

Pre-Recorded IGCSE Chemistry Course Information

CanDoChem courses prepare students to take **Edexcel IGCSE Chemistry - 4CH1**

What do the courses include?

- The courses are broken down into 66 suggested lessons
- The standard lessons are designed to be approximately 1 hour interactive learning sessions, with workbook style notes to complete during the session and a lesson video. During the lesson, students are instructed to pause the video and try activities before being given an explanation of the answers. Please note, there will be some variation in lesson lengths to allow for sensible topic splits and of course individuals will work through activities at different paces.
- Each of the standard lessons comes with self-marked follow up work, which usually takes the form of worksheet style questions and/or exam questions to consolidate learning. This is an essential part of the course to enable students to develop understanding and embed learning and students should allow at least an hour each week for review of their learning and completion of activities.
- There are over 35 electronic quizzes spread throughout the course to provide regular understanding checks on course content and highlight where more work might be needed.
- Each lesson also provides details of the relevant text book pages and end of chapter questions to provide opportunities for further practice.
- There are 8 revision and topic test lessons, which included revision resources. There are Quizlet sets for each sub-topic, which help with learning definitions and the key terminology required for more recall based answers. A set of practice exam questions is also provided to help students familiarise themselves with typical exam questions and highlight where more revision may be needed before they take the topic test. The topic tests are based on exam questions and are designed to be around an hour in length.
- Core practical footage is included within the lessons, along with follow up questions and exemplar data to analyse, where appropriate, to build the essential practical understanding.(Practical based questions make up at least 15% of the marks in the final exams.)

Overview of course structure

- Exams are offered in November and May / June.
- Students can choose to follow either the self-paced course, allowing them to study at a pace that suits them. Alternatively, each September a drip-fed 2-year course is released, with a weekly lesson released in term time. This can help with accountability and keeping on track.
- If following my drip-fed 2-year course, teaching will be complete by the start of the Easter holidays. The content for the final term is all released in the January, allowing for a faster pace in the final term if students want to gain more revision time.
- If you want more accountability or guidance, why not upgrade the standard course with an add-on. Options include marking and feedback on the topic tests and mock exams, as well as access to support either via email or twice weekly drop-in help sessions. There are also fortnightly Masterclasses, which focus on clarifying and deepening understanding and applying learning to answer questions. Much of the work is carried out on individual electronic whiteboards, allowing me to give individual coaching and feedback, whilst still allowing students to work at a pace that suits them.
- Students take 2 exam papers. Paper 1 is in common with students taking Combined Science (2 IGCSE grades awarded across all 3 Sciences). Paper 2 covers the whole specification including is the extra, Chemistry only, content. The Paper 2 only content very much builds on the Paper 1 content and tends to be slightly more in-depth and challenging. The Paper 2 only content is bolded in the specification. Please see the specification for further detail.
- CanDoChem IGCSE Chemistry courses are structured so that I teach predominantly Paper 1 content first. This enables a breadth of knowledge to be built and is sensible in terms of allowing exam preparation to begin earlier for Paper 1. I also ensure that we revisit more difficult skills in multiple places, to help students become more confident in their use of them. I then teach the extra Paper 2 content at the end of the course, building on earlier Paper 1 content and encouraging review of it.
- Guidance is provided on structuring exam revision, but this is inevitably a very individual process. Feedback from mock exams, can help shape a revision plan. The next big project from CanDoChem will be a revision course for IGCSE Chemistry for students who would benefit from extra structured support with the build-up to exam readiness.



Guide to teaching order

Please note that that this is only a guide and it may be subject to slight adjustments to the timing dependent on term dates.

Half Term	Lesson Number	Topic
1	1	Naming and formulae
	2	Equations
	3	States of matter and diffusion
	4	Solubility
	5	Elements, compounds and mixtures
	6	Chromatography
	7	<i>Revision and test</i>
2	8	Atomic structure
	9	The Periodic Table
	10	Ions
	11	Ionic bonding
	12	Simple covalent
	13	Properties of simple covalent molecules
	14	Giant covalent
3	15	Metallic
	16	<i>Revision and Test</i>
	17	Organic introduction and purification of oil
	18	Products of fractional distillation
	19	Alkanes
	20	Alkenes
	21	Addition polymers
4	22	<i>Revision and Test</i>
	23	Group 1
	24	Group 7 – part I
	25	Group 7 – part II
	26	Gases in the atmosphere – part I
5	27	Gases in the atmosphere – part II
	28	Acid reactions
	29	Salt preparations I
	30	Salt preparations II
	31	<i>Revision and Test</i>
	32	Reactivity series



