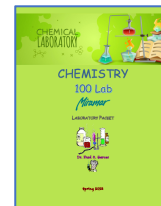


Instructor:	Dr. Fred Omega Garces
Office info.	Office Rm S6-112F Office Phone 619-388-7493
E-mail:	Via Canvas or fgarces.ch100@gmail.com
WebPage	http://fogarces.com or https://sdccd.instructure.com/
Office Hours	MW: 2:30- 3:30p, T: 7–8:30p, Th 3:00 – 4:00p and by Appointment through Canvas
Class Meets:	This is a partial online course in which meetings at Miramar College for the midterm and final are scheduled.
College ID	Be sure you apply for a college ID with photo. This is required to prove your identity in this course.
Lab Manual	Chemistry 100 Manual Downloaded from Canvas
Supplies	Chem 100 Lab Kit: KLM BioScientific/Lab Supplies USA (858) 571-5562 or 333-1130 (~\$115) For more information go to: https://labsuppliesusa.com/chem-100-miramar-college/ Chem 100 Lab Chem Supplies: Pick up at Miramar College, See Canvas Safety Goggles a must before you start the first experiment (~\$5) Calculator capable of scientific notations and exponential display. (~\$13) First-Aid Kit and nitrile gloves available at any drugstore (~\$35) Other supplies required as indicated for each experiment. (~\$10)



**** It is important that you use a computer to take this course. If you try to complete this course through your cell phone, you will be limited.**

Welcome to the Chemistry 100 Lab, designed for students residing in San Diego County. It's important to note that chemicals and supplies must be collected from Miramar College, as we do not offer shipping services for chemicals. If you are unable to access the chemicals listed in the inventory sheet located towards the end of this syllabus, you will not be able to complete the essential experiments required to pass this course.

Student Learning Outcomes:

1. Students will be able to demonstrate knowledge of proper laboratory safety procedures.
2. Students will be able to demonstrate proper handling of chemical reagents and chemical wastes.
3. Students will be introduced to common laboratory equipment and its use.
4. Students will demonstrate basic data observation, collection, and interpretation.

Course Description: This course explores the fundamental chemical behavior of matter in relation to the allied health field. Topics covered include chemical formulas, chemical equations, stoichiometry, solution chemistry, periodic properties of elements, gas laws, chemical bonding, molecular geometry, states of matter, chemical equilibrium, and acid-base chemistry.

Co-requisite: Enrollment in Chemistry 100 Lecture is mandatory. Failure to meet this co-requisite will result in being dropped from the course. Welcome to the online version of Chemistry 100 Lab! You may be wondering how it's possible to conduct a chemistry lab from home. Many experiments utilize common household chemicals, making it feasible to perform the lab in a home environment. Examples of such chemicals include vinegar, baking soda, glycerol, ethanol, mineral oil, and plain water. The equipment used in this lab mirrors what you would find in a traditional chemistry lab. By following proper procedures, you will obtain accurate measurements similar to those obtained in the Miramar College laboratory.

To ensure success, it's crucial to read each experiment in its entirety before starting. Reviewing the relevant concepts in your lecture textbook beforehand can be beneficial. Additionally, there are Zoom preview videos available that discuss important aspects of each experiment and demonstrate the laboratory techniques to follow. Throughout this lab course, you will gain proficiency in various lab techniques, such as weighing objects using an electronic scale, transferring liquids with graduated cylinders and Berel pipettes, setting up apparatus for reactions, working with chemicals safely, and adhering to proper chemical usage protocols. Make sure to collect data as instructed in the experimental procedures and record observations directly on your data worksheet for each lab assignment.

The online lab manual provides a data worksheet to assist you in collecting data. In addition to recording observations and data, many experiments will require calculations, and the worksheet should show the step-by-step work for these calculations (when specified in the instructions). Furthermore, all experiments will require digital photos to provide evidence of the work performed. Detailed instructions on the required shots and how to upload them to Canvas are provided. Please ensure that your college ID (or another form of ID) is included in the photos, showing either individuals in the foreground or background. Before uploading, please double-check the images to ensure they are clear and not blurred or blank.

When naming the files, please use the following format: **Lastnamefirstinitial_AssignmentTitle_Date**. For example, **GarcesF_ConcentrationEC_Jul19**. Make sure to carefully follow the instructions provided in each lab and pace your work accordingly to meet the assignment's due date. **Plagiarism is strictly prohibited, and any involvement in dishonest work will result in a zero for the respective assignments.** We will discuss this matter further in the syllabus.

If you encounter any missing or damaged chemical supplies or equipment, please contact Bryce, the lab tech for this course, for a replacement. You can reach Bryce Thompson at (619) 388-7826 or bthompson001@sdccd.edu. His office is located at S5-211, and he is responsible for technical support in Chemistry 100 L.

Additionally, you can contact the following individuals for further assistance:

Bryce Thompson. (619) 388-7826 bthompson001@sdccd.edu Office S5-211 (Tech for Chem 100)
Calvin Le (619) 388-7437 cle@sdccd.edu
Tien Nguyen (619) 388-7390 tnguyen@sdccd.edu

Tentative 1/17/24		100 Lab Schedule CRN - 53543 & 53544	Spring 2024
Week of:	Lab Assignment	fogarces.com	
1	29-Jan	Safety Training, Check-in Safety Quiz (50, Due by 2/11) Pickup up Chem supplies and Kit at Miramar College, S5-211 (must prepurchase kit from KLM)	
2	5-Feb	Lab Assignment 01: Act01 Basic Math and Dimensional Analysis	
3	12-Feb	Lab Assignment 02: Exp01 A Penny for Your Thought; Scientific Method Introduction	
4	19- Feb	Lab Assignment 03: Exp02 Measurements, the Metric System and Density	
5	26- Feb	Lab Assignment 04: Exp03 Studying Density, Miscibility & Solubility	
6	4-Mar	Lab Assignment 05: Exp04 Separation of a Ternary Mixture, A Video Expt	
7	11-Mar	Lab Assignment 06: Act02 Nomenclature	
8	18-Mar	Lab Assignment 07: Act03 Molecular Models – VSEPR Theory	
9	25-Mar	Spring Break, No Classes	
10	01-Apr Midterms	Lab Assignment 08: Act04 Stoichiometry Exercise Midterm Quiz and Lab Practical (75 pts) & Lab Practical (25) Schedule 04/06, 9-11 AM	
11	08-Apr	Lab Assignment 09: Exp05 Observing Chemical Reactions	
12	15-Apr	Lab Assignment 10: Exp06 Counting by Weighing via the Mole	
13	22-Apr	Lab Assignment 11: Exp07 Gas Law Simulation	
14	29-Apr	Lab Assignment 12: Exp08 Concentration of Salt Solution	
15	06-May	Lab Assignment 13: Exp09 Titration of Unknown Concentration of Vinegar	
16	13-May Finals	Lab Final Quiz (125 pts) & Lab Practical (50) Schedule 5/18, 9-12 AM, S5-208	
17	20-May		

Important Dates:

Feb 09 – Last date to drop with no “W” in transcript.

