">⏸️ Pause</div> </div> <div style="border: 1px solid #ccc; padding: 5px; width: 25%;"> <p>4: Show & Say After</p> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #009688; color: white; padding: 5px; text-align: center;">📄 Flashcard</div> <div style="background-color: #009688; color: white; padding: 5px; text-align: center;">🗣️ Speech</div> </div> </div> <div style="border: 1px solid #ccc; padding: 5px; width: 25%;"> <p>5: Morse</p> <div style="display: flex; justify-content: space-around;"> <div style="background-color: #009688; color: white; padding: 5px; text-align: center;">🎵 Sound</div> <div style="background-color: #009688; color: white; padding: 5px; text-align: center;">💡 Light</div> </div> </div> <div style="border: 1px solid #ccc; padding: 5px; width: 25%;"> <p>6: Bell</p> <div style="background-color: #009688; color: white; padding: 5px; text-align: center;">🔔 Bell</div> </div> </div> <p>One run will be a list of 34 words Press 'Play' which will send the first word. Don't write anything down.</p> <p>If you think you know the word, say it, then check History below to see if you have it right If not, press play again to hear the word another time</p> <p>If you can't figure out the word, press Play again to repeat the two-letter word After three tries, look at History to see what the word was and press Next to go on</p> <p>Pressing 'Play' repeats the word Pressing 'Play Next' goes to the next word</p>	

CW Academy Fundamental Level Curriculum

A Challenge for Anyone Consistently Getting 80% or Better on the LCWO Exercises:

Replace the LCWO exercises in the homework with the following:

Set up LCWO Word training as follows:

Speed: WPM
min. Character Speed: WPM
Characters from lesson:
Tone: 500 Hz
 random (500-900Hz)
Language / Collection:
Hold down Shift while clicking to select multiple entries.
Maximum length (letters):
Simplify characters:
Fixed speed:
Skip automatically after 5 seconds:

Speed: This is the starting point of WPM. This will increase or decrease based on correct entry

Min. Character Speed: This is CPM and should remain constant

Goal: Current Speed: 9WPM – max. speed: 10WPM with 5-letter words

Fixed speed: Must be unchecked

Press ‘Start’. Each word you enter correctly will cause the speed to increase by one wpm. If you get the word wrong, it’ll decrease by one wpm. Repeat this exercise a couple of times on a daily basis, until you are consistently getting maximum speed of 10wpm or more. Make a note of your score and max speed for each try

When the goal of 10wpm on 3-letter words is consistently reached, Start over again with word length of 4 letters. When you reach a consistent speed of 10wpm, move the word length to 5 letters and do the same

If you are consistently reaching 12wpm or more on 5-letter words, you are more than ready for the Intermediate Level CW Academy class

CW Academy Fundamental Level Curriculum

Session 10 Homework Day 1 Effective Speed: 9wpm	
COPY	SEND
Send 1 Do the 'Daily Scales' <i>Warm Up</i> Set the keyer at 25wpm character speed and practice character spacing at 9wpm effective speed	
Copy 1 Run LCWO Code Groups 1-minute session, letters 25wpm Character Speed, 9wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Run the 1-minute session and check results If score is less than 80%, repeat until 80% or 5 times	
Send 2 Using Morse Code Trainer https://morsecode.world/international/trainer/trainer.html	
Set the session to 11/13 Set your Farnsworth speed to at least 9wpm In the text box, click on 'k6rb', listen to the code, then mimic what you heard When you feel you are sending that call sign correctly, click on the next word and send it Send what is indicated in the red text Do the third of the three segments	
Copy 2 If 'Copy 1' yielded 80% within 5 attempts, do a session of 'Call Sign Training'. Otherwise repeat 'Copy 1'	
Send 3 Do 'send 2' again	

