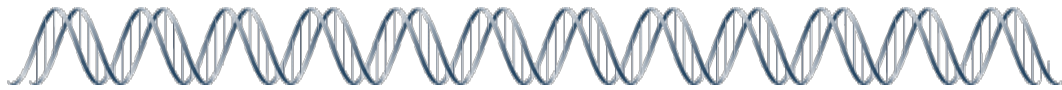


# **MASTER OF SCIENCE IN MOLECULAR BIOTECHNOLOGY**

**DEPARTMENT OF CLINICAL LABORATORY SCIENCES  
UNIVERSITY OF KANSAS MEDICAL CENTER**



**Graduate Student Guide  
Fall 2017**



**INFORMATION FOR GRADUATE STUDENTS**  
**IN THE**  
**MASTER OF SCIENCE IN MOLECULAR BIOTECHNOLOGY PROGRAM**

**DEPARTMENT OF CLINICAL LABORATORY SCIENCES**  
**UNIVERSITY OF KANSAS MEDICAL CENTER**

Welcome graduate students! We have prepared this document to assist you during your graduate studies in the Department of Clinical Laboratory Sciences. The information presented is a combination of Office of Graduate Studies and Departmental requirements. It is important that you become familiar with all of the pertinent Office of Graduate Studies rules and regulations as described in the Graduate catalog which can be found online at:

<http://catalog.ku.edu/graduate-studies/kumc/#text>

In addition to the Graduate catalog, the University of Kansas Medical Center (KUMC) maintains a student handbook that details the Policies and Guidelines of the KUMC campus, the campus calendar, and includes each individual school's handbook. The KUMC Student Handbook is available online (and is printable if you prefer a hard copy) at:

<http://www.kumc.edu/studenthandbook>

The School of Health Professions student handbook can be directly accessed at the following site:

<http://www.kumc.edu/school-of-health-professions/student-handbook.html>

As graduate students, you are responsible for the information obtained in these documents. It is important that you maintain a position in good standing within the Office of Graduate Studies, and that all requirements are fulfilled. The Graduate Director will be pleased to discuss any question or concern involving the graduate program. The attainment of an advanced degree is a difficult task but provides high reward. To reach the required level of knowledge and skill requires substantial effort at the laboratory bench, in formal coursework, and in the study of literature within the discipline. Because of the level of training excellence required and expected, each degree aspirant will be mentored, advised, counseled and encouraged throughout the program. While the responsibility for success lies with each student, the Department faculty wants every student to succeed. Consequently, the Department will make every effort to provide you with the best possible learning environment in order to give you the opportunity to reach your goal.

## Department of Clinical Laboratory Sciences

University of Kansas Medical Center  
3901 Rainbow Blvd.  
MS 4048  
Kansas City, Kansas 66160

Chair, Graduate Director Eric Elsinghorst G014C Eaton 8-1089 [eelsinghorst@kumc.edu](mailto:eelsinghorst@kumc.edu)  
(advising, degree requirements, rules and reg., anything)

Administrative Assistant Suzanne Russell G004A Eaton 8-5221 [srussell3@kumc.edu](mailto:srussell3@kumc.edu)

## School of Health Professions – Dean’s Office

Dean Abiodun Akinwuntan 1024 Murphy 8-5235 [aakinwuntan@kumc.edu](mailto:aakinwuntan@kumc.edu)

Executive Officer Anne Walker 1024 Murphy 8-5235 [awalker13@kumc.edu](mailto:awalker13@kumc.edu)

## School of Health Professions – Business Affairs, Student Affairs & Outreach

Director of Finance Erin Manuel 4040 SON 8-5277 [emanuel@kumc.edu](mailto:emanuel@kumc.edu)  
and Administration

Administrative Officer Christine Jones 4040 SON 8-5275 [cjones24@kumc.edu](mailto:cjones24@kumc.edu)

## School of Health Professions – Networking & Multimedia/Web Development

Network Specialist Tim Hunt 8-8966 [thunt2@kumc.edu](mailto:thunt2@kumc.edu)

Information Resource Terry Erisman 4044 SON 8-4411 [terisman@kumc.edu](mailto:terisman@kumc.edu)  
Specialist

## **KUMC Office of Graduate Studies**

*Graduate Studies processes all paperwork related to graduate students, faculty, degrees, programs and coursework.*

|   |               |                    |  |
|---|---------------|--------------------|--|
| Vice Chancellor<br>For Academic Affairs | Robert Klein  | 5018 Wescoe 8-2739 | <a href="mailto:rklein@kumc.edu">rklein@kumc.edu</a> |
| Dean of<br>Graduate Studies             | Michael Werle | 5008 Wescoe 8-7491 | <a href="mailto:mwerle@kumc.edu">mwerle@kumc.edu</a> |
| Director of Graduate<br>Studies         | Marcia Jones  | 5004 Wescoe 8-4876 | <a href="mailto:mjones@kumc.edu">mjones@kumc.edu</a> |

## **Interdisciplinary Graduate Program in Biomedical Sciences (IGPBS)**

|                     |               |                    |  |
|---------------------|---------------|--------------------|--|
| Director            | Michael Werle | 5008 Wescoe 8-7491 | <a href="mailto:mwerle@kumc.edu">mwerle@kumc.edu</a>     |
| Program Coordinator | Martin Graham | 5010 Wescoe 8-2719 | <a href="mailto:mgraham4@kumc.edu">mgraham4@kumc.edu</a> |

## **The Office of the Registrar 913-588-7055**

**Dykes Library**

<http://www.kumc.edu/student-services/office-of-the-registrar.html>

for:

- Change of Name
- Official verification of grades/or student enrollment (for insurance, work etc.)
- Residency questions
- Online transcript request
- Change of Address

## **Financial Aid – 913-588-5170**

**Dykes Library**

<http://www.kumc.edu/student-services/student-financial-aid.html>

for:

- Questions about financial aid-programs and process
- Scholarships and grant programs

## **IT Help Desk Customer Support 913-588-7995**

<http://www.kumc.edu/information-resources.html>

for:

- Email accounts
- Computer Access problems
- Protocol for the help desk to follow when helping you with your email account

## Student Health

<http://www.kumc.edu/student-services/student-health-services.html>

**Student Center 1<sup>st</sup> floor 913-588-1941**

for:

- Immunizations, Appointments for health/sickness
- Appointments 588-1941
- KUMC Student Counseling Center 588-6580
- KUMC Emergency 588-6500
- KUMC Switchboard 588-5000

## ATM Machines can be found:

- Court Yard Café
- Outside the Hospital Cafeteria

**KUMC Credit Union** is located; 1035 Delp; at 913-588-5375

<http://www.kumccu.org>

(notary public: \$2 fee for non-members)

**Dykes Library** 913-588-7166

<http://library.kumc.edu>

Lost and Found is located in Dykes Library

**KUMC Bookstore** 913-588-2537

<http://www.kubookstore.com>

## KUMC Police

<http://www.kumc.edu/police>

For immediate access to the campus police, pick up or activate any blue phone on campus - any day, any time.

You do not need to dial.

115 Support Services Facility

2100 West 36 Avenue

Kansas City, Kansas 66160-7145

- Emergency: 911
- **Non-Emergency: 913-588-5030**
- Lost & Found: 913-588-5177
- Escort service starts at 6PM covering the area between Chester St (N), 43<sup>rd</sup> St (S), Fisher St (W) and State Line Rd (E). Dial 8-5030.