Mar25 to Mar 31 – Spring Break

May 25 – End of semester

Feb 16 & 19 – President’s Day, No Classes

April 12 – Last day to withdraw from classes with a “W”

* The Upon receiving chemicals and supplies, check the inventory of what is in the packet against what is listed. See the last pages of this syllabus to see the inventory list

** The lowest experiment or activity are dropped in calculating final score

9 Experiments, best 8* @	50 pts	400
4 Activities, best 4* @	50 pts	200
Safety, Syllabus & Exams	275 pts	275
Participation / Techniques	50 pts	50
Lab Practical	75 pts	75
Total		1000

The lowest Lab assignment is dropped when tabulating the final score.

Turning in your report in a timely manner to maximize your lab technique score. If you do not return the spent chemicals and the digital scale back to Miramar College, you will be penalized 80% of your lab technique grade.

Please be advised-

All experiments and activities conducted in this laboratory necessitate the completion and then submission of the corresponding worksheet from the lab manual. You must complete these worksheets, in addition to responding to the questions on Canvas. If you do not submit the worksheet, you will not receive credit. In the case of multi-page worksheets, compile them into a single PDF file as per the provided directions (available on the announcement page). Subsequently, upload the consolidated PDF file to Canvas.

For the datasheet, you are obligated to capture photos and include them when uploading the datasheet. Although some students have expressed dissatisfaction with this additional step for each assignment, it remains a mandatory requirement. If you find it challenging to adhere to this obligation, kindly reconsider taking this course. However, if you opt to continue, be aware that these steps are compulsory for every lab assignment.

Overview of Online Laboratory Course

In this online chemistry 100 Lab course, you can attend zoom meetings when scheduled. These are not required but highly recommended. For example, in the first optional zoom meeting, the syllabus will be discussed as well as how grades are calculated in this course. You can also arrange for zoom office hours or come to campus during my usual office hours. Mandatory meetings are scheduled for **Apr 6th (9 – 11 AM) and May 18th (9 – 12 PM)** at Miramar College, S5-208, for the midterm and final exams. Check your schedule for conflicts. Your grade in this course is based on your ability to follow directions, complete experiments, and activities promptly, demonstrate knowledge of the concepts by taking lab quizzes, and document your work by completing the lab worksheets. The zoom sessions are reminders and guidance of upcoming work that needs to be completed.

Lab Assignments consist of "dry" labs, which are problem sets designed to help you understand the concepts covered in the lecture. To complete these exercises, you must answer questions in a quiz format on Canvas and upload the corresponding worksheet that shows how you worked through the problems. It is crucial to complete the worksheet for each submission. Failure to do so may result in a deduction of up to 50% or the lab not being counted. **When completing the worksheets, please use blue or black ink, avoiding nonstandard colors like purple, fuchsia, or silver, as they can be difficult to read.**

Experiments, referred to as "wet" labs, involve chemical handling and data analysis. To prepare for each experiment, ensure you have all the necessary chemicals and equipment a week in advance. If any chemicals are missing, contact your instructor or the lab tech for assistance. A day or two before conducting the experiment, carefully read the entire laboratory procedure in the lab manual and review the requirements in Canvas. During the experiment, focus on making observations and collecting data. You can answer questions and perform calculations afterward, once all the data is gathered. After completing the experiment, clean up and double-check that you have collected all the necessary data to answer the questions. Take some time to reflect on the lab and proceed with calculations and post-lab questions. Once you have completed the write-up, upload your work on Canvas. Remember to submit the worksheet for each experiment or exercise. Failure to submit a worksheet or complete the Canvas questions will result in a zero score for the assignment. Ensure that all submitted work is original. Timely completion of assignments is essential as scores will not be released until everyone has submitted their assignments and uploaded their lab photos. If an assignment is not submitted within a week, it will be counted as zero points.

Chemical and Supplies: To obtain the necessary chemicals and supplemental supplies, you must visit Miramar College. Additionally, any additional laboratory equipment required for this course must be purchased from KLM-Lab Supplies. More information can be found at <https://labsuppliesusa.com/chem-100/>. To keep the equipment cost around ~\$120, Miramar College will provide chemicals, a digital scale, tongs, forceps, etc. Distribution details can be found in the announcement link on Canvas. All lab manuals will be available online through Canvas, but a hard copy can be purchased from [Mira Mesa Copy Center](#). It is important to pick up and return spent chemicals as it contributes to your lab technique score. After each experiment, pour the spent chemicals into an empty water bottle and seal it tightly. Unused chemicals should be returned to their original containers and tightly sealed to prevent any leakage. Place the previously used chemicals in a separate baggie to avoid confusion with the chemicals needed for future experiments. Additionally, clean all equipment and supplies after use. Please handle the equipment with care to prevent corrosion or breakage. Failure to return spent chemicals at the end of the term may result in at least 50% of your lab technique score deducted, grades withheld, and the administration office may withhold transcripts and grades until this matter is resolved.

Submission to Canvas: All work uploaded to Canvas must be legible; otherwise, it will not be graded. If you upload the wrong file, it will be considered as if the assignment was not submitted. Therefore, ensure that the uploaded PDF file contains the correct content. Furthermore, the filename should follow the format of **Lastnamefirstinitial_AssignmentTitle_Date**. For example, GarcesF_ConcentrationEC_Feb19. Plagiarism in any form is strictly prohibited in this class. **Zero credit will be given to any individuals involved in dishonest behavior, such as plagiarism, which includes copying work, paragraphs, or sentences from others and presenting them as your own.**

The course includes a total of 13 laboratory assignments, consisting of four dry labs (activities), seven wet labs, one video lab, and one simulation, all considered experiments. One of these assignments will be dropped when calculating the final score. Generally, late experiment submissions will not be accepted unless extenuating circumstances exist. Missed assignments will typically be the ones dropped. **Failing to complete and submit more than three lab experiment assignments indicates excessive absence and nonparticipation, which may result in being dropped from the course.**

Please note that nonactivity (participation) in Canvas does not automatically mean you have been dropped from the course. If your name is still on the roster, even after the drop deadline, you will receive a grade, which is usually an "F." Therefore, if you want to ensure that you have been dropped from the course, it is your responsibility to officially drop the class through the admissions office before the printed drop deadline in the Miramar College class schedule.