CW Academy Fundamental Level Curriculum

Session 10 Homework Day 2 - Effective Speed: 9wpm	
COPY	SEND
Send 1	
Do the 'Daily Scales' <i>Exercise</i>	
Set the keyer at 25wpm character speed and practice character spacing at 9wpm effective speed	
Copy 1	
Run LCWO Code Groups	
1-minute session, numbers	
25wpm Character Speed, 9wpm Effective speed	
Set Extra Word Spacing to 2 (give yourself a bit more time between groups)	
Set Start Delay at 2 seconds	
Groups of 5 characters	
Run the 1-minute session, check results, and repeat three times	
Send 2	
Have an imaginary QSO with someone and be both sides of the QSO	
Copy 2	
Run LCWO Plain text training	
Character Speed: 25wpm	
Effective Speed: 9wpm	
English (or American) Proverbs ... your choice	
Run through 5 sentences	
Send 3	
Send the following pangrams:	
HOW RAZORBACK-JUMPING FROGS CAN LEVEL SIX PIQUED GYMNASTS <BT>	
WHENEVER THE BLACK FOX JUMPED THE SQUIRREL GAZED SUSPICIOUSLY <BT>	
A QUART JAR OF OIL MIXED WITH ZINC OXIDE MAKES A VERY BRIGHT PAINT <BT>	
<i>Do NOT try this at home</i>	
Record sending all three pangrams and then play the recording back. What do you need to work on? Pacing? Breaks between words? Character formation?	
Use correct error correction. If you make a mistake in a word, send several dits and start the word over again. If you make another mistake in the same word, pause, and start the word over again	
Copy 3	
Run LCWO Word training	
Speed: 25wpm	
Min Character Speed: 9wpm	
Characters from lesson 40	
English words	
Maximum length: 4	
Check fixed speed	
Note your score	

CW Academy Fundamental Level Curriculum

Session 10 Homework Day 3 - Effective Speed: 9wpm	
COPY	SEND
Send 1 Do the 'Daily Scales' Drill Set the keyer at 25wpm character speed and practice character spacing at 9wpm effective speed	
Copy 1 Run LCWO Code Groups 1-minute session, letters 25wpm Character Speed, 9wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Do three 1-minute sessions	
Send 2 Send a list of common two-letter words BE TO OF IN IT ON HE AS DO AT BY WE OR AN MY SO UP IF GO Send the list through one time without stopping Then send the list a second time, record, and play back. Critique your sending and repeat if necessary	
Copy 2 Back to Morse Code Trainer https://morsecode.world/international/trainer/words.html Make sure the 'Select Ready Made' tab is selected Under 'Word list' click the down arrow on the right side of the box and select 'CWops CW Academy Fundamental: 2 letter words' Read the instructions under 'Sound Board'. Be sure that 'Board Visibility' is OFF and 'Text Visibility' is ON. Click 'Enable All' so that all the controls under 'Playback Controls' are available Under 'Playback Controls' the switch for 'Detailed controls' should be turned ON. Set 'Character' to 25wpm and 'Effective' to 9wpm. This section should look like this: <div style="border: 1px solid #ccc; padding: 5px; margin: 5px 0;"> <p>Playback Controls</p> <p>Detailed controls <input checked="" type="checkbox"/> Elapsed practice time 00:01:01 Character / Effective 25 / 9</p> <hr/> <p>Play</p> <p> </p> <p> Play starts playback (with Repeat it will continue). Next plays the next message. VVV plays VVV to preview the CW speed and tempo. </p> <hr/> <p>Message Choice - control which message from the board will be chosen</p> <p> </p> <p> Repeat / Repeat-one plays new messages continuously or repeats the current message. Random randomises the message choice. Once each plays each message only once. Build Words builds each message up, so e.g. NICE is preceded by N NI NIC (only applied to single-word messages). </p> </div> Note the 'Message Choice' options and set 'Repeat' as desired Play the first word After the word is played, what is the word? Scroll down to the 'History' section and verify the word. It will be at the top of the list. If you missed it, play it again until you recognize the word when it is played Click 'Next' to play the next word. What is the word? Check the 'History' and replay the word again by pressing 'Play' if needed Continue to press 'Next' until all 34 words have been played and you've gotten all the words	

