



**FALL 2020
REOPENING ACTION PLAN
CHEMISTRY DEPARTMENT**



July 8, 2020

FALL 2020 REOPENING ACTION PLAN: CHEMISTRY DEPARTMENT

Purpose and Rationale

This Action Plan presents the Chemistry Department's (hereafter referred to as the Department) Fall 2020 reopening strategies that will guide the faculty, staff and students in meeting their goals in the safest possible way. The proposed action plan is in line with the mandatory requirements of Executive Order No. 155 (The State of New Jersey, 2020), the Restart Standards for all New Jersey (NJ) Institutions of Higher Education (OSHE, 2020), the NJCU Pandemic Recovery Plan (NJCU, 2020), and CDC/OSHA guidelines, as well as and the suggestions of the College of Arts and Science Dean's Team and American Chemical Society chemistry teaching guidelines (ACS, 2020a and ACS, 2020b).

After careful evaluation of the government mandates, standards and guidelines, the Department has decided to teach the lecture and laboratory classes in hybrid modalities based on the following goals:

1. To protect the health, safety and welfare of NJCU staff and students, and help lower the risk of COVID-19 exposure and spread, and
2. To meet the learning objectives and needs of students.

The hybrid lecture and lab course modalities are designed to comply with the NJ State de-densification and social distancing mandates. In-person sessions will accommodate 30% to 50% of enrolled students. The hybrid lecture sessions will include a combination of remote session (via Zoom or live streaming of classroom lecture) and in-person meetings for a reduced number of students with social distancing. The instructor will prepare tentative in-person lecture schedules, but are prepared to modify them as needed (i.e. based on students' safety and health condition and the evolving pandemic situation). Hybrid lab classes are designed on a two-week rotation period between two student cohorts to effect social distancing. Each week, half of the class will perform the in-person hands-on lab with the instructor, and the other half will do a self-directed remote lab to enhance experiential learning and critical thinking skills.

The implementation of hybrid classes requires resources and support from the administration and service departments in meeting the health and safety government mandates and guidelines. Hence, the final design and effectiveness of the Department's course deliveries depend on the following factors:

1. Instructors' teaching preference
2. Students' learning mode preference
3. Availability of lecture and laboratory rooms that allow social distancing
4. Availability of personal protective equipment (PPE)
5. Availability of technology and training for remote and/or live streaming

Based on the first two factors, the Department may implement remote lecture or lab classes that address the instructors and students' limitations to teach or attend in-person classes, respectively, due to health and/or familial considerations. The Department will also prepare various alternate teaching deliveries and support services based on worst-case scenarios (e.g. second COVID-19 outbreak) and student or instructor changing circumstances. The Department plans to solidify the details of this Action Plan by end of July to

give time for hybrid course development and lab logistical preparations. This Action Plan contains the following sections:

1. Reopening strategies to welcome students in a face-to-face or in-person setting,
2. Delivery details of hybrid lecture and lab courses,
3. Enforcement strategies to lessen or prevent contagion of corona virus,
4. Contingency plan for classes and other departmental operations in case of another outbreak, and
5. Other relevant reopening concerns.

The succeeding sections summarize the important reopening goals and their corresponding strategies and proposed actions to achieve these goals.

Department Reopening Strategies

Goal 1: *To provide faculty, staff and students advance information of the Chemistry Department's reopening plan and strategies, and target actions that are in line with the government mandates and guidelines, NJCU pandemic recovery plan, and CAS department teaching delivery and operational suggestions. Table 1 summarizes the strategies and actions to achieve Goal 1.*

Table 1 Goal 1 Strategies, Proposed Actions and Target Completion Dates

Strategy	Proposed Action
1. Early and effective communication of the Department's Reopening Plan to all stakeholders (CAS managers, faculty, staff, students and support departments) to detect concerns and plan solutions/actions	1. Submit the Reopening Plan to the CAS Dean for approval.
	2. Post the approved and concise version of the Reopening Plan on the Chemistry Department Website.
	3. Prepare COVID-19 related website improvements (e.g. welcome page from the Department), including email link for students and staff to contact the Department for any class delivery or operational concerns and suggestions.
	4. Conduct a virtual meeting with faculty/adjunct and staff regarding: <ul style="list-style-type: none"> - Fall 2020 Reopening Strategies - importance of readiness of teaching materials on Blackboard Ultra before Fall 2020 reopening - importance of instructor's early response to students' communication/ emails to avoid enrollment drop outs during add/drop period - other teaching and operational concerns
	5. Send a welcome email to all chemistry students in mid-August that includes the URL link to the Department Reopening Plan. Instructors will email students via Gothicnet email address link. Encourage email feedback from students regarding class delivery concerns/suggestions.
	6. Use the Discussion Board on Blackboard Ultra to centralize student-instructor communication, and avoid overwhelming email proliferations.
2. Modification of training and documentations focused on health, safety and welfare of staff and	1. Prepare the COVID-19 related safety training for faculty and students.
	2. Provide safety training (online and face-to-face) to faculty and staff involved in in-person lab and lecture class deliveries to avoid COVID-19 contagion spread.