ATTENDANCE and PARTICIPATION

- *It is the student's responsibility to drop all classes in which he/she is no longer participating.*
- *It is the instructor's discretion to withdraw a student after the add/drop deadline due to excessive absences/participation.*
- *Students who remain enrolled in a class beyond the published withdrawal deadline, as stated in the class schedule, will receive an evaluative letter grade in this class.*

Attendance in this course is tracked through login records on Canvas and the completion of assignments. Additionally, there are two mandatory meetings scheduled at Miramar College for the midterm and final exams. Please refer to the schedule for specific details regarding the locations, times, and dates of these meetings. An assignment is considered completed when the Canvas questions are answered and uploaded. Therefore, late assignments will generally be the labs that are dropped. While group work is encouraged, everyone is responsible for their own work. Group work should be limited to a maximum of two members. If a lab group exceeds three or more members, the lab grade will be divided equally among all members.

The lowest laboratory assignment will be dropped when calculating progress reports or determining final points and grades for the course. For instance, if a lab experiment is not submitted, that specific lab experiment or activity will be the one dropped. Once the first assignment is dropped, all missing assignments will receive zero credit. If all labs have been submitted, the lowest score will be dropped. If a student fails to submit three lab assignments, they will be dropped from the course due to nonparticipation. If this occurs after the withdrawal deadline, the earned grade will be dropped by one letter grade.

GRADING & EVALUATION

1. Experiments/Activities Assignment: There will be 9 experiments; 7 wet labs, 1 simulation and 1 video lab, worth 50 points each (see laboratory schedule for dates). The lowest of these will be dropped to determine your total score for this course. Points for experiments will be based on completing the online report found in Canvas, digital photos of the experiment's progress, and other written work as assigned by the instructor. Dry labs (activities) are completed via canvas through the Canvas quiz app. Many of these activities require a "show of work" in the worksheet that must be uploaded in Canvas. If more space is needed extra pages can be turned in. However, it is essential not to turn in extraneous pages, like the experiment background and procedural information. Upload only the correct files. Many times, students update a pdf file that has no content because Canvas never complete the saving process. Double check the final upload before closing the window. Finally, make sure the filename of the worksheets has the format of **Lastnamefirstinitial_AssignmentTitle_Date**, for example, **GarcesF_MathBasic_Feb19**. (12 x 50 pts) = Total 600 pts.

2. Quizzes: There will be a safety quiz (25 pts), a syllabus quiz (50 pts), a midterm (75 pts), and a final exam (125 pts). The midterm and final are at Miramar College; see the schedule for place, date, and times. The midterm exam will be based on the first half of the semester, and the final exam will be **cumulative** with a slight emphasis on 2nd half of the semester. Not completing the safety quiz or not turning in safety photos (via the quiz) runs the risk of being dropped from the course for safety reasons. Not completing the midterm or final is grounds for being dropped or dropping a letter grade. Total: 275 pts

3. Lab Practical: The lab practical will be given as part of your midterm and final exams. This is based on the student-Learning- Outcomes for this course. The emphasis of the practice will be based on LabAssignment03|Expt 02. The lab midterm lab practical is online, and the final lab practical will be face-to-face when the final exam is given. Total: 75 pts

4. Lab Techniques; log-ins, participation, and return of equipment: Active participation in the course, including regular log-ins, engaging in chat discussions, contributing to bulletin postings, and providing high-quality lab photos of your experiments, will be considered in this portion of your grade. Failure to submit the required worksheet and photos will result in lower lab technique grades. Proper disposal of used chemicals and careful handling of equipment are crucial lab techniques. Disorganized handling of spent chemicals and returning equipment in poor condition will result in a significant penalty (at minimum 50%) to your technique grade. Failure to adhere to these requirements may also result in additional administrative actions. Total: 50 pts.

Course Grade: Course grade will be determined as outline below. Evidence of improvement during the semester will be considered when assigning final letter grade. **Total points possible = 1000**

Grade evaluation:	9 Experiments/simulation	400
	4 Activities	200
	Safety, Mid Final-Quiz	275
	Lab Practical	75
	<u>Technique / Participation</u>	<u>50</u>
	Total	1000 pts

Grading System Tentative scale	A =	90% - 100%
	B =	80% - 89%
	C =	65% - 79%
	D =	55% - 64%
	F =	0 - 54%

Very Important Notes

1. You are responsible for purchasing the necessary laboratory equipment and supplies for this course. This includes obtaining a lab kit from KLM, a first-aid kit, safety goggles, a lab apron, oven mittens, surgical nitrile gloves, and access to a fire extinguisher. Before starting your first experiment, please test all the equipment in your lab kit. If any items are damaged, please contact KLM or Miramar College to arrange for a replacement. Additional items may be required as instructed in the experimental procedures. Additionally, you will need to purchase a scientific calculator that has the ability to display scientific notation, base-10 and natural logarithms, and perform operations with powers or roots (e.g. y^x , $^2\sqrt{\quad}$ or nth root). If you need assistance in determining whether your calculator has these functions or if you require help using any of its features, please consult your instructor immediately. **It is your responsibility to understand how to use your calculator and its functions for this course.**
2. It is recommended that you log in to Canvas on a weekly basis to check for periodic assignments and announcements. Ideally, you should log in at least twice a week. The first login should be between Monday and Thursday, and the second login should be between Friday and Sunday. It is important to stay up to date with assignments, as if your total points to date drop below 30% completion at any point during the semester, you may be dropped from the course due to non-participation.
3. It is essential that you know how to use your calculator effectively for all exams and assignments. Please note that smartphones or other smart devices will not be permitted as calculators during the midterm and final exams. Make sure you are familiar with the scientific mode of your calculator, as well as functions such as logarithms and exponentials. You may find it helpful to watch instructional videos on platforms like YouTube to enhance your calculator skills. Please refer to this YouTube video titled "Working Your [Scientific Calculator](#)."
4. If you have any inquiries regarding the course, please utilize the **Canvas mail link** to send your messages. While I strive to check my email daily, please understand that I may not be able to respond immediately. As a general policy, I require at least two to three days to respond to email inquiries. If you have specific concerns about a grade or assignment, or if you have any questions related to the course, please email me with detailed information. In certain cases, I may request that we meet during office hours or schedule an appointment to discuss and resolve the issue.
5. When you are completing the midterm and final exams, it may be necessary to solve numerical problems and use scratch paper. It is important to label your work clearly and provide a step-by-step solution if the problem requires it, especially for exams or worksheet labs that specifically ask for a show of work. Numerical answers without accompanying clear step-by-step solutions will not receive credit. Make sure to box or underline your final numerical answer, and remember that neatness is important. If your work is not clear and cannot be followed easily, **you may not receive credit for that problem. Additionally, both the midterm and final exams will require your signature. By signing, you are confirming your agreement to abide by the honesty policy of the course. Failure to sign an assignment may result in a penalty to your score, or in the worst case, a zero for that assignment.**

After completing an activity or lab through Canvas, please refrain from emailing me about your score until after the due date and after I have had sufficient time to review your answers. If you receive a score that is lower than the assigned values for your work, it is because the score you see initially is a placeholder until I have reviewed your assessment. Please keep in mind that Canvas is an AI system and is unable to grade free-response questions since the answers need to be pre-programmed. Once your point totals or comments have been released, you have a two-week period to contest the score if you believe there is an error. After that time, the score will stand as it is.