## KUMC Environment, Health, and Safety Office

<http://www2.kumc.edu/safety/index.htm>

**Links for Health and Safety Programs and Policies**

<http://www.kumc.edu/environment-health-and-safety-office/helpful-links.html>

**Chemical Safety (including Hazardous Materials)**

<http://www.kumc.edu/environment-health-and-safety-office/chemical-safety.html>

### **KUMC No Smoking Policy**

<https://policy.ku.edu/kumc/smoking-policy>

The KUMC campus is smoke-free and the use of tobacco products is prohibited inside and outside - anywhere considered to be a part of our campus property.

### **Guidelines for Soliciting and Selling**

<https://policy.ku.edu/kumc/use-university-space-and-resources>

## PROGRAM INFORMATION

**Curriculum.** The general mission of the MS in Molecular Biotechnology program is to provide broad-based knowledge and skills to prepare students for advanced careers in molecular biotechnology settings, such as molecular bioscience-oriented clinical, industrial and research laboratories. To realize this mission, the curriculum is structured to provide a firm foundation in the principles underlying modern biotechnology while integrating this theoretical understanding with intensive training in a variety of laboratory skills. The curriculum combines traditional coursework as well as practicum-based experience. Students obtain training in the use and application of state-of-the-art methodologies and instrumentation as well as critical thinking, trouble shooting, and communication skills. The application of these skills to research and development is emphasized.

The Master of Science in Molecular Biotechnology is a minimum 40 credit hour program that can be completed in two years if taken on a full-time basis, as outlined below.

### YEAR 1: Fall Semester

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|---|
| <p><b>GSMC 850 Proteins and Metabolism (2 credit hours)</b></p> <ul style="list-style-type: none"> <li>Basic principles of metabolism, protein structure and an introduction to nucleic acids (9AM-11AM, Mondays and Wednesdays, first half of the fall semester)</li> </ul>  |
| <p><b>GSMC 851 Molecular Genetics (2 credit hours)</b></p> <ul style="list-style-type: none"> <li>Basic principles of molecular genetics, DNA replication, DNA repair, transcription, and translation (9AM-11AM, Mondays and Wednesdays, second half of the fall semester)</li> </ul>   |
| <p><b>GSMC 852 Introduction to Biomedical Research I (2 credit hours)</b></p> <ul style="list-style-type: none"> <li>Research problems, methods, and literature discussion that interfaces with the lecture content of GSMC 850 and GSMC 851 (9AM-11AM, Fridays, throughout the fall semester)</li> </ul>   |
| <p><b>GSMC 856 Introduction to Research Ethics (1 credit hour)</b></p> <ul style="list-style-type: none"> <li>Discussion of research ethics, including scientific fraud, plagiarism and misrepresentation, conflicts of interest, and confidentiality (9AM-11AM, Thursdays, first half of the fall semester)</li> </ul>   |
| <p><b>CLS 710 Molecular Techniques Lecture I (2 credit hours)</b></p> <ul style="list-style-type: none"> <li>Theory underlying molecular techniques involving recombinant DNA, genetic engineering, and genomics (1PM-2PM, Mondays and Thursdays, throughout the fall semester)</li> </ul>  |
| <p><b>CLS 711 Molecular Techniques Laboratory I (2 credit hours)</b></p> <ul style="list-style-type: none"> <li>Advanced laboratory with practical application of selected nucleic acid and cell culture techniques for research and clinical settings (2PM-4:30PM, Mondays and Thursdays, throughout the fall semester, many additional independent hours required in the laboratory)</li> </ul> |
| <p><b>CLS 740 Journal Club (1 credit hour)</b></p> <ul style="list-style-type: none"> <li>Analysis and presentation of articles from the literature</li> <li>This course meets 2-3:30PM, Fridays, throughout the semester</li> <li>This course alternates every fall semester with CLS 730 Current Issues in Biotechnology</li> </ul>   |

**YEAR 1: Spring Semester**

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| <b>GSMC 853 Cellular Structure (2 credit hours)</b> <ul style="list-style-type: none"><li>Basic principles of cellular structure and function, including lipid bilayer, membrane proteins, and cellular organelles (9AM-11AM, Mondays and Wednesdays, first half of the spring semester)</li></ul>   |
| <b>GSMC 854 Cell Communication (2 credit hours)</b> <ul style="list-style-type: none"><li>Basic principles of cellular communication, including G-protein-coupled signaling, cytoskeleton, cell cycle control, cell death, extracellular matrix, and cancer (9AM-11AM, Mondays and Wednesdays, second half of the spring semester)</li></ul>   |
| <b>GSMC 855 Introduction to Biomedical Research II (2 credit hours)</b> <ul style="list-style-type: none"><li>Research problems, methods, and literature discussion that interfaces with the lecture content of GSMC 853 and GSMC 854 (9AM-11AM, Fridays, throughout the spring semester)</li></ul>  |
| <b>CLS 720 Molecular Techniques Lecture II (2 credit hours)</b> <ul style="list-style-type: none"><li>Theory underlying protein purification, characterization, and analysis techniques including proteomics (1PM-2PM, Tuesdays and Thursdays, throughout the fall semester)</li></ul>   |
| <b>CLS 721 Molecular Techniques Laboratory II (2 credit hours)</b> <ul style="list-style-type: none"><li>Advanced laboratory with practical application of selected protein and immunological techniques for research and clinical settings (2PM-4:30PM, Tuesdays and Thursdays, throughout the fall semester, many additional independent hours required in the laboratory)</li></ul> |

**YEAR 2: Summer Semester**

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| <b>BIOL 702 Laboratory Practice: Radiation Safety Procedures (0.75 credit hours)</b> <ul style="list-style-type: none"><li>Structure of the atom, isotopes, and radioactivity with emphasis on radiation protection and safe handling of isotopes</li><li>This course meets 9AM-12PM, Monday-Friday, during the first week of the summer semester on the KU Lawrence campus</li></ul> |
| <b>BIOL 703 Radioisotopes and Radiation Safety in Research (1.25 credit hours)</b> <ul style="list-style-type: none"><li>Structure of the atom, isotopes, and radioactivity with emphasis on radiation protection and safe handling of isotopes</li><li>This course meets 9AM-12PM, Monday-Friday, during the second week of the summer semester on the KU Lawrence campus</li></ul>  |
| <b>CLS 750 Practicum I (4 credit hours)</b> <ul style="list-style-type: none"><li>Molecular diagnostics practicum performed in collaboration with laboratories in the Kansas City area</li></ul>  |

**YEAR 2: Fall Semester**

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| <b>CLS 751 Practicum II (5 credit hours)</b> <ul style="list-style-type: none"><li>Research performed in collaboration with laboratories at KUMC and other institutions in the Kansas City area</li></ul>  |
| <b>CLS 730 Current Issues in Biotechnology (1 credit hour)</b> <ul style="list-style-type: none"><li>Seminar series by academic and industry speakers on scientific, business, legal, social, and ethical issues in biotechnology</li><li>This course meets 2PM-3:30PM, Fridays, throughout the fall semester</li><li>This course alternates every fall semester with CLS 740 Journal Club</li></ul> |

**YEAR 2: Spring Semester**

|   |
|---|
| <b>CLS 752 Practicum III (5 credit hours)</b> <ul style="list-style-type: none"><li>Research performed in collaboration with molecular biotechnology-oriented industries in the Kansas City area</li></ul>  |
| <b>CLS 742 Scientific Writing (1 credit hour)</b> <ul style="list-style-type: none"><li>Development of scientific writing skills. This course will serve to guide students and monitor progress in completing the written component of the final general examination.</li></ul> |



**Practicum.** As indicated in the above outline, the program includes three practica. These practica are central to meeting the objective of providing a well-rounded experience in various aspects of the molecular biotechnology field. The practica are performed during the second year of the program, with one practicum during each of the Summer, Fall, and Spring semesters of that year. Each practicum is performed at a different site to provide a different molecular biotechnology emphasis. When enrolled in a practicum, your primary academic obligation is the practicum itself. Practicum studies are performed on a full-time basis (i.e., eight hours a day, Monday through Friday [CLS 750] or Monday through Thursday [CLS 751 & CLS 752]). This dedicated effort allows you to understand the theory and application of state-of-the-art molecular techniques and technologies in depth. Additionally, studying at a single practicum site for a full semester will allow you to gain an appreciation of the day-to-day opportunities, obligations, and realities of professionals working in molecular biotechnology settings. During a practicum, you will work with investigators, laboratory staff, and other members of the practicum site in the ongoing activities of the practicum site. In a research-oriented practicum, you will initially participate in an ongoing research project that will lead to independent research activities.

