

**ANTR 585- Directed Study in Human Prosection  
(Virtual Prosection Module)**

Fall Semester - 2020  
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**Notice to Students:** Although Elective syllabi at MSUCOM have a consistent format; vitally important details differ by Elective. For this reason, you must read the syllabus thoroughly at the onset of each elective to understand what educational activities will be provided and what is expected of you.

## Section 1 – Course Information

### Elective Description

Due to the measures to contain spread of Corona virus, the original hands-on “Directed Study in Human Prosection” laboratory module has been temporarily replaced by a “Virtual Prosection/Surgical anatomy” module. The virtual option will be offered as a variable 1 – 3 credit hour elective, with eligibility to accumulate a maximum of 15 credits in all enrollments. Virtual dissection combined with surgically oriented individual assignments will offer the students an in-depth understanding of 3-D spatial relationships of anatomical structures. Furthermore, participation in the presentation of assignments will offer the students opportunities to discuss and correlate anatomical findings to surgical, physiological, pathological, pharmacological, and functional dynamics of the body.

### Course Goals

By completing this course, the student will:

1. gain experience, and demonstrate competence in virtual dissection/prosection.
2. gain in depth understanding of three-dimensional presentations of anatomy through virtual prosection.
3. develop the ability to work independently and responsibly, and interact with peers and faculty.

### Course Coordinator

*(Note - Preferred method of contact is shown in italics)*

Name: Loro LoLaja Kujjo, Ph.D.

Phone: 517-355-4526

Email: [kujjo@msu.edu](mailto:kujjo@msu.edu) (preferred method)

Address: A502B E. Fee Hall, 965 Fee Road, East Lansing, MI 48824

### Department of Radiology

Name: Kevin C. Robinson, D.O., Interim Chair

### Division of Human Anatomy

Name: Melanie McCollum, PhD, Director

### Staff or Student Coordinator

Name: Joshua Vincent

Phone: 517-353-3240

Email: [vincen29@msu.edu](mailto:vincen29@msu.edu) (preferred method)

### Instructors

#### East Lansing Campus

PX Faculty	Title	E-mail	Office Phone
Loro L. Kujjo, PhD	Course Director and Site course Coordinator	kujjo@msu.edu	355-4526

<b>John Fitzsimmons, MD</b>	Assistant Professor	fitzsi10@msu.edu	353-4547
<b>Nicole L. Geske, PhD</b>	Assistant Professor	geskenic@msu.edu	353-5269
<b>Lindsey Jenny, Ph.D.</b>	Assistant Professor	jennylin@msu.edu	353-5286
<b>William McMillan</b>	Human Anatomy Specialist	mcmill11@msu.edu	432-7147
<b>Maureen Schaefer, PhD</b>	Associate Professor	schae156@msu.edu	432-1372

### Grand Rapids Campus

PX Faculty	Title	E-mail	Office Phone
<b>Loro L. Kujjo, PhD</b>	Course Director	kujjo@msu.edu	355-4526
<b>Amber Heard-Booth, PhD</b>	Site Course Coordinator and Faculty @ GR	heardamb@msu.edu	616- 234-0988
<b>Sutton Williams</b>	Assistant Professor	will3506@msu.edu	616- 234-2623
<b>Ryan M. Tubbs, PhD</b>	Assistant Professor	tubbsrya@msu.edu	616- 234-2771

### Detroit Medical Center and Macomb Campuses

PX Lab Personnel	Title	E-mail	Office Phone
<b>Loro L. Kujjo, PhD</b>	Course Director	kujjo@msu.edu	355-4526
<b>Diana Hristova, MD, MSc</b>	Assistant Professor	hristov3@msu.edu	(313) 578-9612
<b>Sarah Tilden, PhD</b>	Site Course Coordinator and Faculty @ DMC	tildensa@msu.edu	(313) 578-9612
<b>Carrie L. Nazaroff, PhD</b>	Site Course Coordinator and Faculty @ MUC	tatarcar@msu.edu	(586) 263-6743

### Lines of Communication

- For administrative aspects of the Course: contact the course coordinator.
- For content questions relating to a specific lecture or topic: contact the faculty presenter for that specific portion of the course or your SE MI on-site instructor.
- For absences/missed exams (see excused absence information below)

### Office Hours

Questions concerning the elective may be discussed individually by making an appointment (best via email) with Dr Loro L. Kujjo (Course Coordinator, A519A East Fee Hall, East Lansing; phone: 517-355-4526; email: [kujjo@msu.edu](mailto:kujjo@msu.edu)), or may also contact the off-campus site Coordinator.

## Textbooks and Reference Materials

### Required

- Virtual Anatomy Dissection Programs: (Any electronic interactive Anatomy program that permits layer-by-layer dissection) e.g.:
  1. BioDigital (3 D Human Visualization Platform)
  2. VH Dissector, by Touch of Life Technologies (<http://www.toltech.net>). This is available for free through the MSU Division of Anatomy.
  3. Anatomy and Physiology Revealed (APR) by The McGraw-Hill Companies.
  4. A suitable program from the series Practice Anatomy Lab (PAL) by Pearson Education, Inc.