6. **When submitting your lab assignments** (experiments and activities) on Canvas, please follow the procedure and format outlined below:

A. Always include your College ID or a redacted driver's license on all paper submitted. You can refer to the provided example for guidance.

B. Ensure that the file name of your submission is correct. It should follow the format: **lastnamefirstinitial_title_monthdate** For example: IndobM_A1mathBasic_Feb07

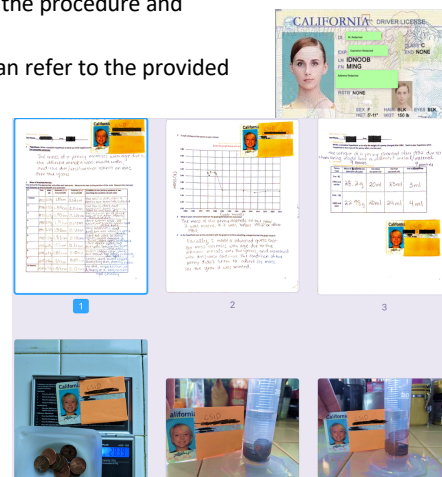
C. Your work, including any photos, must be legible. Make sure that all text and images are clear and easily readable.

D. The submitted page should be in PDF format and should be a single file. Please refer to the provided example for reference.

For more detailed information on the submission process, I recommend watching the [Orientation Video](#). You can skip to the **09:30 mark** of the video to find relevant information about submitting your lab assignments.

7. **Assignment Completion.** In this course, it is essential to complete assignments on or before the due date, even though attendance is not counted. Each student is responsible for submitting their reports or exercises on Canvas. While exchanging ideas and providing suggestions on how to complete a procedure is encouraged, each student must complete the worksheet individually. It is crucial to avoid submitting identical work to another student, as it will be considered plagiarism and may result in referral to the Dean's office. Late assignments will not be accepted, as one experiment and one activity are dropped to determine the final score for the course. Therefore, it is important to plan accordingly and ensure that all assignments are completed and submitted on time.

When completing assignments, it is important to follow directions provided. This is particularly crucial when answering questions on Canvas, as the answers are pre-programmed for auto-grading. Pay attention to the specified format for each question. For instance, if the instructions state not to write units, refrain from including units in your answers. Similarly, if the instructions indicate not to capitalize chemical names, adhere to that guideline. Additionally, make sure to show calculations in the designated space if instructed to do so. While these instructions may appear minor, following them ensures consistency in grading and facilitates the efficient evaluation of assignments.



8. If you decide to drop the course, it is your responsibility to visit the registration office and complete the necessary paperwork to officially withdraw. Simply not completing assignments or participating in online activities does not constitute dropping the course.
9. Throughout the semester, you will be asked to provide input and actively participate in discussions on the topics being covered. Your involvement in these sessions, along with completing homework and various activities, will contribute to your attendance and participation grade. More details regarding this aspect will be provided as the semester progresses.
10. It is important to conduct yourself maturely and respectfully while participating in the online environment. Familiarize yourself with [Netiquette](#) guidelines to ensure appropriate conduct on the internet. Disruptive behavior, which interferes with the legitimate functions of the class, is not tolerated. In the event of disruptive behavior, you may be asked to meet with the Dean or your instructor. Severe cases that threaten the personal safety of others may result in being dropped from the course. Always show respect to your instructor and classmates.
11. Maintaining safe practices in the laboratory is always your responsibility. This includes following all safety rules, wearing appropriate protective gear (such as safety goggles and proper clothing), and strictly adhering to the lab manual's instructions during experiments. Remember to use safety goggles whenever you are conducting experiments. Since your instructor cannot physically supervise you while you work on experiments at home, it is crucial to exercise good judgment and always prioritize safety. Read the entire experiment before beginning and ensure that another adult is present during the experiment.
12. Proper upkeep of chemicals and equipment is a vital aspect of good lab technique. After each experiment, dispose of used chemicals in a plastic water bottle and keep any unused portion in its original vial, properly sealed. Place these vials in a baggie to be turned in at the end of the semester. Clean and dry the equipment used to prevent corrosion and ensure that the scale is wiped dry and turned off to preserve battery usage. At the end of the semester, the spent chemical waste should be contained in a plastic water bottle, while unused chemicals in their original containers should be placed in a clean, moisture-free quart-size baggie. Supplies provided by Miramar College should be separated into two quart-size baggies: one containing Berel pipets and weighing boats (the straw can be discarded) and the other containing the remaining clean and dry supplies. These three plastic bags should then be placed in a larger 1-gallon baggie, which will be turned in on the day of the final exam to Miramar College. It is crucial to follow these instructions to ensure proper disposal of waste chemicals by the chemistry department and to minimize the cost of replacing supplies/materials for the course. Failure to adhere to these guidelines will impact your lab technique score.
13. Collaboration is allowed for discussing results with other class members, either online or in person. However, each student is responsible for their own work. It is important to submit your unique work with your own lab results, regardless of whether they are good or bad. Assignments that contain identical responses to those of another student will be considered plagiarism or cheating, which will not be tolerated. **Engaging in such activities on any assignment, including quizzes and lab assignments, will result in no credit for the assignment, dismissal from the course, a failing grade, and referral to the Dean of Students for disciplinary action.** For further information, please refer to the Miramar College catalog under the section on "Student Rights, Responsibilities of all San Diego Community College District students," specifically under 3.0 Code of Conduct, page 41.
14. Academic Misconduct and Cheating: While studying and preparing for quizzes and exams with other students is encouraged, it is important to work individually when taking quizzes and exams and when writing laboratory reports. **Plagiarism is strictly prohibited. If you copy a classmate's report and present it as your own in Canvas, you will receive a zero for the lab. If your answers, either in part or whole, are identical to those of a classmate, you will be required to explain your work to the instructor and the chair. Dishonesty will result in a zero for the assignment. A second infraction will be reported to school officials for disciplinary action.** The college regulations regarding academic misconduct and cheating will be fully enforced. During examinations, a code of honor will be applied, and you are expected to work alone without giving or receiving help from any source. It is also your responsibility to help enforce this code.
15. Incompletes: In cases of medical hardship, if a student has completed at least 85% of the course, they may petition for an incomplete grade denoted as "I." The instructor's approval is required, and a contract agreement will be signed to outline how the student will make up the incomplete grade.
16. Final grades posting: Final grades will be posted no later than one week after the end of the semester.