*Students must successfully complete the following courses prior to enrolling in practicum courses: CLS 710, CLS 711, CLS 720, CLS 721, GSMC 850, GSMC 851, GSMC 852, GSMC 853, GSMC 854, GSMC 855, and GSMC 856.*

Students are not expected to provide “service work” for the practicum sites during their rotations. Occasionally, a student may choose to be hired by a practicum site and the employment is outside the scheduled practicum hours (e.g., evenings or weekends). In such cases, the student is a *bona fide* employee of the site and the work is not considered to satisfy any part of the student’s practicum requirements.

**Degree completion.** A final general examination is required during your final spring semester in the program. This exam consists of a written and an oral examination. The written component consists of a grant proposal. The topic of the proposal is selected during the final fall semester. The development and writing of the proposal is accomplished as part of CLS 742, Scientific Writing. Once the final draft of the proposal is accepted by the CLS 742 instructor, the final oral defense will be scheduled. Completion of the written component is required preliminary to taking the comprehensive oral examination. The oral examination is a defense of your proposal and can include questions regarding your general knowledge of molecular biotechnology concepts and applications. A committee of three members of the graduate faculty administers the oral defense. Your performance on the oral defense will be rated as “Honors,” “Satisfactory” or “Unsatisfactory” and this rating will be forwarded to the Office of Graduate Studies. If the rating is “Unsatisfactory,” you may be allowed to repeat the examination, with the recommendation of the Department. The repeat examination may not be scheduled sooner than two months after the first attempt. Under no circumstances will the student be allowed to take the final oral defense more than twice. If a rating of at least “Satisfactory” is not achieved after the second attempt, the student will be dismissed from the program. The timeline for degree completion requirements will be

reviewed in the Fall and Spring advising meetings held between you and the Graduate Director (please see “Advising”, below).

You must be in good academic standing with the KUMC Office of Graduate Studies (i.e., enrolled in at least one credit hour in regular status with a minimum 3.0 cumulative GPA) to take the final general examination.

**Advising.** After admission, you will be assigned to the Graduate Advisory Committee, which will be responsible for insuring that you fulfill all requirements of the program and the Office of Graduate Studies. Individual advising meetings with your advisor will occur at the beginning of each semester, and additionally as required based on your academic performance. Before the start of the fall semester, new students will participate in an orientation that covers policies, requirements, and academic support services for the program and School of Health Professions.

## GENERAL INFORMATION

**Alertus system and Emergency Contact Information.** In order to increase campus safety, yellow Alertus units have been installed on walls around campus. The units are a way for the KUMC police department to communicate in real time during an emergency (e.g., severe weather that causes the need for immediate action, situations that affect public safety, hazardous spill or environmental danger). In an emergency, the Alertus units sound an alarm, flash lights, and display a text message with information and instructions. Additionally, an emergency e-mail goes out to all university accounts, and a text message is sent to those individuals who have provided their mobile phone number. All students who have provided phone numbers in Enroll&Pay will automatically receive emergency text messages. If you would like to opt-out of these emergency notification text messages, log onto Enroll & Pay, click on the “Emergency Contact Info” link in the Main menu, and follow the instructions.

**Financial Assistance.** If you have any questions regarding Financial Aid, please contact that office at (913) 588-5170 or link to: <http://www.kumc.edu/student-services/student-financial-aid.html>. Please be advised that financial aid applications and/or funds are not transferable from the KU Lawrence Campus to KUMC. If you are in need of financial aid while on this campus, you must apply through the KU Medical Center Financial Aid office at the number listed above. Send or submit all materials (i.e. papers, applications, and verifications) directly to that office. Information about scholarships available to current KUMC SHP students can be found at: <http://www.kumc.edu/school-of-health-professions/scholarships.html>

**Health Insurance.** KUMC students are required to have a complete health record on file in the Student Health Center. Please visit <http://www.kumc.edu/student-services/student-health-services.html> for information regarding requirements of the Student Health Services Office for KUMC students. From that site, you can download forms that must be completed and returned to the Student Health Services Office. All students at KUMC are required to maintain health insurance coverage throughout their enrollment. For information about health insurance available to KUMC students, visit <http://www.kumc.edu/student-services/student-health-insurance-.html>. Health insurance coverage is mandatory for all international students enrolled at the University of Kansas, regardless of their course load. Insurance coverage will be automatically included in international student tuition bills, and students will no longer be required to make separate payment arrangements. All questions relating to this information should be directed to Student Health Services, not the Clinical Laboratory Sciences department. The telephone number for Student Health Services is (913) 588-1941.

**Housing.** KUMC Student Services has contracted with a private company to provide a housing referral website: <http://www.kumcreatestatewithhonors.com>. The website is designed just for KUMC and free for anyone looking to buy or rent. You can search with

options such as property type, size, price and distance to campus. You can submit inquiries about listings, schedule showings online, and evaluate potential properties by accessing bird's-eye views, 3D maps, photos and detailed descriptions. Additionally, the site provides information about housing fairs, off-campus safety programs and other events and workshops, as well as access to information about living in the area and off-campus resources.

**Jayhawk Tech Clinic.** You can walk-up or schedule 30-minute appointments to discuss any IT issue you're having. Sign up for an appointment or find more info here: <http://www.kumc.edu/information-resources/jayhawk-tech-clinic.html>. Some of the highlights include:

- Help with any operating system issue, Mac or Windows
- Virus & malware cleanup and installation of free protection
- Smartphone and tablet assistance including setting up wi-fi, email, and calendars
- Performance tuning, registry cleaning, and disk defragmentation
- Assistance with implementing a backup strategy

**Mail.** You have been issued an KUMC Outlook e-mail account. All University business and department business is conducted only through your Outlook account, so check it regularly. If you have not already done so, you should access your account and change the password assigned to you. To use your e-mail account, go to <https://mail.kumc.edu/owa/auth/logon.aspx?replaceCurrent=1&url=http%3a%2f%2fmail.kumc.edu%2fowa%2f> then enter the username (UserID) and password provided in your e-mail message. Your Outlook account will be the only e-mail address used for program communications.

A mailbox for the receipt of campus and federal mail by Clinical Laboratory Science graduate students is located in the department office (G014 Eaton). Outgoing federal and campus mail can be deposited in the department office. Be certain to include Mail Stop (MS) numbers on items sent through campus mail. The MS number for the Clinical Laboratory Sciences department is MS4048.

**Name/Address Changes.** Students should notify the Office of the Registrar, 3001 Student Center, immediately of any name, telephone and/or address changes (<http://www.kumc.edu/student-services/enrollment-services.html>). Failure to notify the Registrar affects all records and communication with the University. Always notify the CLS Graduate Director of such changes as well. It is equally important that both offices have your current phone number(s) in the event of an emergency. The program does not disclose student telephone numbers and/or addresses. We do, however, need a way to contact you – even if your number is an unlisted one.