CW Academy Fundamental Level Curriculum

Session 11 Homework Day 1 Effective Speed: 9wpm	
COPY	SEND
Send 1 Do the 'Daily Scales' <i>Warm Up</i> Set the keyer at 25wpm character speed and practice character spacing at 9wpm effective speed	
Copy 1 Run LCWO Code Groups 1-minute session, letters 25wpm Character Speed, 9wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Run the 1-minute session and check results If score is less than 80%, repeat until 80% or 5 times	
Send 2 Send the following: WHY DID THE GOLFER WEAR TWO TROUSERS? IN CASE HE GOT A HOLE IN ONE WHAT GETS WET WHILE IT IS DRYING? A TOWEL WHAT IS WORSE THAN RAINING CATS AND DOGS? HAILING TAXIS	
Copy 2 If 'Copy 1' yielded 80% within 5 attempts, do a session of 'Call Sign Training'. Otherwise repeat 'Copy 1'	
Send 3 More jokes to send: WHAT DO YOU CALL A BOOMERANG THAT DOES NOT COME BACK? A STICK I WAS NOT ARGUING. I WAS SIMPLY EXPLAINING WHY I AM RIGHT WHY DID THE ORANGE FAIL TO WIN THE RACE? BECAUSE IT RAN OUT OF JUICE	
Copy 3 Listen to Short Story 111 at 9wpm: https://cwops.org/wp-content/uploads/2022/07/ss-09.111.mp3 Listen to the story all the way through without stopping, then listen as many times as needed to understand the short story Make notes as you listen Please spend a half-hour on this exercise	

CW Academy Fundamental Level Curriculum

Session 11 Homework Day 2 - Effective Speed: 9wpm	
COPY	SEND
Send 1	
Do the 'Daily Scales' <i>Exercise</i>	
Set the keyer at 25wpm character speed and practice character spacing at 9wpm effective speed	
Copy 1	
Run LCWO Code Groups	
1-minute session, figures	
25wpm Character Speed, 9wpm Effective speed	
Set Extra Word Spacing to 2 (give yourself a bit more time between groups)	
Set Start Delay at 2 seconds	
Groups of 5 characters	
Run the 1-minute session, check results, and repeat three times	
Send 2	
Send the following list of European Union Country Codes	
Identify the country associated with the code. The list of countries and codes is in Appendix B	
AT BE BG HR CY CZ DK EE FI FR DE GR HU IE IT LV LT LU MT NL PL PT RO SK SI ES SE	
Send the list a second time	
Copy 3	
Set your browser to https://morse.mdp.im/news/	
25wpm Character Speed, 9wpm Effective speed	
Click on the play button and try to copy the headline. Repeat once or twice	
Hoovering over the blurred text will reveal the headline	
Play a couple of the headlines. The headlines change every day	
Send 3	
Send the following words. Pay attention to how the full word sounds	
THIS BUT HIS BY FROM THEY WE SAY HER SHE OR WILL AN MY ONE	
If you make a mistake sending a word then stop, pause, and start the word over again	
Send the list twice	

CW Academy Fundamental Level Curriculum

Session 11 Homework Day 3 - Effective Speed: 9wpm	
COPY	SEND
Send 1 Do the 'Daily Scales' Drill	
Set the keyer at 25wpm character speed and practice character spacing at 9wpm effective speed	
<p>Copy 1 Run LCWO Code Groups 1-minute session, letters 25wpm Character Speed, 9wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Do three 1-minute sessions</p>	
Send 2 Send a list of common words	
Send the list through one time without stopping. Exaggerate the space between words	
THEY FROM WE SAY HER SHE OR WILL AN MY ONE AN WILL UP OUT WHO	
Then send the list a second time, record, and play back. Critique your sending and repeat if necessary	
<p>Copy 2 Set your browser to https://morse.mdp.im/news/ 25wpm Character Speed, 9wpm Effective speed Click on the play button and try to copy the headline. Repeat once or twice Hoovering over the blurred text will reveal the headline Play a couple of the headlines. The headlines change every day</p>	
Send 3 Open either bbc.com or cnn.com	
On bbc.com click on 'News' and send the headlines in bold On cnn.com send the headlines in the far-right column	
<p>Copy 3 Listen to QSO 101 at 9wpm: https://cwops.org/wp-content/uploads/2022/07/qso-09.101.mp3 Listen all the way through without stopping. You've heard this QSO before. Then listen a second time. You're listening to get the important parts of the QSO:</p>	
CQer Call Sign _____	Answerer Call Sign _____
CQer Name _____	Answerer Name _____
CQer RST Sent _____	Answerer RST Sent _____
CQer QTH _____	Answerer QTH _____