Special Services

- Tutoring**: The ASC (Academic Success Center) offers free peer-to-peer tutoring services. It is supervised by a credentialed instructor and focuses on various subjects such as reading, writing, study skills, problem-solving, and math across the curriculum. Content tutoring is also available. If you need more information about the tutoring service, consult your instructor or visit the ASC. Tutoring is not available during the summer.
- Disability Support Program & Services (DSPS)**: Students with learning or physical disabilities should contact both their instructor and the DSPS (Disability Support Program Programs and Services) to discuss and arrange special accommodations for the classroom or exams. The DSPS office is in building K-204, and you can reach them at (619) 388-7312 and Services) to arrange special classroom or exam accommodations. DSPS is in building K-204 and can be reached at (619) 388-7312
- American Chemical Society (ACS), Student Affiliates**: You can join the science club, which is affiliated with the American Chemical Society. By becoming a member, you can participate in exciting science-related experiences and connect with fellow students who share an interest in science. The ACS Student Affiliate (not to be confused with ACS mentioned above) also organizes the recycling program on campus. This club is open to all Miramar students, faculty, and staff.
- Science Center**: During this term, faculty members and former students will be present in the Help Room located in S6-112 C. This Help Room serves as a place where you can get your questions answered specifically for this course. More details about the schedule will be provided later. Please note that the Science Center may not be open during the summer or inter-sessions.

It's important to mention that if the instructor deems it necessary, the course syllabus may be modified, and you will be provided with an updated copy of the new syllabus. 08/11/23 -FG

SAN DIEGO MIRAMAR COLLEGE

Guidelines for Addressing Academic Honesty

Honesty and integrity are integral components of the academic process. Students are expected to be honest and ethical at all times in their pursuit of academic goals.

What is Cheating?

Cheating is the act of obtaining or attempting to obtain credit for academic work by the use of any dishonest, deceptive, or fraudulent means. Examples of cheating include, but are not limited to:

- Copying from another's test or exam
- Obtaining copies of a test, exam or course material without permission from the instructor
- Using unauthorized information/materials, phones or other devices to take a test
- Falsifying records, laboratory work, or other course data
- Submitting work previously presented in another course
- Altering or interfering with grading procedures
- Plagiarizing, as defined below
- Knowingly assisting another in any of the above
- Engaging in activities that unfairly place other students at a disadvantage, such as taking, hiding, or altering resource materials.

What is Plagiarism?

Plagiarism is the act of incorporating ideas, words, or specific substance of another and submitting the same as one's own work to fulfill academic requirements without giving credit to the appropriate sources. Examples of plagiarism include but are not limited to:

- Submitting work completed/translated by another
- Omitting footnotes for ideas, statements, or facts which belong to another
- Omitting quotation marks when quoting directly from another
- Close and lengthy paraphrasing of the writing or work of another, with or without acknowledgment
- Submitting artistic works of another
- Submitting papers purchased from research companies (or downloaded) as one's own work

Prevention

It is highly recommended that the course syllabus outline the standards of academic honesty expected in the course. This syllabus should also outline possible academic and administrative sanctions should dishonesty occur. This information should be reviewed with the class (sample statements for syllabi are available from the Dean of Student Affairs). In addition, set clear expectations before every exam (i.e. announce that devices cannot be used prior to the start of the exam).

Recommended Actions

1. Faculty have the right to respond to academic dishonesty within the context of their own course in a manner they deem appropriate up to and including the rejection of student work, with work and/or course grading consequences to follow. The usual sanction is "grade modification" on a given assignment/exam and/or course and should only be used if the faculty has reasonable evidence that academic dishonesty did occur.
2. When dishonesty is detected and resulting action taken, the instructor must promptly tell the student and indicate any actions to be taken. A written letter should be provided to the student if any formal action is taken, such as a grade modification. The letter should include: The course title, the date/time of the incident, the nature of the incident, the action to be taken/sanction to be handed down, and the process for appeal (sample letters are available from the Dean of Student Affairs).
3. If an academic sanction, such as a grade modification, is imposed the incident must be reported within ten instructional days to the Department Chair, School Dean, and Dean of Student Affairs (this can be achieved by "cc'ing" them on the student letter).
4. If in addition to the academic sanction, an administrative sanction will be pursued, the Dean of Student Affairs will notify the faculty member. Typically, severe cases of academic dishonesty and/or repeat offenses may warrant an administrative sanction, up to and including suspension and expulsion.

For information, please call the Dean of Student Affairs:
(619) 388-7313

Office of Student Affairs, S101
San Diego Miramar College
10440 Black Mountain Rd.
San Diego, CA 92126

*For a complete copy of the Honest Academic
Conduct Procedure, 3100.3, visit:*

https://www.sdccd.edu/docs/District/procedures/Student%20Services/AP%203100_03.pdf

Collaboration Vs Dishonesty

What is the difference between working collaboratively versus committing academic misconduct? Students can begin to answer this by asking themselves the following questions:

Is this assignment meant to evaluate my own individual knowledge and skills?

If yes, then it must be your own work. It is also best to assume that all coursework is individual, unless explicitly labelled as group-work by the faculty member.

Am I working with others on general skills, or on a specific assignment?

Working together to solve problems, explore challenging ideas or learn new skills are examples of collaboration. Pooling effort on a piece of coursework which has not be explicitly labelled as group work is an example academic dishonesty.

The chart below displays the differences between Collaboration and Academic Dishonesty*.