**Parking.** Students may purchase yellow parking permits on a space-available basis by contacting the Parking Services Office, 2100 West 36<sup>th</sup> Ave. Kansas City, KS 66160, (913)

588-5175, Monday through Friday, 8 AM–5PM (<http://www.kumc.edu/parking>). Online vehicle registration can be completed at: <https://kumparking.lprpermit.com/internal>. Shuttle service is available from satellite KUMC parking lots starting at 6:30AM and run about every 20 minutes throughout the day (more frequently during morning and evening rush hours). A map of the KUMC parking lots and shuttle stops can be found at: [http://www.kumc.edu/documents/parking/KUMC\\_parking\\_map.pdf](http://www.kumc.edu/documents/parking/KUMC_parking_map.pdf). A mobile phone app is available for tracking the location of KUMC shuttles. Information can be found at: <http://www.kumc.edu/parking/shuttle-service.html>.

If you are struggling to find a parking spot, call the Parking department at 913-588-5175. They will direct you to an available space, possibly in another color lot (red, etc.).

There is an after-hours security escort. After sunset, you can call campus police at 913-588-5030 for a free escort to your car, if it is on or near campus.

**Student Support Services.** KUMC offers various support services to the student community. Visit: <http://www.kumc.edu/student-services.html>.

The Student Counseling and Educational Support Services office provides psychological services and educational assistance to students. Services are provided by qualified professional staff and are confidential and free of charge. These services range from personal counseling to learning resources, services for student with disabilities, and recreational opportunities. Visit <http://www.kumc.edu/student-services/counseling-and-educational-support-services.html>.

The KUMC Archie R. Dykes Health Sciences Library is one of the most complete medical libraries in the Midwest. The Dykes Library holds 173,000 volumes, 1,500 periodicals, and computer access to other libraries and databases. Reference resources, literature search, and interlibrary loan services are available through the library. The library also houses computers that are available for internet access, personal computing, and completing computer-based assignments. For more information, visit <http://library.kumc.edu>.

The Information Resources Office (<http://www.kumc.edu/information-resources.html>) offers a wide range of services for students. The Teaching & Learning Technology division offers orientation for online courses. Other services include classroom, auditorium, and audio/visual equipment reservation, ITV, DVD authoring, and technical assistance. For more information, visit: <http://www.kumc.edu/instructionalservices>.

Legal assistance is available to students that have been assessed the KUMC Required Campus Fee, and is provided by a private attorney licensed in Kansas and Missouri. Legal advice is available by appointment only. To learn how to schedule an appointment, visit <http://www.kumc.edu/student-services/vice-chancellor-of-student-services/student-legal-service.html>.

**Writing Center.** The Writing Center at KU Medical Center offers students and residents a welcoming place for discussing writing. Staffed by graduate writing specialist Andrés Rodríguez, Ph.D., the Center offers free tutoring on writing assignments, workshops and

presentations, resources, writing groups, and more. The goal is to make students more effective, confident writers by providing feedback on their work and advice on their writing process. The Writing Center has two locations on campus: 1020B Student Center and Dykes Library G011. Appointments can be made online ([writing@kumc.edu](mailto:writing@kumc.edu) or <https://medconsult.kumc.edu>) or by phone (913-945-8477; TTY: 711). Visit the Writing Center website: [www.kumc.edu/student-services/counseling-and-educational-support-services/services/writing-services.html](http://www.kumc.edu/student-services/counseling-and-educational-support-services/services/writing-services.html) for more information.

## ACADEMIC AND GRIEVANCE POLICIES

The Graduate Director shall obtain a statement for the student's file that verifies that the student has been informed of these regulations and conditions. The statement shall be signed and dated.

**Academic Standing.** The School of Health Professions academic and performance standards and policies are published in the School of Health Professions Student Handbook which can be accessed at: <http://www.kumc.edu/school-of-health-professions/student-handbook.html>. You must be capable of demonstrating knowledge obtained in the courses of the program. Academic failure precludes fulfillment of this requirement.

In order to remain in good standing in the program, you must maintain a “B” average (cumulative grade-point average [GPA] of at least 3.0 on a 4.0 scale). Only grades of “A” or “B” are considered satisfactory in graduate courses with a “CLS” designation. If a grade of “C” or below is obtained in a CLS course, the work is considered as unsatisfactory and will not count toward fulfilling degree requirements, and the course must be repeated the next semester in which the course is scheduled (provided that the cumulative GPA in the program is at least 3.0 at the start of that semester). For courses with a designation other than CLS, only grades of “A”, “B”, or “C” are considered satisfactory. If a grade below “C” is obtained in a non-CLS course, the work is considered as unsatisfactory and will not count toward fulfilling degree requirements, and the course must be repeated the next semester in which the course is scheduled (provided that the cumulative GPA in the program is at least 3.0 at the start of that semester). If a grade of “U” is obtained for any course graded on a U/S basis, the work is considered unsatisfactory and must be repeated the next semester in which the course is scheduled (provided that the cumulative GPA in the program is at least 3.0 at the start of that semester). Students can only repeat a course one (1) time and must achieve an acceptable grade on the second try or they will be dismissed from the program. Students are subject to dismissal if they earn two unsatisfactory grades while enrolled in the program. This condition applies to any combination of courses (e.g., unsatisfactory grades obtained during the repeat of a particular course, or unsatisfactory grades in two different courses).

If at any time your cumulative GPA falls below “B” (3.0 on a 4.0 scale), you will automatically be placed on academic probation by the KUMC Office of Graduate Studies and will be required to raise your cumulative GPA to at least a 3.0 during the next semester (including the summer semester). Failure to meet this requirement will result in a recommendation that you terminate graduate study.

You must be in good academic standing (i.e., enrolled in at least one credit hour in regular status with a minimum 3.0 cumulative GPA) during the semester in which you wish to take the final general examination. You must have a minimum 3.0 cumulative GPA at the end of your final semester in order to complete the program.



Provisional Admission. If you entered the program provisionally due to an undergraduate GPA of less than 3.0, you must achieve a minimum “B” (3.0) cumulative GPA your first semester. Failure to meet this requirement will result in program dismissal from the program.

**Accommodation of Individuals with Disabilities.** It is the policy of the University of Kansas Medical Center to provide reasonable accommodation to qualified individuals with known impairments that meet the statutory definition of a covered disability except where such accommodation would impose an undue hardship or present the threat of harm. Reasonable accommodation applies to all aspects of employment and all educational programs, services and activities. Persons with disabilities who are covered under this policy include students who satisfy eligibility criteria; and, with or without reasonable accommodation, meet the technical standards and matriculation requirements of the program. Please visit <http://www.kumc.edu/student-services/academic-accommodation-services.html> for more information about academic accommodation. Procedure for Requesting Accommodation. Students with documented disabilities who are enrolled at the University may direct their request for accommodation to Cynthia Ukoko (Senior Coordinator of Academic Accommodations) at [cukoko@kumc.edu](mailto:cukoko@kumc.edu) or 913-945-7035. To schedule an appointment online, go to <https://medconsult.kumc.edu>.

**Attendance.** Students in the Master of Science in Molecular Biotechnology program should become thoroughly knowledgeable with each course and professional criterion in preparing for a career in the life sciences. Class attendance is required because the complex material presented is essential for the professional development of the student. Lab and practicum assignments require performance of procedures and/or application of principles. All assignments and course objectives must be completed to the satisfaction of the instructor. The following policies apply to all courses with a “CLS” designation:

**1. Tardiness:**

- a) The student should adhere to the time set by the Instructor for class attendance. More than 15 minutes late shall constitute an absence.
- b) If the student is tardy to a lecture or laboratory course, he/she should explain the reason for the tardiness at the end of the period or at an appropriate time within the period. Tardiness at a practicum site should be explained on arrival at the site.