6	33	Reactivity practicals
	34	Redox and rusting
	35	Chemical tests: gases and cations
	36	Chemical tests: anions
	37	Identifying compounds
	38	<i>Revision and Test</i>
7	39	RFM and moles
	40	Empirical formula Calculations I
	41	Empirical II and reacting mass calculations
	42	Percentage yield and core practical 3 - combustion
	43	Core practical 3 – reduction and gas volumes
	44	Further gas calculations
	45	Limiting reagent calculations
	46	<i>Revision and Test</i>
8	47	Energetics
	48	Energetics core practicals – Part I
	49	Energetics core practicals – Part I
	50	Rates of Reaction
	51	Rates core practical 10
	52	Rates core practical 11 and reversible reactions
	53	<i>Revision and Test</i>
9	54	Electrolysis
	55	Solution electrolysis
	56	Alcohols
	57	Carboxylic acids
	58	Esters
	59	Condensation polymers
	60	Titration I
10	61	Titration II
	62	Equilibria
	63	Bond enthalpies
	64	Extraction and uses of metals
	65	<i>Revision and Test</i>

Why choose a CanDoChem course?

My vision at CanDoChem is to enable all students to access a top-quality Chemistry education, that will engage and enthuse them and help them to realise their potential. Chemistry is a conceptually challenging subject, where specialist teaching makes all the difference in terms of both helping students to flourish and really understand the subject. I am equally passionate about both teaching and Chemistry, and the progress of every student genuinely matters to me. My courses are taught and resourced in such a way to ensure that students with SEND are set up for success and the excellent teaching practices benefit all learners.

Much of the assessment in both IGCSE and A Level Chemistry involves application of knowledge rather than rote learning. This requires building of skills and regular reinforcement of knowledge, through carefully thought-out schemes of learning and well-honed explanations with tips and tricks to help with more complex ideas. CanDoChem courses are aimed at students who are keen to engage with conceptually challenging content, which is taught in an engaging and interactive way.

Unlike many courses, mine includes footage of all the core practicals (and more) to help build an in-depth understanding of this side of the course, which is worth at least 15% of the marks in the final exams. I recorded all of the practicals especially for my courses, so the commentary is specifically geared towards required explanations, using appropriate terminology. This helps students gain a much more comprehensive understanding, than from just reading about the practicals. Also included are follow up questions, linked exam questions and exemplar data to analyse, where appropriate, to build all the necessary skills.

The course resources are extensive and carefully crafted to build the skills needed and enable practice of explanations. Becoming good at application of knowledge, which is key for success in Chemistry examinations, requires lots of question practice, which is where the range and variety of resources provided come into their own, with worksheets, sets of exam questions, electronic quizzes and more interactive activities. There is also the rote learning element of the course, in terms of definitions. The detailed Quizlet sets for each topic help support this. As one student following a Pre-Recorded course recently wrote to me, *"I've found the Quizlets you made are amazing thank you so much. They have helped me with my understanding and confidence."*

I am a former Head of Chemistry with over fifteen years of teaching experience. I spent the first twelve years teaching in UK schools and for the last three years I have been an independent online Chemistry educator, working with many home educated students.

Whilst in the classroom, I taught the Edexcel IGCSE Chemistry course for six years, at one of the UK's top independent schools, so I know the specification and exam style inside out. As

an extremely experienced A Level Chemistry teacher, I ensure that excellent foundations are set in place for those who wish to go on to study Chemistry at a higher level. This is really important in terms of helping to smooth what can otherwise be a challenging transition from IGCSE to A Level Chemistry. I am also an examiner, so have a focus on teaching exam technique, which I embed in the IGCSE course from the start.

I have a PhD in Chemistry from the University of Cambridge, so am (mostly) able to answer the challenging questions that my students like to throw at me! I also have a PGCE and a Masters in Education, from Cambridge. My educational expertise means that I am a very reflective teacher, who excels in simplifying concepts and building understanding in a step wise manner, which helps all students.

Course Pre-Requisites

It is not essential to study KS3 Chemistry prior to taking IGCSE Chemistry, as I do cover all concepts needed. Those students who have not studied Chemistry previously, will need to be prepared to do extra work between lessons though, as they will have more new ideas to take on board, which will make it a steeper learning curve. If you think a KS3 Chemistry specific course would be helpful in terms of setting your child up for their IGCSE Chemistry studies, why not try my KS3 Pre-Recorded class:

<https://courses.candochem.com/courses/ks3-chemistry>

Students should be working towards (I)GCSE Maths alongside their Chemistry studies. All (I)GCSE Chemistry specifications have become more mathematical in recent years and at least 20% of the marks in the current exams require use of mathematical skills. **Students should not enrol in a course aiming at them sitting their IGCSE Chemistry exams substantially ahead of (I)GCSE Maths.** If students are not studying at a similar level in their maths, they will struggle with the more mathematical aspects of the Chemistry course. Given the nature of Chemistry, where we build on earlier knowledge, they do need to understand work as we cover it to enable them to then access later ideas, otherwise they end up out of their depth, which is a situation that I like to avoid for everyone's sake!