students in Fall 2020 classes reopening	3. Conduct training (online and face-to-face) for faculty/staff for proper use (donning and doffing) and fitting of PPE (as per CDC/OSHA standard/guidelines).
	4. Award certification to faculty and staff as proof of safety training (required by OSHA/EPA).
	5. Provide safety training (online and face-to-face) to all students involved in in-person lab and lecture class deliveries to avoid COVID-19 contagion spread.
	6. Conduct training (online and face-to-face) for all students for proper use (donning and doffing) and fitting of PPE (as per CDC/OSHA standard/guidelines).
	7. Maintain a safety training record for both faculty/staff and students.
	8. Modify the Student Safety Agreement to include COVID-19 related safety concerns.
	9. Modify the Pregnant Student Waiver Form to include COVID-19 related safety concerns.
3. Determination of building readiness to reoccupy after temporary shutdown as per CDC/OSHA guidelines	1. Conduct measurements of lab rooms for social distancing planning and lab course usage.
	2. Prepare the lab room occupancy plan.
	3. Coordinate with FCM the proper ventilation and indoor quality in Science Building to ensure safe use of offices, lab rooms and lecture rooms with social distancing.
	4. Coordinate with FCM the installation of floor directional signage, room safety signage, plexiglass barriers and other social distancing signage in lab rooms and prep-room and research labs.
	5. Coordinate with FCM/EHS the eyewash station and chemical spill shower flushing and <i>Legionella</i> testings (CDC, 2020).
	6. Coordinate with FCM preparation of social distancing measures for Chemistry Department offices.
	7. Coordinate with EHS/FCM the readiness of chemical fume hoods.
4. Identification of the hierarchy of control measures to prevent the corona virus contagion spread, needed in the Department reopening operations and in-person classes (OSHA, 2020)	1. Identify the engineering measures for both labs and offices. This include: - preparation of lab work stations for each student - Locating lab equipment and weighing balances to minimize movement in the lab room - Other measures
	2. Identify the PPE needs for labs and possible in-person lecture classes.
	3. Submit the COVID-19 related teaching and operational list and funding needs to the CAS Dean.
	4. Follow-up on availability of remote teaching technology/gadgets, supplies, and PPE before Fall 2020 reopening.
	5. Monitor the inventory of COVID-19 related supplies to ensure availability during classes and operations.

Hybrid Lecture and Lab Course Deliveries

Goal 2: *To deliver chemistry lecture and lab classes in modalities that assist students in achieving their learning goals while protecting the health, safety and welfare of all involved in the teaching process. Table 2 summarizes the strategies and actions to achieve Goal 2.*

Table 2 Goal 2 Strategies, Proposed Actions and Target Completion Dates

Strategy	Proposed Action
<p>1. Espousing the students' hands-on learning needs in lab courses through hybrid and flexible deliveries</p>	<p>1. Evaluate lab courses to decide which experiments are going to be performed in-person, and which ones are for remote delivery based on American Chemical Society (ACS) guidelines and industry needs.</p>
	<p>2. Develop the schedules for teaching general chemistry I & II, organic chemistry I & II, analytical chemistry and biochemistry hybrid lab classes, where 50% of the class perform in-person labs, while the other 50% perform the self-directed remote labs each week, with a 2-week rotating schedule per experiment.</p>
	<p>3. Develop the remote labs using webcam recording and other alternate methods.</p>
	<p>4. Prepare 10 to 11 alternate labs for remote delivery for homebound students or in case of corona virus quarantine or outbreak lockdown mandate during the Fall semester.</p>
	<p>5. Obtain the COVID-19 related PPE through the CAS Dean's office, such as:</p> <ul style="list-style-type: none"> - disposable lab coats - disposable N95 respirators or face masks - disposable nitrile gloves - reusable goggles and disinfecting wipes - reusable face shields and disinfecting wipes (for use during close in-person lab contacts between students and instructor).
	<p>6. Coordinate with IT/Academic Computing the live streaming needs and faculty training for in-person labs, as needed.</p>
	<p>7. Coordinate with IT/Academic Computing Department any technology or live streaming set-up for lab classes during the semester.</p>
	<p>8. Include safety reminders in lab experiment protocols/procedure.</p>
	<p>9. Post all lab course teaching materials on Blackboard Ultra before Fall 2020 reopening.</p>
<p>2. Espousing the active learning of students through in-person lectures and flexible deliveries to promote and enhance student engagement</p>	<p>1. Develop the schedules for teaching hybrid/hyflex chemistry lecture courses.</p>
	<p>2. Identify preferred lecture delivery of instructors (Use of Jamboard, Explain Everything, Canvas, and other interactive virtual teaching tools).</p>
	<p>3. Identify lecture room social distancing needs for instructor doing hybrid/hyflex in-person lectures.</p>
	<p>4. Coordinate with FCM to identify on-campus 24-student capacity lecture rooms for instructors doing periodic in-person lecture sessions or examinations.</p>