**2. Absence:**

- a) **Lectures** - Students are expected to attend all lectures. In the event of serious illness or emergency, the student must call the Instructor (or the Clinical Laboratory Sciences office if the Instructor cannot be reached) early that day to report she/he is ill and will not be in. Five percent (5%) will be deducted from the final grade each time absences are equal to the number of credit hours for that class (i.e., for a 2 credit hour course, if two classes are missed a 5% deduction will occur, if four classes are missed a 10% reduction



will occur). As stated above, being 15 minutes late will be considered an absence. At the discretion of the instructor, proper documentation for the absence may be required. Should a quiz or exam be missed, a separate exam may be allowed at the discretion of the instructor. The instructor will determine if the exam can be taken (meaning the cause for absence is acceptable) and what form of proper documentation is required. Excused absences will only be granted when a student follows policy and are given at the discretion of the instructor.

***Laboratories*** - Students are expected to attend all student lab sessions; in the event of serious illness or family emergency, the student must call the Instructor (or the Clinical Laboratory Sciences office if the Instructor cannot be reached) early that day to report she/he is ill and will not be in. Upon returning to classes it is the student's responsibility to contact the faculty member and to make arrangements to make up the time missed. In most courses, material covered in early labs is needed by the student in later labs. Failure to make up missed labs in a timely manner may result in a grade reduction for that course.

***Practicum Rotations*** - Students are expected to attend all practicum sessions. In the event of serious illness or family emergency, the student must call the practicum site AND the Clinical Laboratory Sciences Graduate Director early that day to report she/he is ill and will not be in. During practicum rotations, the maximum number of excused absences (for any reason) permitted is equal to the number of credit hours for that practicum. Any absences (whether due to illness or not) are expected to be made up on weekends, breaks, or by staying at the end of the semester for additional time corresponding to the that lost from absence. Failure to make up lost time will result in a grade reduction of 5% for every day not made up. No employment interviews should be scheduled during a practicum.

- b) If a student must be absent for three days or less because of extenuating circumstances, he/she must notify the office of the Department of Clinical Laboratory Sciences prior to the time the class(es) are scheduled to begin. If a student must be absent for greater than three days, he/she must notify the Graduate Director prior to the date the leave would commence. In addition, prior to starting the leave, the student must have received written approval from the Graduate Director and all faculty affected by the student's absence. After approval of the leave, the faculty and student will arrange a mutually agreeable schedule for the student to complete the material missed due to the absence. This could include weekends and/or student vacation times.
- c) Provision for make-up is at the discretion of the Instructor. Appeals for special consideration may be addressed to the Instructor involved and, if the appeal is not resolved, to the Graduate Director.

- d) A student having excessive absences may be withdrawn from the course by the Dean and assigned a grade of F. In the Department of Clinical Laboratory Sciences excessive absence is defined as days absent in excess of the number of credit hours in the course. Faculty members will file a report with the Graduate Director whenever a student has been absent without explanation for a consecutive number of days greater than the number of credit hours in the course. The Graduate Director will bring this continued absence to the attention of the KUMC Registrar. The presumption will be that the student has withdrawn from the course.

### 3. Leave of Absence:

- a) A student desiring to interrupt the curriculum for any reason (e.g., maternity/medical leave) may submit an application for Leave of Absence to the CLS Graduate Director. A leave of absence shall not exceed 12 months in length. The student may resume the program the next semester in which courses are scheduled, provided that the student meets the course prerequisites.
- b) KUMC Registrar policies and procedures for requesting a Leave of Absence can be found at <http://www.kumc.edu/student-services/office-of-the-registrar/current-students/dropping-and-withdrawing-from-classes.html>.
- c. Note: Individual course requirements regarding attendance may be more restrictive. Refer to the School of Health Professions Student Handbook for policies specific to the school. It is the student's responsibility to review the SHP policies: <http://www.kumc.edu/school-of-health-professions/student-handbook.html#attendance>.

**Course Evaluation.** Course evaluation by students is part of the continuing course improvement process. Therefore, your participation is very important. Evaluations for lecture and laboratory courses with a CLS prefix will be distributed by email the week prior to final examinations, and should be completed by the last day of class. When possible, time will be given in class to complete the evaluation. Participation is tracked; however, all student responses are anonymous and will only be presented to faculty as aggregate data. Due to the value that the CLS department places on these evaluations, your course grade may be withheld until the course evaluation is completed.

**Electronic Devices Policy.** Personal electronic devices include, but are not limited to: mobile phones, pagers, PDAs, recorders, digital cameras, MP3 players, laptop computers, and netbooks. Mobile phones, pagers, and other personal electronic devices must be off and out of sight in classrooms and laboratories. These electronic devices may be turned on and set on silent mode only with the expressed consent of the instructor.

A PDA, mobile phone, or a similar device cannot be used as a calculator without consent of the instructor. Any electronic device that is capable of recording, copying, imaging, playing

back, and/or recovering data are to be turned off and out of sight during examinations. Electronic devices may be used to record a lecture, presentation, interview or similar activity with prior permission of the individual being recorded. This permission does not extend to others who may be present. Verbal permission may be sufficient for recording within a class or meeting for personal use. However, written permission must be obtained prior to recording or transmitting someone's image or speech over the airwaves, in public, on the web, as part of a class assignment or any University sponsored activity or program. Accessibility to lectures or other materials by persons with disabilities should be accommodated as required by applicable policies and laws. Absence of permission may constitute a copyright violation.

Electronic devices used for the purposes of cheating or academic dishonesty will cause the student to be penalized under the Academic Misconduct policy of the School of Health Professions. A student may be found to have engaged in academic misconduct if he or she provides or receives inappropriate aid to or from another person in connection with a test, assignment or other material used or intended to be used to evaluate academic performance. This includes the unauthorized use of electronic devices to record, copy, photograph, or otherwise transmit related materials.

**English language requirements:** Students for whom English is a second language must satisfy at least ONE of the following requirements PRIOR to beginning the program. Official documentation of scores must be provided to the Admissions Committee.

All students MUST satisfy at least ONE of the following requirements:

- Be a citizen of a country where English is the native language, e.g. United States, Great Britain, Australia, New Zealand or English-speaking provinces in Canada.
- Earned a baccalaureate degree or higher from an institution in one of the countries listed above.
- Successfully passed (within the last two years) the academic format of the International English Language Testing System (IELTS).
  - Minimum Requirements: Overall score of 6.5 and no part score lower than 6.0.
- Successfully passed (within the last two years) the Internet Based TOEFL
  - Minimum requirements: 23 on the Reading and Listening Sections, 19 on the Writing Section.

**GRE score expectations:** For admission, the MS in Molecular Biotechnology program does not set minimal cut-off scores for the Verbal Reasoning and Quantitative Reasoning sections of the GRE general exam. Successful applicants typically score at least in the 70<sup>th</sup> percentile. Such scores indicate a good potential for successful completion of the program. An applicant must score at least a 2.5 in the Analytical Writing section to be considered for admission.

**Grievance procedure – Department of Clinical Laboratory Sciences:**

1. If the student has or anticipates a problem relating to status in the program, the student should consult the Graduate Director.
  - a. If the problem is of a general nature and is serious, the student and the Graduate Director should meet with the SHP Dean.
  