CW Academy Fundamental Level Curriculum

Session 12 Homework Day 1 Effective Speed: 10wpm	
COPY	SEND
<p style="text-align: right;">Send 1</p> <p style="text-align: right;">Do the 'Daily Scales' <i>Warm Up</i></p> <p style="text-align: center;">Set the keyer at 25wpm character speed and practice character spacing at 10wpm effective speed</p>	
<p>Copy 1</p> <p>Run LCWO Code Groups 1-minute session, letters 25wpm Character Speed, 10wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Run the 1-minute session and check results</p> <p>If score is less than 80%, repeat until 80% or 5 times</p>	
<p style="text-align: right;">Send 2</p> <p style="text-align: right;">Send the following:</p> <p style="text-align: center;">WHAT DID ONE TRAFFIC LIGHT SAY TO THE OTHER? STOP LOOKING <BT> I AM CHANGING</p> <p style="text-align: center;">WHY WAS THE PONY UNABLE TO SING? BECAUSE HE WAS A LITTLE HOARSE</p> <p style="text-align: center;">WHERE DID THE MUSIC TEACHER LEAVE HER KEYS? IN THE PIANO</p>	
<p>Copy 2</p> <p>If 'Copy 1' yielded 80% within 5 attempts, do a session of 'Call Sign Training'. Otherwise repeat 'Copy 1'</p>	
<p style="text-align: right;">Send 3</p> <p style="text-align: right;">More jokes to send:</p> <p style="text-align: center;">WHY DO BIRDS FLY SOUTH IN THE WINTER? BECAUSE WALKING TAKES TOO LONG</p> <p style="text-align: center;">SANDYS MUM HAS FOUR KIDS <BT> NORTH, EAST, AND WEST. WHAT IS THE NAME OF THE FOURTH CHILD? SANDY, OBVIOUSLY</p> <p style="text-align: center;">WHY WAS 6 AFRAID OF 7? BECAUSE 7,8,9</p>	
<p>Copy 3</p> <p>Listen to Short Story 112 at 9wpm: https://cwops.org/wp-content/uploads/2022/07/ss-10.112.mp3 Listen to the story all the way through without stopping, then listen a second time. Please spend a half-hour on this exercise. Make notes about what you heard in the story</p>	

CW Academy Fundamental Level Curriculum

Session 12 Homework Day 2 - Effective Speed: 10wpm	
COPY	SEND
Send 1	
Do the 'Daily Scales' <i>Exercise</i>	
Set the keyer at 25wpm character speed and practice character spacing at 10wpm effective speed	
Copy 1	
Run LCWO Code Groups	
1-minute session, numbers	
25wpm Character Speed, 10wpm Effective speed	
Set Extra Word Spacing to 2 (give yourself a bit more time between groups)	
Set Start Delay at 2 seconds	
Groups of 5 characters	
Run the 1-minute session, check results, and repeat three times	
Send 2	
Be very precise sending the following:	
GD MATE UR SIG 5NN DE (YOUR CALLSIGN) TU NAME HR IS (YOUR NAME) (YOUR NAME) DE (YOUR CALLSIGN) QTH IS (YOUR QTH) (QTH) DE (YOUR CALLSIGN)	
Repeat three times	
Copy 2	
Set your browser to https://morse.mdp.im/news/	
25wpm Character Speed, 10wpm Effective speed	
Click on the play button and try to copy the headline. Repeat once or twice	
Hoovering over the blurred text will reveal the headline	
Play a couple of the headlines. The headlines change every day	
Send 3	
Repeat precisely sending the qso phrases from Send 2	
Record your sending and play it back	
Critique your sending and try again. Record and play back. Did you improve?	