I have designed a teaching order for the 2-year Chemistry IGCSE course, which leaves some of the more complex topics until later in the course when students have built confidence and are that bit more mature. This has always been standard practice in the schools in which I have taught and works really well. So please don't worry unduly about the emphasis on the maths side of the course, but I do want to avoid the situation where students struggle because they are aiming at taking their Maths exams a year after their Chemistry exams.

Course Upgrades

Self-Paced IGCSE Chemistry with Marking

Marking and feedback on the 8 topic tests and 2 mock exam papers, as well as access to support either via email or twice weekly drop-in help sessions in term time.

The drop-in help sessions can make all the difference to students following my Pre-Recorded Courses, as it provides them with an opportunity to access individual support and ask any questions on a regular basis, rather than problems building up. The drop-in help sessions run via Zoom, using an electronic white board for explanations.

For the 2022-23 academic year the drop-in help sessions run on Monday and Wednesday at 11.45 – 12.45 (UK time) in term time. 2023-4 times will be shared before the end of the summer term, to help facilitate planning.

Test marking and feedback helps to provide an accurate picture of student performance and can be really helpful in terms of guiding further work. It can be difficult for students to know how to interpret mark schemes - especially at the start of their learning journeys. As an examiner, I am adept at appropriate marking, which is in line with that of the exams.

For mock exams, I provide up to date papers when students are ready to sit them. They can take them whenever they feel ready in their own time. Alternatively, I run live mock sessions over Zoom – in February for Paper 1 and April for Paper 2. This helps to provide a more serious experience, which is a good stepping stone towards the actual exams.

Marking of topic tests is carried out electronically via Google Classroom. This requires students to scan their tests and upload them as a single pdf file. Further guidance is provided on how to do this e.g. through mobile phone apps. I aim to provide marking and feedback within a week as the norm in term time, although it is often faster. Please do allow longer during holiday periods.

Cost: £350 total (including the Pre-Recorded Course cost)

Please contact me to discuss a payment plan if you would like to pay termly.

Masterclasses

Fortnightly 1 hour live masterclasses run on Tuesdays at 10.30 – 11.30 am. This is available as an add-on to either the standard Self-Paced IGCSE Course, or the Self-Paced IGCSE Course with marking.

Masterclasses are designed as a follow up to the pre-recorded lessons, helping to keep the course cost effective and enabling students to complete the initial learning at a time and pace that suits them. Having to complete the lessons in order to access the masterclasses helps bring accountability to learning, which can be really useful for keeping students on track.

The live masterclass sessions focus on clarifying and deepening understanding and applying learning to answer questions. Much of the work is carried out on individual electronic whiteboards, allowing me to give individual coaching and feedback, whilst still allowing students to work at a pace that suits them. Lessons also include activities such as class Kahoot quizzes, as well as aspects focused on study skills and deepening learning, such as making mind maps for topics, working through summary sheets etc. I do adapt my teaching within these sessions to respond to the needs of the group e.g. taking time out to revisit concepts which they haven't grasped and building extra questions into sessions to address these.

Unlike in my weekly live classes, students do not need to have their cameras on for masterclass sessions and do not need to speak if they do not wish to. They do of course have to be prepared to engage with the activities set. This means that these sessions may appeal to students who might be put off from my standard live classes due to the level of engagement required. I find that my students often make good use of the chat box in these sessions, or writing notes on their whiteboard screens to ask for help as needed.

There are a maximum of 8 students in masterclasses, which enables me to give plenty of individual feedback on their work. I also send regular updates to parents to let them know how students are getting on and whether there are any specific aspects on which they need to do further work.

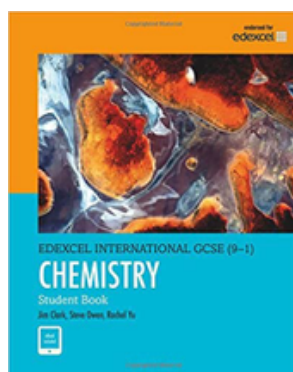
Cost: £10 per masterclass, payable termly in advance.



Text Book Recommendation

I recommend buying the text book below. Whilst not essential, it is a very good source of extra information and practice questions, which I reference within the course lessons.