2. If the problem is with an individual faculty member, the student should communicate with the faculty member involved and together they should try to solve the problem.
  - a. If the problem is not resolved within a week, the student, the Graduate Director, the involved faculty member and the SHP Dean shall meet within the next week and work to resolution. At the discretion of the department, an extension may be granted. Documentation of this arrangement must be attached to the original notification.
  - b. It is within the discretion of the SHP Dean to talk to the student, the Graduate Director, and the faculty member (alone or in a group) to reach a resolution before the scheduled meeting.
  - c. At the time of the scheduled meeting within the second week, the student and the involved faculty member shall provide written documentation setting out problems and providing factual information in support of statements.
  - d. If more time is needed, all parties may meet again at specified date within a week.
  - e. If all parties agree to a resolution the decision will be binding and settlement will be without prejudice.
  - f. If the problem cannot be resolved among the parties, the SHP Dean will decide the issue.

Note: It is SHP policy that grievance procedures for grade disputes do not proceed beyond the departmental level.

**Grievance procedure – School of Health Professions:** The School of Health Professions Grievance Procedure may only be pursued after all departmental procedures have been exhausted. See School of Health Professions Student Handbook for information about the SHP grievance procedure: <http://www.kumc.edu/school-of-health-professions/student-handbook.html#appealprocedure>. Note: Grievance procedures for grade disputes do not proceed beyond the departmental level.

**Grooming and dress standards.** The University of Kansas Medical Center projects an image of professionalism in our community. The grooming and dress of our students and employees conveys a message of respect and credibility. Appearance and cleanliness are extremely important in meeting the standards set for the medical center. Students and employees have the opportunity to create a positive impression by consistently presenting themselves as models of cleanliness, modesty and conservative good taste.

The following standards should be practiced consistently:

### ***Grooming Standards***

- Practice daily oral hygiene.
- Bathe daily and use effective deodorant.
- Heavily-scented toiletries should be avoided.
- Fingernails should be clean, well-groomed and of a reasonable length.
  - ***Student should not wear artificial fingernails or extenders and should keep fingernails trimmed to ¼ inch above each finger in keeping with APIC standards.***
- Make-up should be conservative and in good taste.
- Hairstyles and facial hair should be clean and neatly groomed. Long hair must be tied back.
- Use of jewelry should be minimal and conservative.

### ***Clothing Standards***

- All garments must be fresh and clean.
- Uniforms: as designated by respective instructors or practicum sites.
- Shoe soles should be non-marking and without metal caps. Laced or loafer-type shoes are preferred. Shoes with open-toes are prohibited for the student's personal safety.
- Laboratory coats are worn over the uniforms during student labs and during other designated activities. Lab coats are provided for student use.

### ***Unacceptable Clothing***

- Revealing garments.
- Sweat clothing.
- Items of clothing imprinted with advertising or objectionable language.

### ***Tattoo and Piercing Standards***

- Tattoos are to be covered if possible and should not be offensive in nature.
- Non-traditional body piercings/jewelry typically worn on the tongue, lips, eyebrow and nose may not be worn.

The preceding standards are not all inclusive. The Clinical Laboratory Sciences Director of Graduate Studies has the option to implement specific additional guidelines within the framework of this policy. If there is a question as to the appropriateness of a particular item, it should not be worn without consulting your instructor. A student may be asked to return home to change clothing on his/her own time. Failure to follow standards may result in disciplinary action.

**Guidelines for Circumstances when a Student's Status is in Jeopardy.** Each department defines through the components of its written policies and the written statements of academic and non-academic misconduct, the expectations of that department's students. The department monitors each student's performance relative to these expectations. Should a student jeopardize his/her status in the department by not performing at the level

expected and defined by the department, the student will be notified in writing that his/her student status is in jeopardy. This notification will take place within five (5) working days from the time the department first becomes aware of the circumstances. Should this notification be necessary, the department will appoint an appropriate faculty advisor to be available to assist a student who is notified of their jeopardized status. This official written notification shall include the following information:

- a) the reason the student is being so notified
- b) the potential consequences of the circumstances
- c) the timeframe in which the student may attempt to rectify the situation
- d) the steps necessary to rectify the situation
- e) the name of the faculty advisor appointed to assist the student
- f) the consequences of the successful or unsuccessful attempt to resolve the matter in the specified timeframe\*

*\*At the discretion of the department, an extension may be granted.  
Documentation of this arrangement must be attached to the original notification.*

**Misconduct - Academic and Non-Academic.** Students should be absolutely certain that they are familiar with the rules, regulations, and procedures that define academic and non-academic misconduct. Failure to abide by regulations, or acts of academic or non-academic misconduct, may result in admonition, warning or censure and, in addition, may subject the student to reduction of grade, disciplinary probation, suspension, or expulsion in accordance with *University Senate Rules and Regulations*, Article II, Section 6 (<https://documents.ku.edu/policies/governance/USRR.htm#art2sect6>).

*Academic misconduct includes, but is not limited to:*

- Giving, receiving, or utilizing unauthorized aid on examinations, assignments, projects, and/or other undertakings.
- Plagiarism.
- Misrepresenting the source of academic work.
- During clinical education, placing a patient in needless jeopardy by acting or performing inappropriately.
- During clinical education, any breach or violation of the confidence of a person being served.
- Unethical practices in conducting and/or reporting research.
- Inappropriate use of electronic devices (see electronic devices policy).

*Acts of non-academic misconduct include but are not limited to:*

- Felony conviction involving moral turpitude (i.e., conduct that is considered contrary to community standards of justice, honesty, or good morals)
- Material misrepresentation concerning past achievements or present endeavors
- Habitual drug/alcohol/substance abuse
- Sexual or other forms of harassment

- Any other acts or omissions that, if the student were a credentialed practitioner could result in discipline by a credentialing agency

Detailed examples and policies regarding academic and non-academic misconduct are outlined in the SHP Student Handbook: <http://www.kumc.edu/school-of-health-professions/student-handbook.html>.

**Plagiarism.** Students must be aware that plagiarism is a very serious form of academic misconduct that can result in immediate dismissal from the program. Students should familiarize themselves with the various forms of plagiarism by visiting sites such as <http://www.lib.usm.edu/legacy/plag/whatisplag.php> and <http://plagiarism.org>.

**Training Requirements.** All new and continuing KUMC students are required *annually* to take (and complete at the level of competency indicated on each) the training modules identified below. Students will receive an email message from the KUMC administration regarding their online training requirements, including links to access the necessary training modules.

- Computer Security Awareness Training
  - Click on the “Computer Security Awareness Training” link. Complete the training and take the quiz.
- Environment, Health, and Safety Training
  - Click on the “Environment, Health, and Safety General Safety Tutorial” link. Complete the training and take the quiz. *Practicum sites will require students to adhere to their safety policies which may involve additional safety training.*
- Respect in the Classroom and Workplace
  - Click on the “Respect in the Classroom and Workplace: Preventing Prohibited Harassment” link. The page that appears lists all of the available training modules. Click the link for “Resident/Student Version”. Complete the training and take the quiz.
- Workplace Violence Training
  - Click on the “Workplace Violence Training” link. Complete the training and take the quiz.
- HIPAA Training
  - Click on the “HIPAA Training” link. The page that appears lists all the HIPAA training modules. Click on the “HIPAA Training for KUMC Students” link. Read all the sections of the training. You will need to successfully complete the quiz at the end of the training. *Practicum sites will require the student to adhere to their specific HIPAA policies, which may involve additional HIPAA training.*

- Student Confidentiality Agreement
  - Click on the “Student Confidentiality Agreement” link, read the agreement page, checking the “I understand and agree to the above” box, then click on the "I Accept" link. Print the page showing that shows your acceptance has been recorded and submit it to the Graduate Director for inclusion in your academic record. Practicum sites will require the student to adhere to their specific confidentiality policies, which may involve additional training as well as signing confidentiality agreements.