CW Academy Fundamental Level Curriculum

Session 12 Homework Day 3 - Effective Speed: 10wpm	
COPY	SEND
Send 1 Do the 'Daily Scales' Drill	
Set the keyer at 25wpm character speed and practice character spacing at 10wpm effective speed	
<p>Copy 1 Run LCWO Code Groups 1-minute session, mixed characters 25wpm Character Speed, 10wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Do three 1-minute sessions</p>	
Send 2 Send a list of common words Send the list through one time without stopping	
THEY FROM WE SAY HER SHE OR WILL AN MY ONE AN WILL UP OUT WHO	
Then send the list a second time, record, and play back. Critique your sending and repeat if necessary	
<p>Copy 2 Set your browser to https://morse.mdp.im/news/ 25wpm Character Speed, 10wpm Effective speed Click on the play button and try to copy the headline. Repeat once or twice Hoovering over the blurred text will reveal the headline Play a couple of the headlines. The headlines change every day</p>	
Send 3 Open either bbc.com or cnn.com On bbc.com click on 'News' and send the headlines in bold On cnn.com send the headlines in the far-right column	
<p>Copy 3 Listen to QSO 103 at 10wpm: https://cwops.org/wp-content/uploads/2022/07/qso-10.103.mp3 Listen all the way through without stopping. Then listen a second time. You're listening to get the important parts of the QSO:</p>	
CQer Call Sign _____	Answerer Call Sign _____
CQer Name _____	Answerer Name _____
CQer RST Sent _____	Answerer RST Sent _____
CQer QTH _____	Answerer QTH _____

CW Academy Fundamental Level Curriculum

Session 13 Homework Day 1 Effective Speed: 10wpm	
COPY	SEND
Send 1 Do the 'Daily Scales' <i>Warm Up</i> Set the keyer at 25wpm character speed and practice character spacing at 10wpm effective speed	
Copy 1 Run LCWO Code Groups 1-minute session, letters 25wpm Character Speed, 10wpm Effective speed Set Extra Word Spacing to 3 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Run the 1-minute session and check results If score is less than 80%, repeat until 80% or 5 times	
Send 2 Read the following QSO carefully and then send it:	
CQ CQ DE K6RB K6RB K6RB K (YOUR CALL) (YOUR CALL) K (YOUR CALL) DE K6RB TU FER CALL UR RST 589 58N QTH IS SANTA CRUZ SANTA CRUZ NAME IS ROB ROB HW? (YOUR CALL) DE K6RB K K6RB DE (YOUR CALL) R TU ROB UR RST IS 589 QTH IS (YOUR QTH) (YOUR QTH) ES NAME IS (YOUR NAME) HW? K6RB DE (YOUR CALL) K (YOUR CALL) DE K6RB ROCK SOLID (YOUR NAME) TU FER UR INFO NICE TO MEET U HPE CU AGN SN 73 SK (YOUR CALL) DE K6RB K K6RB DE (YOUR CALL) OK ROB NICE TO MEET U TOO ES HPE WE CAN DO IT AGN 73 SK K6RB DE (YOUR CALL) E E E E	
Copy 2 If 'Copy 1' yielded 80% within 5 attempts, do a session of 'Call Sign Training'. Otherwise repeat 'Copy 1'	
Send 3 Send the QSO from Send 2 again. Record your sending and play it back. Critique your sending Then send it a second time based on what you learned listening to your sending	
Copy 3 Listen to Short Story 113 at 10wpm: https://cwops.org/wp-content/uploads/2022/07/ss-10.113.mp3 Listen to the story all the way through without stopping, then listen a second time and as many times needed to understand the story. Please spend a half-hour on this exercise. Make notes about what you heard in the story	