Collaboration	Academic Dishonesty
Revising with friends and quizzing each other on course material	Sitting for an online exam together (including using instant messaging to discuss the exam while it is ongoing)
Discussing an assignment briefly with friends	Sharing draft assignments with friends and copying words/ideas/structure from each other
Working on a group project together, spreading the work equally around the group	Deciding the “smartest” person in the group should do all the work so everyone gets the best grade
Asking your friend to help you improve your skills with an element of essay writing (structure, referencing, etc...)	Asking your friend to edit your essay for you
Discussing course concepts and building on each other’s ideas	Planning specific exam answers
Directing your friend to resources to improve their academic skills (see academic skills centre)	Writing your friend's assignment or sitting for their exam for them
Mentioning a helpful source to a friend	Sending your full bibliography to a friend
Sharing work with members of your group on a collaborative project	Sharing your group's work with friends in another group
Finding sources online and citing them correctly in your essay	Buying an essay from a website
Each study group member revising one section of a module and teaching the others	Each group member prepping an exam answer for everyone to copy

*This chart was developed by Dr. Rachel Horrocks-Birss, Academic Skills Centre, University of Dundee

Material, Chemicals and Equipment

Scroll to end of document to see illustration of equipment and Supplies.

Safety Photo, Safety Quiz

Safety photo requires you to purchase these supplies-

You must take a photo of yourself showing safety equipment

Equipment Kit from KLM
Lab Coat or Apron
Fire Extinguisher

Chemicals from Miramar
Safety goggles
First-Aid Kit

Equipment from Miramar
Surgical gloves
Oven mitts Baking soda

Experiment #1: A Penny for Your Thought; Scientific Method Introduction

Equipment and Chemicals (Total Time 60 - 90 min.)

Equipment and Chemicals

KLM Equipment	100-ml graduated cylinder	Petri Dish	Berel pipet	Wash bottle
Miramar supply	10% HCH ₃ CO ₂ (Acetic Acid)	Forceps	Digital Pocket Scale	
	Pre-cut pennies, pre-80, and post-83	Metric ruler	Weighing boat	
You supply	Pennies (1960 – 2000)			

Experiment #2: Measurements, Metric System and Density of Irregular Object

Equipment and Chemicals (Total Time 60 - 90 min.)

Equipment and Chemicals

KLM Equipment	100-mL beaker	5 mL grad cylinder	13 x 100mm small test-tube
	250-mL beakers	50 mL grad cylinder	Thermometer
	400-mL beaker	100 mL grad cylinder	Wash bottle
Miramar supply	Digital Pocket Scale	Cube	Berel pipet
	Metric Ruler	Weighing boat	
You supply	Measuring tape	Scientific Calculator	String or sheet of paper

Experiment #3: Studying Density, Solubility and Miscibility of liquids.

Equipment and Chemicals (Total Time 60 - 90 min.)

Equipment and Chemicals

KLM Equipment	(3) 13 x 100 mm TT w/ +stoppers	5-mL grad cylinder	
Miramar supply	Different Unknown Liquid A, B and C	Digital Scale	Stirring rod w/ policeman Forceps
	Colored water	Berel Pipettes	(1) 20 x150mm TT w/ +stoppers
You supply	None required		

Experiment #4: Separation of a Ternary Mixture

This Lab will be a video Simulation since we do not have iodine or cobalt chloride.

Equipment and Chemicals (Total Time 60 - 90 min.)

Material and Chemicals

KLM Equipment	Alcohol burner w/ stand	100 mL beaker	Wash bottle
	(rubbing alcohol for fuel) *	250mL beaker	Spatula
	(3) 13 x 100mm Test tube	400mL beaker	
Miramar supply	Cobalt (II) chloride Hexahydrate	Stirring rod w/ policeman	Berel-pipet
	Iodine crystals	Evaporating dish	Forceps
	Sand	Crucible tong	wire gauze
You supply:	distilled water	ice cubes	oven mitts

Experiment #5: Observing and Writing Chemical Equations

Equipment and Chemicals (Total Time 60 - 90 min.)

Material and Chemicals

KLM Equipment	(1) 18x150mm test tube	400mL Beaker	Petri Dish	Spatula
	(2) 13x100 test tube	100mL Beaker	Wash bottle	Forceps
	Alcohol Burner/Stand	Watch glass	Berel pipet	Thermometer
Miramar supply	calcium oxide (lime water)	magnesium metal strip	Phenolphthalein (save for Expt 9)	
	Ethanol (or rubbing alcohol)	copper shots	sucrose (sugar)	straw
You supply:	acetic acid (vinegar)	spoon	Hot/Oven mitts	
	sodium bicarbonate (baking soda)	NaCl (table salt)	9-V Battery (student supply)	

Save the phenolphthalein for experiment #9

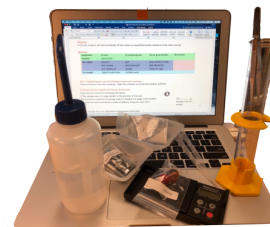
Experiment #6: Counting by Weighing via the Mole

Equipment and Chemicals (Total Time 60 - 90 min.)

Material and Chemicals

KLM Equipment	50-mL grad cylinder	Spatula	Wash bottle
Miramar supply	Digital Pocket Scale	Lego Bricks	Bolt-(HexNut)2
	Forceps	Bolt	Bolt-(HexNut)3
	Berel pipet	HexNuts	Bolt-(HexNut)4
	Weighing boat	Bolt-HexNut	Packet of sugar
You supply	Distilled water		

* As an option, you can use the burner from your stove to heat the beaker and evaporate the solutions



Experiment #7: Ideal Gas Law Simulation: No Equipment necessary.

You may work with a gas chamber simulation for this experiment.

Equipment and Chemicals (Total Time 60 - 90 min.)

Lab Simulation, no equipment, and chemicals necessary

Experiment #8: Determination of the Conc. of Total Dissolved Solids

Equipment and Chemicals (Total Time 60 - 90 min.)

Material and Chemicals

KLM Equipment	Alcohol burner with stand (or stove)	(3) 100mL Beaker or Wash Bottle	(1) 400mL Beaker	5 mL Grad cylinder	(3) Petri dish
Miramar supply	(3) Saltwater solutions, same conc. (5-10 mL)	stirring rod w/ policeman	Evaporating Dish	Wire gauze	Berel Pipette
				Spatula	1 crucible tong
You supply:	Digital Pocket Scale	Hot/Oven mitts	Hair dryer (optional)		

* As an option, you can use the burner from your stove to heat the beaker and evaporate the solutions

Experiment #9: Titration of Vinegar

Equipment and Chemicals (Total Time 60 - 90 min.)

Material and Chemicals

KLM Equipment:	(1) 20 x 200 mm Test tube	5 mL graduated cylinder	Wash bottle
	(3) test tube 18x150mm	400mL beaker	
Miramar supply:	(3) Unknown Vinegar Solution	~ 0.4x M NaOH solution	Stirring rod w/ policeman
	Phenolphthalein (from Ex 5)	Hydro-ion Paper	(5) Berel pipet
You supply:	Distill water	White printer Paper	

Important Notes:

Upon receiving the scales from Miramar college and other important equipment, make sure it is in properly working. Be sure the batteries are properly working and that the scale is set for grams. Be sure that the glassware does not have cracks or stars.