New students must complete the modules between 30 days before the start date of their program and not later than two weeks after classes begin. For continuing students, the 'window' each year to do the annual re-training on these modules is June 1-September 30. Students who do not comply will not be able to enroll in the following semester.



## PRACTICUM PROCEDURES AND POLICIES

After completing the core curriculum, students enroll in three semester-long practica. To enroll in a practicum, students must have successfully completed (with a grade of A or B) CLS710, CLS711, CLS720, and CLS721, as well as all GSMC courses (with a grade of A, B, or C for GSMC courses). Additionally, students who are on probation cannot enroll in a practicum course. Each practicum is performed at a different site to provide experience at various research environments (e.g., academic, industrial, clinical laboratories) as well as provide experience with different molecular biotechnology approaches (e.g., genomic/genetic, proteomic/protein-protein interaction, cell signaling/development, etc.). A central focus of the practicum is to understand how research questions are formulated and answered by the scientific method. The general objective of the Practicum is to apply the knowledge and skills acquired through the required lecture, laboratory, and other practicum courses by addressing a substantial practical problem in a realistic setting. Additionally, the student gains and applies additional knowledge and skills that are pertinent to the practicum research project.

During a practicum, students work with investigators, laboratory staff, and other members of the practicum site in the ongoing activities of the practicum site. Students participate in an ongoing research project that leads to independent research activities. While enrolled in a practicum, the primary academic obligation is at the practicum site, and students engage in their practicum-associated activities on a full-time basis. This dedicated effort allows students to understand the theory and application of state-of-the-art molecular techniques and technologies in depth. Additionally, studying at a single practicum site for a full semester allows students to gain an appreciation of the day-to-day opportunities, obligations, and realities of professionals working in molecular biotechnology settings.

While the student is guided by the practicum site scientific mentor, as well as other practicum site staff members and the Graduate Director, learning at a practicum site is the student's responsibility (you get out of it what you put into it).

### Practicum Courses.

CLS 750 Practicum I . This practicum occurs during the 3<sup>rd</sup> through 8<sup>th</sup> weeks of the summer semester. During these weeks, the student is expected to be present at the practicum site full-time, Monday through Friday.

CLS 751 Practicum II. This practicum occurs during the Fall semester, for the entire semester. During this rotation, student is expected to be present at the practicum site full-time, Monday through Thursday.

CLS 752 Practicum III. This practicum occurs during the Spring semester, for the entire semester. During this rotation, student is expected to be present at the practicum site full-time, Monday through Thursday.

The official dates of each practicum course will vary according to the academic calendar, and generally will correspond to the first day of the semester through the final day of classes (i.e., the day before Stop Day). Depending on the needs of the student and/or practicum mentor, alternate start and stop days can be arranged. As stated in the Graduate Student Guide, students are expected to attend all practicum sessions. In the event of serious illness or family emergency, the student must call the practicum site AND the Clinical Laboratory Sciences Graduate Director early that day to report that she/he will not be in. The maximum number of excused absences (e.g., illness or family emergency) permitted is equal to the number of credit hours for the practicum. Any absences (whether due to illness or not) are expected to be made up on weekends, breaks, or by staying at the end of the semester for additional time corresponding to the that lost from absence. Failure to make up lost time will result in a grade reduction of 5% for every day not made up.

While practicum study is full-time, the daily start time at the practicum site is established by the site. For example, some laboratories work on an 8AM-5PM schedule while others may start later in the day or have variable hours depending on the experiments being performed.

**Practicum Grading.** There are three components to a grade for a practicum course: a performance evaluation, written exam(s), and a paper.

*Performance evaluation.* Student performance is evaluated by the practicum site scientific mentor and other person(s) working most closely with the student at the site. The evaluator(s) use a standard evaluation form. A copy of the evaluation form is included in this Guide so that the evaluation criteria are known. The practicum evaluation is worth 40% of the grade.

*Written Exam(s).* Exams are written by the practicum scientific mentor and the person(s) with whom the student works most closely. For CLS 750, there is one exam. For CLS 751 and CLS 752, there are two exams. Exam due dates are determined at the start of each practicum. The format is open book/take home and primarily short answer and essay. The questions probe the students understanding of the practicum subject material, and the ability to problem-solve, interpret outcomes, and apply knowledge in new situations. The student has one week to complete the questions and return them to the site mentor. Although they are open book exams, the student is expected to work independently and the person(s) who generated the exams cannot be used as a resource to answer the questions. Exams are worth a total of 40% of the grade for the practicum.

*Paper.* The written report paper is a summary of the experiments performed and the results obtained during the practicum. The report is written in the format of a scientific paper (i.e., Abstract, Introduction, Materials and Methods, Results, Discussion, References). Data included within the paper must be approved for release by the practicum site mentor. It is anticipated that the text of such a report should be a minimum of at least 15 pages (plus extra pages for data, references, etc.). The practicum paper is to be completed and submitted to the practicum site mentor and the

CLS instructor within one week after the final day of the practicum. The paper is worth 20% of the grade for the practicum.

**Site Identification/Selection.** In the semester prior to a practicum, a potential site(s) for the upcoming practicum will be identified through discussions with the Graduate Director and are based on your interests and career objectives. When a potential site is identified, the Graduate Director will contact the scientific mentor for that site regarding your interest. At this time, and with your permission, your résumé and academic transcript will be made available to the scientific mentor. If she/he is potentially interested in serving as your mentor, an interview will be scheduled. This interview serves the purpose of allowing both you and the mentor to determine if the site is a good match. During the interview, the mentor will describe the project(s) you would pursue during the practicum. If all parties agree (including the Graduate Director), the site is selected. This matching process will continue as necessary. Prior to the start of the practicum, the scientific mentor will provide readings/citations which are to be read in preparation for the practicum.

**Statement of Objectives.** Once the site identification process is completed, a “Statement of Practicum Objectives” is written. This Statement includes “Background”, “Scope of Work”, and “Deliverables” sections. The Background section provides information leading to the scientific question(s) being addressed during the practicum. The “Scope of Work” section describes the scientific question itself, and discusses the objectives and methods of the project. The Deliverables section identifies the requirements for successful completion of the practicum (i.e., evaluation, exam(s), paper, notebooks, presentation, etc). The Background and Scope of Work sections may be authored by the mentor or by the student with the mentor’s guidance. The Deliverables section is authored by the Graduate Director and the scientific mentor.

**Progress Review.** You will meet formally on a regular basis with your site mentor to review your performance and progress. Additionally, you will meet regularly with the CLS instructor (e.g., either on site, or when you are on the KUMC campus for other program courses) to discuss how your practicum is proceeding, to identify any problems arising during the practicum, and to discuss other issues pertaining to the practicum. The CLS instructor also will meet and communicate with your practicum site mentor regarding the same issues.

**Notebooks.** All experimental data will be kept in provided laboratory notebooks specific to the practicum and returned to the practicum site mentor at the end of the practicum.

**Presentation.** At the discretion of the practicum scientific mentor, a 20-30 minute PowerPoint-style oral presentation summarizing the objectives, methods, and results of the performed experiments will be presented to the practicum site mentor, other site staff, and the CLS instructor during the final week of the practicum.

### General Practicum Objectives.

- A. Relate coursework, research, and experience to actual situations and problems in molecular biotechnology under an experienced on-site supervisor.
- B. Become acquainted with the duties, responsibilities, and roles of professional personnel in the biotechnology sector.
- C. Gain a basic understanding of the policies, guidelines and procedures associated with the biotechnology sector.
- D. Learn how to work with and through others to achieve common objectives.
- E. Gain information about the sponsoring practicum site as well as corporations, institutions, and organizations, both complementary and competing, with which the practicum site interacts.