Pearson Edexcel International GCSE (9-1) Chemistry Student Book – Jim Clark (June 2017)



Chemistry Course Term Dates 2022-23

Autumn 1 29/08/22 - 21/10/22

Autumn 2 31/10/22 - 16/12/22

Spring 1 3/1/23 - 17/2/23

Spring 2 27/2/23 - 31/3/23

Summer 1 17/4/23 - 26/5/23

Summer 2 5/6/23 - 14/7/23

Chemistry Course Term Dates 2023-24 (Provisional)

Autumn 1 6/9/23 - 21/10/23

Autumn 2 31/10/23 - 16/12/23

Spring 1 4/1/24 - 17/2/24

Spring 2 27/2/24 - 31/3/24

Summer 1 17/4/24 - 26/5/24

Summer 2 5/6/24 - 21/7/24

The beauty of following a Pre-Recorded course is that you can of course stick to whatever dates suit you for studying. These dates will however give you a guide to when add-on options such as drop-in help sessions and Masterclasses will run.

Course Reviews

Pre-Recorded Course

“CanDoChem is the best provider of science classes for home educators out there (and I've sampled quite a few). New concepts are introduced gradually and with plenty of reinforcement and encouragement. Class hand-outs have just the right amount of information and are great for revision. A lot of work has clearly gone into delivering a logically planned course, and it really shows!”

J.R., April 2022

“Learning with Kate is an absolute pleasure and the right solution for my daughter. Her video lessons are calm, easy to understand, interesting, very well structured and the notes/handouts and homework very clear and easy to follow.”

G.WG, April 2022

Pre-Recorded Course with Masterclasses

“The quality of the teaching is fantastic. The sessions provided go above and beyond when it comes to detail and the smaller class size means that each child gets more attention than they would in a classic school environment. Kate always includes details and worksheets that help every student understand the content. The feedback is detailed and Kate is always quick on the trigger when it comes to answering any questions and queries. The resources provided gives students the opportunity to reinforce and practice their skills in Chemistry with extra drop-in sessions proved if further support is needed. Overall I would strongly recommend CanDoChem to any parents considering this courses. I would like to offer my thanks to Kate for delivering an excellent learning experience.”

J.J., February 2023

“Kate is amazing, she explains things thoroughly and makes sure I have a clear understanding of the topic, she always provides constructive feedback and will help with any problems, I feel confident to email her with any questions or problems and I look forward to my Chemistry lesson.”

Student, February 2023

“It's really useful and the way it's done helps make the subject easier. I also think that it's pretty easy to revise past topics if you need to because of all the material and notes you are given.”

Student, February 2023

Terms and Conditions

- The IGCSE Courses prepare students to take **Pearson Edexcel IGCSE Chemistry (4CH1)**.
- Self-Paced Video Courses and 2-Year Video Courses include a 1 week cooling off period after the start of the course, during which time I will provide a full refund if you do not wish to continue with the course. After that time, courses are non-refundable.
- Students following any course with a termly payment plan will lose access to the course if they do not maintain the scheduled course payments.
- Students are given 2-years access to the Self-Paced Courses, but this can be extended if needed. For students following the 2-Year Course, I will provide ongoing access to the Self-Paced Course if they wish to delay their exam sitting, so that they can continue to access resources.
- A non-refundable £50 deposit is required for masterclass bookings, which is set against the invoice for the first term.
- If choosing to follow any course with a payment plan, fees are due termly in advance, just before the start of each term. This can be paid via Stripe or bank transfer, with details on the invoice. An email reminder is sent if an invoice is not paid by the due date. A £10 admin fee will be added to the bill of any families requiring a second reminder.
- Access to resources including worksheets, assessments and videos should not be shared with anyone outside your household. Students must not make recordings of masterclass sessions.
- In the unusual event that I am unable to provide a scheduled masterclass session, the cost of the session will be refunded / set against the next payment.
- Masterclass sessions are not recorded and are non-refundable if a student is unable to make a session. In the event that a student is unable to attend a masterclass, then I will share the question set, and students can bring any queries to a drop-in help session.
- Masterclasses take place at the stated UK time. Please note that if you are not based in the UK, this may result in the class time changing by an hour for you when we switch to daylight saving time.



- Masterclasses take place via Zoom. It is your responsibility to check that equipment is working appropriately and that you have an appropriate internet connection. It does help to run updates to Zoom periodically, particularly if you experience any problems.
- Students must behave appropriately in masterclasses. This includes arriving on time, with the right equipment and treating all class members with respect. If a student's behaviour is not appropriate and is impacting the learning of others, I will seek your help to resolve the issue. In the unlikely event that we are not able to resolve the issue, then I reserve the right to remove the student from the course.
- Parents are responsible for booking of exams for their child, although I am more than happy to advise and support as necessary, particularly with regards to evidence for access arrangement, such as extra time for students with SEND. As a Learning Partner with Tutors and Exams, parents are able to access a 15% discount on exam entry fees at the time of booking should you decide to enter through them. You will need to contact me for the code should you wish to take advantage of this.
- Course resources must not be shared with other families. Please note that I do offer a bursary scheme for my Pre-Recorded Courses if a family cannot afford the course fees.
- Students must not make their own recordings of classes.