The fuel for the [alcohol burner](#) is isopropyl alcohol or rubbing alcohol.

When you receive the lab chemical supplies from Miramar College double check to make sure that all the chemicals listed for the experiment are present.

Read the list above and make sure to acquire all "You supply" materials before performing each experiment.

Equipment Requirement for Experiment

It is important to check the chemicals and equipment/supplies inventory upon receiving from Miramar College and a week prior to the next experiment.

Qty Description

Experiments to be used

KLM Equipment List			E1 Penny, Sci Method	E2 Meas and Metric	E3 Density Liquids	E4 Sep Mixture	E5 Obs ChRx	E6 Mole	E7 Gas Simul	E8 Conc Salt Soln	E9 Titr Vinegar
1	1	Alcohol Lamp (Burner)				1	1			1	
2	1	Alcohol Burner Stand				1	1			1	
3	3	Beaker (100ml)		1		1	1			3	1
4	1	Beaker (250ml)		1		1					
5	2	Beaker (400ml)		1		1	1			1	
6	1	Thermometer, Alcohol		1		-	1				
7	1	Spatula				1	1	1			
8	1	Watch Glass - 90 mm				-	1				
9	3	Petri dish	1			-	1			3	
10	1	Test tube brush				-	1				
11	5	Test tube (13x100 mm)		1	3	3	2				
12	5	Test tube stopper (13x100mm)			3	-	2				
13	5	Test tube (18 x150mm)			1	-	1				4
14	5	Test tube stopper (18x150 mm)				-	1				
15	1	Cylinder (5ml)		1	1	-					1
16	1	Cylinder (50ml)	1	1		-		1		1	
17	1	Cylinder (100ml)		1		-					
18	1	Wash bottle (250 mL)	1	1		1	1	1		1	1

Miramar College Equipment List

1	1	Stirring rod with Policeman **			1	1				1	1
2	4	Weigh boat (2")	1	1		-		2			
3	1	Evaporating dish **				1	1			1	
4	6	Berel Pipets (droppers)		1	3	1	1	1		1	6
5	1	Wire gauze **				1				1	
6	1	Forceps (Tweezers) **	1	1	1	1	1	1			
7	1	Metric Ruler, 15 cm	1	1							
8	1	Crucible Tongs **				1	1			1	
9	1	Straw					1				
10	1	Scale (200 + 0.05g) **	1	1	1			1		1	

DESCRIPTION KLM CHEM 100Supply Kit

- (1) Alcohol Lamp and Stand
- (3) 100 ml Glass Beaker
- (1) 250 ml Glass Beaker
- (2) 400 ml Glass Beaker
- (1) Thermometer (alcohol)
- (1) Spatula

- (1) Watch Glass
- (1) Test tube brush
- (5) 13 x 100mm Test tubes
- (5) 13 x 100mm Test Tube Stopper
- (5) 18 x 100mm Test tubes
- (5) 18 X 150mm Test Tube Stopper

- (1) 5 ml PP Graduated Cylinder
- (1) 50 ml PP Graduated Cylinder
- (1) 100 ml PP Graduated Cylinder
- (3) Petri Dish
- (1) 250 ml Wash Bottle

Supply Equipment from Miramar College

- (1) Forceps
- (1) Wire Gauze
- (1) Stirring Rod with Rubber Policeman
- (1) Evaporating Dish

- (2) weigh boats (~ 2")
- (1) Metric Ruler, 15 cm
- (5) Berel Pipets (disposable plastic)
- (1) Digital Scale

- (1) Crucible Tong
- (1) Plastic Straw

Equipment and Supplies from KLM and Miramar College for Chem 100 Online Lab

Some of these items may have changed



Miramar College Chemical Supply List

Chem 100 L Online

	Experiment #	Chemicals
Expt 1	Penny	10% Acetic Acid, CH ₃ COOH (1 - 3 mL) Pieces of cut up pennies (pre-82 and post-83)
Expt 2	Measurements	Plastic Cube (variation)
Expt 3	Density, Solubility and miscibility	3 liquids, A (1.5 ml), B (2.0 mL) and C (2.5 ml). Colored Water Possible Unknown Chemicals are: Glycerol, detergent, ethylene glycol, vegetable oil, mineral oil, isopropanol, 30% saline
Expt 4	Separation of mixture (Video Lab)	Sand Cobalt(II) Chloride Hexahydrate Iodine
Expt 5	Observation Chem Rxn	Copper shots, Cu Calcium Chloride (Lime Water). CaO (10 - 20 ml) Magnesium Strip, Mg Acetic Acid, CH ₃ COOH (1 -3 ml) Phenolphthalein (save for Expt 9) Sucrose, C ₁₂ H ₂₂ O ₁₁ Ethanol (or rubbing alcohol) (2- 3 mL) Sodium Chloride, NaCl (student provides) Baking Soda, NaHCO ₃ (student provides) You must provide the fuel for the alcohol burner (rubbing alcohol)
Expt 6	Mole	12- HexNut 5 - Bolt BN (5 possible) BN2 (5 Possible) BN3 (4 possible) BN4 (3 Possible) Lego Bricks (2-E, 2-F) Sugar (tech from MMC provide)
Expt 7	Gas Simulation	None
Expt 8	Concentration	Unknown Salt solution, 3 samples same concentration (5-10 mL each)
Expt 9	Titration of Vinegar	Phenolphthalein (From Expt-5) (5 or 10%) Acetic Acid, CH ₃ COOH (5 mL, 3 samples) 0.400 M NaOH (30-40 mL) Hydro-ion Paper (5 strips)

Please clean up chemicals and Equipment after each experiment but especially after the last experiment of the semester.

Please follow the instructions below to help us recover the essential supplies so we can dispose of waste chemicals properly. Not following these guidelines will reflect on your lab technique score. Prepare your used chemicals and supplies for return.

It is essential to make sure all chemicals used, and unused are separated from the equipment in different plastic baggies.