### Specific Practicum Objectives.

- A. Explain the background, underlying theory, and objectives associated with the assigned project.
- B. Explain the theory and application of any molecular technologies/techniques required for the assigned project.
- C. Design experiments to address specific research questions.
- D. Perform molecular techniques as required for the assigned project.
- E. Evaluate experimental outcomes.
- F. Adjust conditions to problem-solve experimental approaches and procedures.
- G. Apply knowledge to address questions associated with the assigned project.
- H. Efficiently organize and coordinate workload.
- I. Assemble, manipulate, calibrate and maintain molecular equipment and instrumentation.
- J. Develop or modify protocols as appropriate to the assigned project.
- K. Implement safety and quality control procedures for the assigned project or other tasks.
- L. Implement directions and constructive suggestions.
- M. Perform tasks as deemed appropriate by the scientific mentor and laboratory staff.

### Personal Appearance.

1. Attire
  - a. Students should be aware that practicum sites may choose to enforce a stricter code of dress and conduct than those outlined in this Guide. Students not conforming to these codes may not be accepted or maintained at the practicum site and, consequently, may jeopardize their continued enrollment and progress in the program.
  - b. Neat clean, closed toe shoes will be worn. Any required uniforms, laboratory coats, and shoes will be clean, neat, and in good condition at all times.
  - c. Identification badges may be provided by a practicum site. If an identification badge is not provided, the student shall wear their KUMC identification badge.

Badges are to be worn in plain view at all times while on the premises of the practicum site.

## 2. Personal Hygiene

- a. All students will bathe regularly and wear an effective deodorant. Strong aromatic scents should not be used. Conservative hair-style and reasonable fingernail length is required. All long hair will be pulled back and fastened. Students are expected to abide by regulations set by practicum sites regarding personal appearance criteria.

**Professional Conduct.** Students will conduct themselves in a professional manner at all times during a practicum. Specific conduct codes as defined in each institution's policy manual will be adhered to while at the site. The student is expected to follow the Clinical Laboratory Science Department's Code of Ethics for Graduate Students.

### *Clinical Laboratory Science Department - Code of Ethics and Conduct for Graduate Students*

We, as graduate students in the Department of Clinical Laboratory Science, will apply the following code of ethics and conduct to our actions towards program faculty and scientific mentors, fellow students, practicum site staff and members, patients, physicians, and other personnel in our program. This code will apply to our personal as well as professional attitudes and conduct.

*As PROFESSIONALS we will:*

1. Assume a professional manner in conduct and attire.
2. Establish a rapport with practicum site mentors, laboratory staff, and other members of the practicum site.
3. Hold in confidence any confidential information.
4. Strive for increased efficiency and quality through organization.
5. Be willing to accept responsibility for our own work and results.

*In PERSONAL conduct we will:*

1. Achieve the highest degree of honesty and integrity.
2. Maintain adaptability in action and attitude.
3. Establish a sense of fraternity among fellow students.
4. Strive to have a pleasant manner in the laboratory.
5. Remember that we are University of Kansas as well as Clinical Laboratory Science graduate students, and therefore, we should strive to be educated individuals outside our scientific field.

**Medical Records and Patient Data.** Students will receive KUMC HIPPA training, but each practicum site may administer HIPPA training at their discretion. The discussion of any patient information outside of the laboratory setting is not permissible.

**Malpractice Liability/Health and Accident Liability.** All students in the Department of Clinical Laboratory Sciences are covered by professional liability insurance.

**Confidentiality.** All scientific data, and institutional and patient information will be held in the strictest confidence at all times. Release of scientific data is at the discretion of the practicum site scientific mentor. Confidential information is not to be discussed with any unauthorized individuals. Students may be required to sign a confidentiality statement at practicum sites. Violation of confidentiality policies and/or of other practicum site policies may result in the dismissal of the student from the practicum site and the practicum course.



- Maintains an orderly work area (Rating: )
- Attentive to and compliant with verbal or written instructions (Rating: )
- Works independently (Rating: )
- Maintains accurate and thorough records (Rating: )
- Follows safety policies and procedures of the laboratory (Rating: )

**3. Personal Performance**

- Exhibits dedication (Rating: )
- Exhibits maturity (Rating: )
- Exhibits responsibility (Rating: )
- Exhibits reliability (Rating: )
- Treats others with courtesy and respect (Rating: )
- Is prompt (Rating: )
- Accepts constructive criticism (Rating: )
- Exhibits initiative (Rating: )

**4. Overall Performance**

Comments:



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**DEPARTMENT OF CLINICAL LABORATORY SCIENCES - UNIVERSITY OF KANSAS MEDICAL CENTER**

***CERTIFICATION OF RECEIPT***

I do hereby acknowledge that I have received a copy of the current *Master of Science in Molecular Biotechnology Graduate Student Guide*, and that I have read and understood the policies and procedures, and will abide by the regulations listed therein.

I have also been provided an opportunity to question the Clinical Laboratory Science Graduate Director about content that I do not understand and I realize that failure to return this form prevents me from entering a practicum site.

Date of Orientation: August 15, 2017

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

***PRACTICUM ROTATION AGREEMENT***

In consideration for participating in practicum learning experiences (hereinafter referred to as PRACTICUM) at any facility (hereinafter referred to as the FACILITY) where I may be assigned, I hereby agree to the following:

1. To follow the administrative policies, standards and practices of the FACILITY when in the FACILITY.
2. To report to the FACILITY on time and to follow all established regulations of the FACILITY.
3. To keep in confidence all medical, health, financial and social information (including mental health) pertaining to particular clients or patients.
4. To not publish any material related to my PRACTICUM that identifies or uses the name of the FACILITY unless I have received written permission from the FACILITY.
5. To comply with all federal, state and local laws regarding the use, possession, manufacture or distribution of alcohol and controlled substances.
6. To arrange for and be solely responsible for my living accommodations while at the FACILITY.
7. To provide the necessary and appropriate uniforms and supplies required where not provided by the FACILITY.
8. To wear a name tag that clearly identifies me as a student. Further, I understand and agree, otherwise in writing, that I will not receive any monetary compensation from the FACILITY for any services that I provide to the FACILITY or its clients, students, faculty or staff as a part of my PRACTICUM.

(continued on next page)

Unless otherwise agreed upon in writing, I also understand and agree that I shall not be deemed to be employed by or an agent of the FACILITY; that the FACILITY assumes no responsibilities as to me as may be imposed upon an employer under any law, regulation or ordinance; that I am not entitled to any benefits available to employees; and therefore, I agree not to in any way to hold myself out as an employee of the FACILITY. I understand and agree that I may be immediately withdrawn from the PRACTICUM based upon a lack of competency on my part, my failure to comply with the rules and policies of the FACILITY, if I pose a direct threat to the health or safety of others or, for any other misconduct as outlined in the Graduate Student Guide.

I understand that all medical or health care (emergency or otherwise) that I receive at the FACILITY will be my sole responsibility and expense.

I have read, or have had read to me, the above statements, and understand them as they apply to me. I hereby certify that I am eighteen (18) years of age or older; that I am legally competent to execute this Practicum Rotation Agreement; that I have read carefully and understand the above Practicum Rotation Agreement; and the I have freely and voluntarily signed this "Practicum Rotation Agreement".

**STUDENT:**

**WITNESS:**

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name

Eric A. Elsinghorst  
\_\_\_\_\_  
Printed Name

Date: August 15, 2017

Date: August 15, 2017