	5. Coordinate with FCM the installation of floor directional signage, room safety signage, plexiglass barriers and other social distancing needs in lecture rooms assigned to Chemistry faculty and adjuncts.
	6. Coordinate with IT/Academic Computing the live streaming needs and training for in-person lectures, as needed.
	7. Coordinate with IT/Academic Computing Department any technology or live streaming set-up for lecture classes during the semester.
	8. Obtain the COVID-19 related PPE for in-person lecture classes through the CAS Dean's office.
	9. Post all lecture course teaching materials on Blackboard Ultra before Fall 2020 reopening.
	10. Submit exam schedule and number of students to the Chair to facilitate early bigger room requests.
	11. Register for and train on lecture live streaming with the IT Department.
	12. Obtain training on Collaborate Ultra and other teaching tools provided by NJCU.
3. Flexible chemical research program	1. Design research projects for students that are flexible to early use of lab resources and completing it remotely
	2. Implement safety measures (i.e. trainings, PPE and social distancing) similar to in-person lab courses.

Enforcement Strategies to Lessen or Prevent the Transmission of Corona Virus

Goal 3: *To ensure faculty, staff and students compliance with NJCU/Chemistry Department's health and safety policies and programs during Fall 2020 reopening of in-person classes and operations. Table 3 summarizes the strategies and actions to achieve Goal 3.*

Table 3 Goal 3 Strategies, Proposed Actions and Target Completion Dates

Strategy	Proposed Action
1. Strict enforcement of student, faculty, and staff use of masks, social distancing, and any other measures to lessen or prevent the transmission of the coronavirus during in-person classes and Departmental operations	1. Emphasize the strict use of COVID-19 related PPE while doing in-person classes and while in the chemistry Department premises in: - Course Syllabus - Safety Agreement - Room and Hallway Signage - Grading component (optional) - Smart TV in the hallways
	2. Emphasize the PPE strict compliance during the course orientation and lab safety training.
	3. Align enforcement of " No mask, No entry " with NJCU public safety policy.
	4. Ensure adequate supply of PPE at all times.
	5. Coordinate the early procurement of COVID-19 related PPE with the CAS Dean's office before Fall 2020 reopening.
	6. Send out reminder emails to students before coming for in-person classes each week via Blackboard Ultra or NJCU email system.

	7. Use the online documentation and paper copy for faculty/staff and students for strict implementation of location tracking inside the Department premises, Science Building, and NJCU campus.
2. Frequent washing and disinfecting of hands and high-touch surfaces, and lab rooms/lecture rooms	1. Coordinate with EHS/Housekeeping Department the provision of hand-sanitizing gels in entrance doors of chemistry Department offices, lecture and lab rooms.
	2. Coordinate sanitizing and disinfecting supplies with the NJCU EHS team.
	3. Ensure that sanitizing supplies are always replenished or available.
	4. Emphasize strict cleaning/sanitizing compliance in: <ul style="list-style-type: none"> - Course Syllabus - Safety Agreement - Room and Hallway Signage - Grading component (optional) - Smart TV in the hallways
	5. Send out reminder emails to students before coming for in-person classes each week via Blackboard Ultra or NJCU email system.
	6. Coordinate with Housekeeping Department the posting of monitoring sheets on cleaning activities and products inside each lab/lecture room.
	7. Coordinate with Housekeeping Department the proper cleaning and disinfecting of lab rooms and lecture rooms in between classes. Submit class schedules to Housekeeping Department.
	8. Coordinate with Housekeeping the use of proper PPE during cleaning and disinfecting process.
3. Monitoring of COVID-19 exposure and symptoms through a centralized survey before coming to campus and monitoring of body temperature before entering an in-person class/lab room	1. Coordinate with the EHS or CAS Dean's Office the procurement of hand-held IR thermometers using the COVID-19 related funds.
	2. Coordinate with EHS team the use of NJCU pre-admission to campus buildings survey.
	3. Ensure students and staff submission of NJCU pre-admission to campus building survey.
	4. Monitor the faculty, staff and students' health conditions relating to coronavirus.
	5. Coordinate with EHS team the reporting of coronavirus cases in the Department and contact tracing.
	6. Include this coronavirus contagion prevention plan in the safety training for staff and students.
	7. Coordinate with EHS team the setting up of pre-admission/monitoring before students are allowed inside Science Building and inside Chemistry lab and lecture rooms.
4. Implementation of safety measures relevant during in-person classes	1. Procurement and provision of relevant materials, such as: <ul style="list-style-type: none"> - 5-gallon container to safely store students personal belongings and avoid use of wall hooks for jackets/coats - disinfectant wipes at each lab bench stations - non-touch disinfectant gel dispensers at the door and inside the lab rooms - foot-operated bins for used PPEs - safety signage in hallways, toilets, offices, and lab rooms - touch-less paper dispenser in lab rooms and toilets
	2. Use of color-coded sitting assignment for ease of traffic flow during in-person lab classes.