1. Place all liquid chemical waste in an empty plastic bottle and secure the lid. Write your name CSID and instructor's name on the bottle or a label attached to the bottle.
 2. Take the unused chemicals and place them in a clean quart-size baggie. Make sure the baggie is moisture free.
 3. Clean all equipment and separate the KLM supplies from the Miramar College supplies/equipment.
 4. For the Miramar College supplies, separate the plastic equipment (Berel pipet, weighing boat, straw) from the other metallic supplies and place them in a quart-size baggie.
- Take the remaining supplies and ensure all metal equipment is clean and dry. If the item is damaged, indicate so with a sticky note. Next, place these items in another clean empty quart-size baggie.
5. Write your name, CSID, and instructor's name on an index card and place it in the gallon-size baggie.
 6. Secure the gallon-size baggie containing the three smaller baggies and bring these to Miramar on the final exam day.
 7. Drop off these items in the designated supply drop box per directions your instructor will give you on the day of the final exam.

Chem100L, what you need to do to complete experiment and upload to Canvas

The next two pages are also found in your lab manual.

Checklist: All Canvas upload must be a **single pdf file** containing all pertinent information such as college ID.

All upload documents must have the correct file name.

Prelab

- 1. Prelab Questions in Canvas
- 2. Prelab Worksheet upload

Datasheet

- 1. Complete Datasheet with experiment photo and ID.
- 2. Datasheet upload

Post-Lab

- Prelab Questions in Canvas
- Prelab Worksheet upload

Details of what to do for each experiment.

Preparation for Experiment

1. a) In the module page in canvas, go to the information section and download the experiment which should include the prelab, data sheet and post-lab.
b) Alternatively, you can go to the lab manual for that experiment where you will find the prelab, datasheet and post-lab.
2. Read the entire experiment and pay attention to the safety notes.
3. Check your equipment and chemicals to make sure you have all items necessary to complete the experiment.

Prelab

1. Complete the prelab worksheet. Place your ID on top of the page of your worksheet (making sure you do not block any of your answer).
2. Take a photo (or scan) each page. If there are multiple pages, convert to a single pdf with proper filename.
3. Go to Canvas and answer the canvas questions for the prelab. Note that the questions may be slightly different from the worksheet
4. On the last question of the canvas prelab, upload the prelab worksheet.
5. Upon completion, submit the canvas prelab quiz.

Datasheet

1. Work on the experiment procedure paying to any safety notes
2. Fill in the datasheet as measurements are taken. Be sure to include your observations.
3. Take photos of the critical procedure as directed in the lab instructions. Place your ID in front of all photos taken.
4. Complete calculations and any other questions in the datasheet.
5. Scan your datasheet (which shows your ID) and combine with photos. Each photo should be in its own page.
6. Convert the scan pages to one pdf file and give it the proper filename
7. Upload the datasheet pdf file. Remember that experiment photos must be included, each page should have your ID shown.

Post-lab

1. Complete the post-lab worksheet. Place your ID on top of the page of your worksheet (making sure you do not block any of your answer).
2. Take a photo (or scan) each page. If there are multiple pages, convert to a single pdf with proper filename.
3. Go to Canvas and answer the canvas questions for the post-lab. Note that the questions may be slightly different from the worksheet
4. On the last question of the canvas post-lab, upload the prelab worksheet.
5. Upon completion, submit the canvas prelab quiz.

To see how to create scan pages, jpg or png files to a single pdf, see [Pdf conversion and Upload.pdf](#) In the module page.

To see how to include ID with worksheet or photo, see the syllabus.

Filenames should be in the format: **Lastnamefirstinitial_AssignmentTitle_Date**

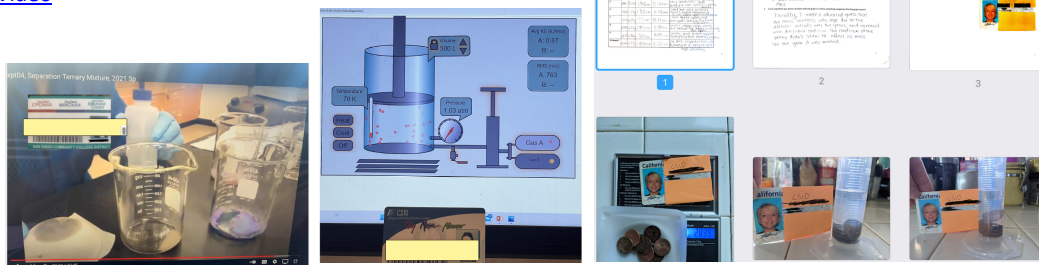
Showing college ID photos in your datasheet and experiment photos.

Submitting your lab (Experiments and Activity). The following is the procedure and format for uploading your work in Canvas.

- A. Always show College ID or redacted driver's license on all paper submitted. See example
- B. Be sure that the file name is correct.
lastnamefirstinitial_title_monthdate i.e., IndobM_A1mathBasic_Jun27
- C. Work must be legible including Photos.
- D. The submitted page must be a pdf format and one file. See examples.



For more information on this, please go to the orientation video from last semester and go to the 39:30 Mark [Orientation Video](#)



Convert files to PDF

PC	Mac
MS Word	
Click the Microsoft Office Button, point to the arrow next to Save As, and then click PDF or XPS. In the File Name list, type or select a name for the document . In the Save as type list, click PDF . If you want to open the file immediately after saving it, select the Open file after publishing the check box.	On your Mac , open the document you want to save as a PDF . Choose File > Print. Click the PDF pop-up menu, then choose Save as PDF .
Google Doc	
Select a document that you wish to download as a PDF and open it. Go to "File", next click "Download as" and finally choose " PDF Document ". It should download into your Downloads, or it will have an option to save into your desired folder.	<ol style="list-style-type: none"> 1. Open Google Chrome and browse to the webpage you wish to save as a PDF. ... 2. In the "Print" window, click on the "Change" button underneath the print "Destination." 3. Under "Local Destinations", select "Save as PDF" 4. Click on "Save".
Image of photo	
Open the image on your computer . Go to File > Print or use the Command+P keyboard shortcut. In the Print dialog box, select the PDF drop-down menu and choose Save as PDF . Choose a name for the new PDF and select Save.	<ol style="list-style-type: none"> 1. Open the image you'd like to convert with the Preview app on your Mac. 2. In the top left corner, click File → Export as PDF... 3. Choose a file name or use the default, pick a save to location, click Save.
Jpg (or png) to pdf on a PC, multiple pages https://www.youtube.com/watch?v=Z07RjdRARIO	Jpg (or png) to pdf Trick on a mac https://www.youtube.com/watch?v=u-wV3OIFUGg
Several Images (Batch Process) https://windowsreport.com/images-pdf-windows-10/	Several Images (Batch Process) https://www.macrumors.com/how-to/convert-images-to-pdf-macos-preview/
Scan Documents with your phone	
Scan documents using your Android https://www.youtube.com/watch?v=FWIVYd2Zc-E	Scan documents using your iPhone. https://www.youtube.com/watch?v=7JNmdFtvNv8