CW Academy Fundamental Level Curriculum

Session 13 Homework Day 2 - Effective Speed: 10wpm	
COPY	SEND
Send 1 Do the 'Daily Scales' <i>Exercise</i> Set the keyer at 25wpm character speed and practice character spacing at 10wpm effective speed	
Copy 1 Run LCWO Code Groups 1-minute session, figures 25wpm Character Speed, 10wpm Effective speed Set Extra Word Spacing to 3 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Run the 1-minute session and check results, and repeat a second time	
Send 2 Send your call sign and name five times in a row without making a mistake If you make a mistake, start over again If after three tries you haven't succeeded, take a break and come back to try again	
Copy 2 Set your browser to https://morse.mdp.im/news/ 25wpm Character Speed, 10wpm Effective speed Click on the play button and try to copy the headline. Repeat once or twice Hoovering over the blurred text will reveal the headline Play a couple of the headlines. The headlines change every day	
Send 3 Repeat Send 2 and record your sending Play back the recording and critique your code. Can you copy it? Does it sound like what you want others to hear?	

CW Academy Fundamental Level Curriculum

Session 13 Homework Day 3 - Effective Speed: 10wpm									
COPY	SEND								
<p style="text-align: right;">Send 1</p> <p style="text-align: right; font-size: small;">Do the 'Daily Scales' <i>Drill</i></p> <p style="text-align: center;">Set the keyer at 25wpm character speed and practice character spacing at 10wpm effective speed</p>									
<p>Copy 1</p> <p>Run LCWO Code Groups 1-minute session, letters 25wpm Character Speed, 10wpm Effective speed Set Extra Word Spacing to 3 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Do two 1-minute sessions</p>									
<p style="text-align: right;">Send 2</p> <p style="text-align: center;">Now send your call sign, name, and QTH five times in a row without an error If you make a mistake, start over again If after three tries you still haven't sent it without error, take a break and come back to try again later</p>									
<p>Copy 3</p> <p>Listen to QSO 104 at 10wpm: https://cwops.org/wp-content/uploads/2022/07/qso-10.104.mp3 Listen all the way through without stopping. Then listen a second time. You're listening to get the important parts of the QSO:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">CQer Call Sign _____</td> <td style="width: 50%;">Answerer Call Sign _____</td> </tr> <tr> <td>CQer Name _____</td> <td>Answerer Name _____</td> </tr> <tr> <td>CQer RST Sent _____</td> <td>Answerer RST Sent _____</td> </tr> <tr> <td>CQer QTH _____</td> <td>Answerer QTH _____</td> </tr> </table>		CQer Call Sign _____	Answerer Call Sign _____	CQer Name _____	Answerer Name _____	CQer RST Sent _____	Answerer RST Sent _____	CQer QTH _____	Answerer QTH _____
CQer Call Sign _____	Answerer Call Sign _____								
CQer Name _____	Answerer Name _____								
CQer RST Sent _____	Answerer RST Sent _____								
CQer QTH _____	Answerer QTH _____								
<p style="text-align: right;">Send 3</p> <p style="text-align: center;">Do Send 2 again while recording your sending Play the recording back and critique your sending Send your call sign, name, and QTH again putting into practice what you learned by listening to your sending</p>									