	3. Observe no sharing of lab materials, equipment and computer during lab session (one week idle time of disinfected equipment/ computer must be observed)
	4. Coordinate with FCM the conversion of some fume hoods into hand washing stations, if possible and as needed.

Contingency Plan in Case of Another Corona Virus Outbreak

Goal 4: *To have a contingency plan ready in case of another corona virus outbreak to avoid class disruption and provide important business continuity actions. Table 4 summarizes the strategies and actions to achieve Goal 4.*

Table 4 Goal 4 Strategies, Proposed Actions and Target Completion Dates

Strategy	Proposed Action
1. Availability of alternate remote teaching deliveries for both lab and lecture courses.	1. Emphasize the possibility of conversion to remote class delivery in case of another corona virus outbreak in: - Course syllabus - Course orientation session
	2. Prepare teaching materials for remote class delivery in case of another corona virus outbreak.
2. Safe and secured laboratory rooms, chemical stockroom and Chemistry Department premises	1. Maintain an updated chemical, hazardous wastes, and important lab materials inventory.
	2. Ensure all equipment and instruments are left on a safe mode and lab rooms are always in safe order and securely locked at all times.
	3. Maintain an active record and oversight contact information of all research activities in the labs.
	6. Ensure all research labs are maintained in an orderly manner, unplug hotplates/stirrers and lock research labs at all times.
3. Timely and proper health and safety communication among involved stakeholders during lockdown	1. Provide important Chemistry Department contact information to the EHS team and Public Safety.
	2. Coordinate and maintain a record of regular public safety checks of the Department premises.
	3. Conduct monthly virtual meeting for important operational, teaching and safety updates during lockdown.
4. Safe and timely lockdown decommissioning and monitoring of lab instruments, and building water system management	1. Turn-off instruments and laptops safely, and maintain inventory and date of decommissioning. Ensure all gas systems are in off position.
	2. Coordinate with FCM/EHS the proper management and monitoring of building water systems during lockdown.
5. Undergraduate research work that is flexible to student remote completion	1. Plan undergraduate research to allow remote work completion with constant virtual guidance from mentors in case of second outbreak lockdown.
	2. Provide loaner laptops to research students, as needed.

Other Relevant Reopening Concerns

Goal 5: *To ensure the timely completion of COVID-19 related tasks and contingency preparations prior to the reopening of Fall 2020, and the continued support from the administration and other departments to achieve the Chemistry Department reopening strategic goals. Table 5 summarizes the strategies and actions to achieve Goal 5.*

Table 5 Goal 5 Strategies, Proposed Actions and Target Completion Dates

Strategy	Proposed Action
1. Teamwork between the Chemistry Department and Office of CAS/Provost/Administration Leaders	1. Communicate regularly with the CAS Office the Department Reopening concerns and needs, and constantly follow-up on actions.
	2. Respond to the new NJCU COVID-19 related mandates, policies and guidelines.
2. Teamwork between the Department and FCM/EHS/Housekeeping Departments to ensure timely completion of reopening logistical needs	1. Communicate regularly with various support departments to ensure reopening preparedness and continuity of service for faculty, staff and students.
	2. Monitoring and documentations of concerns and actions.
3. Open communication among all stakeholders to obtain timely feedback and actions, and promote goal achievement	1. Encourage all stakeholders to email feedback and/or suggestions using the quickest possible communication mode. Respond to concerns in a timely manner.
4. Clear funding source for COVID-19 related needs to support the Department reopening efforts	1. Obtain funds availability details and clear procurement process of COVID-19 related materials prior to reopening and during Fall 2020.
	2. Emphasize to the NJCU administration and decision makers that the Department reopening goals require timely completion of strategic actions identified in Sections 1 to 4. These actions also require timely provisions of financial support and administrative actions.

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