CW Academy Fundamental Level Curriculum

Session 14 Homework Day 1 Effective Speed: 10wpm	
COPY	SEND
Send 1 Do the 'Daily Scales' <i>Warm Up</i> Set the keyer at 25wpm character speed and practice character spacing at 10wpm effective speed	
Copy 1 Run LCWO Code Groups 1-minute session, letters 25wpm Character Speed, 10wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Run the 1-minute session and check results If score is less than 80%, repeat until 80% or 5 times	
Send 2 Read the following QSO carefully and then send it:	
CQ CQ DE AC4BT AC4BT K AC4BT DE (YOUR CALL) (YOUR CALL) K (YOUR CALL) DE AC4BT TU FER CALL UR RST IS 559 559 IN VA VA NAME IS JERRY JERRY HW? (YOUR CALL) DE AC4BT K AC4BT DE (YOUR CALL) R GUD CPY JERRY ES TU FER RPT FM VA UR RST IS 569 IN (YOUR QTH) NAME IS (YOUR NAME) HW? AC4BT DE (YOUR CALL) K (YOUR CALL) DE AC4BT GUD CPY (YOUR NAME) MNI TKS FER QSO HPE CU AGN SN 73 SK (YOUR CALL) DE AC4BT K DE (YOUR CALL) OK JERRY NICE TO QSO WID U TOO I WILL LOOK FER U AGN JERRY 73 AC4BT DE (YOUR CALL) SK E E E E	
Copy 2 If 'Copy 1' yielded 80% within 5 attempts, do a session of 'Call Sign Training' at 10wpm effective speed Otherwise repeat 'Copy 1'	
Send 3 Send the QSO from Send 2 again. Record your sending and play it back. Critique your sending Then send it a second time based on what you learned listening to your sending	
Copy 3 Listen to Short Story 114 at 10wpm: https://cwops.org/wp-content/uploads/2022/07/ss-10.114.mp3 Listen to the story all the way through without stopping, then listen a second time and as many times needed to understand the story Please spend as much time as needed on this exercise. Make notes about what you heard in the story	

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Session 14 Homework Day 2 - Effective Speed: 10wpm	
COPY	SEND
Send 1	
Do the 'Daily Scales' <i>Exercise</i>	
Set the keyer at 25wpm character speed and practice character spacing at 10wpm effective speed	
Copy 1	
Run LCWO Code Groups	
1-minute session, numbers	
25wpm Character Speed, 10wpm Effective speed	
Set Extra Word Spacing to 2 (give yourself a bit more time between groups)	
Set Start Delay at 2 seconds	
Groups of 5 characters	
Run the 1-minute session and check results, and repeat a second time	
Send 2	
Send your call sign and name five times in a row without making a mistake	
If you make a mistake, start over again	
If after three tries you haven't succeeded, take a break, and come back to try again	
Copy 2	
Set your browser to https://morse.mdp.im/news/	
25wpm Character Speed, 10wpm Effective speed	
Click on the play button and try to copy the headline. Repeat once or twice	
Hoovering over the blurred text will reveal the headline	
Play a couple of the headlines. The headlines change every day	
Send 3	
Repeat Send 2 and record your sending	
Play back the recording and critique your code. Can you copy it? Does it sound like what you want others to hear?	

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Session 14 Homework Day 3 - Effective Speed: 10wpm	
COPY	SEND
<p style="text-align: right;">Send 1</p> <p style="text-align: right;">Do the 'Daily Scales' <i>Drill</i></p> <p style="text-align: center;">Set the keyer at 25wpm character speed and practice character spacing at 10wpm effective speed</p>	
<p>Copy 1</p> <p>Run LCWO Code Groups 1-minute session, mixed characters 25wpm Character Speed, 10wpm Effective speed Set Extra Word Spacing to 2 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Do two 1-minute sessions</p>	
<p style="text-align: right;">Send 2</p> <p style="text-align: center;">Now send your call sign, name, and QTH five times in a row without an error If you make a mistake, start over again If after three tries you still haven't sent it without error, take a break and come back to try again later</p>	
<p>Copy 3</p> <p>Listen to QSO 105: https://cwops.org/wp-content/uploads/2022/07/qso-10.105.mp3 Listen all the way through without stopping. Then listen a second time. You're listening to get the important parts of the QSO:</p> <p>CQer Call Sign _____ Answerer Call Sign _____</p> <p>CQer Name _____ Answerer Name _____</p> <p>CQer RST Sent _____ Answerer RST Received _____</p> <p>CQer QTH _____ Answerer QTH _____</p>	
<p style="text-align: right;">Send 3</p> <p style="text-align: center;">Do Send 2 again while recording your sending Play the recording back and critique your sending Send your call sign, name, and QTH again putting into practice what you learned by listening to your sending</p>	

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Session 15 Homework Day 1 - 3 Effective Speed: 11wpm	
COPY	SEND
Send 1 Do the 'Daily Scales' <i>Warm Up</i> Set the keyer at 25wpm character speed and practice character spacing at 11wpm effective speed	
Copy 1 Run LCWO Code Groups 1-minute session, letters 25wpm Character Speed, 11wpm Effective speed Set Extra Word Spacing to 3 (give yourself a bit more time between groups) Set Start Delay at 2 seconds Groups of 5 characters Run the 1-minute session and check results If score is less than 80%, repeat until 80% or 5 times	
The homework for this week is to GET ON THE AIR! Make at least three QSO's before the next online session	

Session 16 Homework
<p>By now you should have developed a habit of daily Morse code practice. Your homework is to continue this practice habit. Don't let it slip away.</p> <p>You should have been one the air and made some CW contacts. The best use of your Morse code skills is to GET ON THE AIR! Set some goals and track your progress!</p> <p>Thank you for sticking with the class to the end of the semester!</p>

Appendix A:
Morse Code World Setup for Word List

International Morse Training
CW Generator CWops (EN) CWops (JP) QSO **Word List** ICR

Board

Text

0/34
Words

Playback Controls

Play

▶ Play

▶▶ Play Next

▶▶▶ Next

■ Stop

Word List Sequencing

↺ Repeat

✂ Shuffle

1 Once each

↺ Reset

Choose what sequence to play and show for each message:

1: Show & Say Before

📄 Flashcard

🗣 Speech

2: Morse

🎵 Sound

💡 Light

1 Count

3: Thinking

⏸ Pause

4: Show & Say After

📄 Flashcard

🗣 Speech

5: Morse

🎵 Sound

💡 Light

6: Bell

🔔 Bell

Thinking time ⓘ

#Dits ⓘ or Length ⓘ

or

Flashcard time ⓘ

#Dits ⓘ or Length ⓘ

or

Morse gap ⓘ

#Dits ⓘ or Length ⓘ

or

History

Time	Text	Speed	#

Morse Sound Controls

Frequency ⓘ

Volume ⓘ

Advanced timing ⓘ

Character speed ⓘ

Farnsworth speed ⓘ

Speech Controls

Voice

Rate Volume ⓘ

Text

Download

Clear

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Appendix B: List of EU Country

Codes:

AT	Austria	LV	Latvia
BE	Belgium	LT	Lithuania
BG	Bulgaria	LU	Luxembourg
HR	Croatia	MT	Malta
CY	Cyprus	NL	Netherlands
CZ	Czech Republic	PL	Poland
DK	Denmark	PT	Portugal
EE	Estonia	RO	Romania
FI	Finland	SK	Slovakia
FR	France	SL	Slovenia
DE	Germany	ES	Spain
GR	Greece	SE	Sweden
HU	Hungary		
IE	Ireland		

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Appendix C: US State

Abbreviations

AK - Alaska

AL - Alabama

AR - Arkansas

AZ - Arizona

CA - California

CO - Colorado

CT - Connecticut

DE - Delaware

FL - Florida

GA - Georgia

HI - Hawaii

IA - Iowa

ID - Idaho

IL - Illinois

IN - Indiana

KS - Kansas

KY - Kentucky

LA - Louisiana

MA - Massachusetts

MD - Maryland

ME - Maine

MI - Michigan

MN - Minnesota

MO - Missouri

MS - Mississippi

MT - Montana

NC - North Carolina

ND - North Dakota

NE - Nebraska

NH - New Hampshire

NJ - New Jersey

NM - New Mexico

NV - Nevada

NY - New York

OH - Ohio

OK - Oklahoma

OR - Oregon

PA - Pennsylvania

RI - Rhode Island

SC - South Carolina

SD - South Dakota

TN - Tennessee

TX - Texas

UT - Utah

VA - Virginia

VT - Vermont

WA - Washington

WI - Wisconsin

WV - West Virginia

WY - Wyoming