### Recommended Textbooks and Reference Materials

Although there are no required reading materials, the faculty involved EXPECT THE STUDENTS TO PREPARE FOR THE PROSECTIONS by reading more comprehensive texts and consulting anatomical atlases (books and electronic sources, etc); for example:

- **Atlases, Textbooks, Videos, and Websites:**
  1. an organ-system gross anatomy text (e.g. Martini et al.; McKinley et al.; Tortora and Nielsen; Van DeGraaff et al.)
  2. a regional anatomy book (e.g.: Hollinshead's; Grant's Atlas; or by Snell, or Moore et al.)
  3. an illustration atlas (e.g.: Clemente; Grants; Netter).
  4. a cadaver photographic atlas (e.g.: Rohen and Yokochi; McMinn et al.)
  5. Grant's Dissector (found in the Prosection room)
  6. VH Dissector, by Touch of Life Technologies (This program is available in the Gross Anatomy Labs. <http://www.toltech.net>)
  7. Acland Video Atlas of Human Anatomy Volumes 1-5; Highly Recommended
  8. <http://www.med.umich.edu/lrc/coursepages/m1/anatomy2010/html/INDEX.html> (some features need log-in)
  9. <http://ect.downstate.edu/courseware/haonline/index.htm> (go to the "Laboratory Dissections" section, click on the body region you want, and then click on "Laboratory Dissection Procedure")
  10. <http://www.lawrencegaltman.com> (then, continue to the following path: >> Cadaver dissections >> Cadaver Gallery).
  11. Browse the internet for other resources

### **Note:**

- *The MSU Library has numerous electronic and non-electronic Anatomy Textbooks, atlases and other resources. For more details, visit the library web-site ([MSU Library homepage](#)).*
- Ask the librarians for help with searches and securing any material.

### Elective Schedule

This elective is presented for 15 consecutive weeks. General scheduling for the educational activities of this elective are as follows:

## Elective Schedule

Day/Date	Times	Required Activities*	Specific Information
Dates specified for duration of elective	As agreed upon by students and faculty	Virtual prosection and surgical anatomy presentations, discussions as specified below*	Based on individual assignments

### \*Required Activities

#### A. Week-1 and Week-2

1. Students to use a virtual dissector program of their choice (e.g., BioDigital, VH Dissector, APR, etc.) to learn the anatomy of the regions assigned to them to prosect, as instructed in the provided prosection protocols.
2. By the end of week-2, students will be expected to demonstrate the ability to accurately identify the structures virtually dissected/studied during the previous weeks. Students will present their “virtual dissections” via Zoom.

**Note:** the specific anatomical objectives/structures to be identified are listed at the top of the prosection protocols.

#### B. Week-3 and Week-4:

1. During week-3, students will be expected to research topics in surgical anatomy, and prepare short presentations that address a series of objectives (topic specific, as approved by the instructor). The topics in surgical anatomy will be relevant to the anatomical region dissected by the students.
2. By the end of week-4, students will be expected to deliver a short presentation (via Zoom) to their peers and faculty; the contents should be limited to the pertinent aspects of the surgical anatomy learned during the previous week.
  - For example, a student working on the lower limb may investigate the anatomy of the hip as it relates to a total hip replacement from the anterior approach and the posterior approach. The student may discuss the main anatomical structures or features encountered during the surgical approach—what muscles are incised? What vessels or nerves must be identified and avoided? In what types of cases might one approach be preferred over the other? Etc.

#### C. Week-5 - Week-15

1. By following the instructions specified for week-1 – week-4, students will continue to do new virtual prosection and surgical anatomy projects until the total number of difficulty points are achieved.

## Required Exams/Assessments

All virtual ANTR-585 assignments this semester will be graded at completion of each assignment. One cumulative score will be used to determine the student's grade in the course. The assessment schedule is as follows:

Required (if applicable)	Projected Points	Material to be Covered
<b>A) Faculty assessment of virtual prosection at the end of Week – 2 for each prosection assignment</b>	10 – 50 points, depending on the difficulty level of assignment.	<ul style="list-style-type: none"> <li>• By the end of week 2, students will be expected to demonstrate the ability to accurately identify the structures virtually dissected/studied during the preceding weeks.</li> <li>• Main structures to be identified are listed on the first page of each prosection protocol.</li> <li>• Questions on Learning objectives posed on the first page of each prosection protocol.</li> <li>• Students will present their “virtual dissections” via Zoom.</li> </ul>
<b>B) Assessment of surgical anatomy presentation at the end of Week-4 for each prosection assignment.</b>	10 – 50 points	<ul style="list-style-type: none"> <li>• At the end of Week-4 for each prosection assignment, the students will be expected to demonstrate the ability to accurately identify the structures in the surgical field, as well as main or pertinent structures in close proximity.</li> <li>• Students will present their “virtual dissections” via Zoom.</li> </ul>
<b>C) Participation in discussions during peer's presentation.</b>	10 – 50 points	<ul style="list-style-type: none"> <li>• Actively listens to the presentations and discussions, and not distracted by devices or other unrelated phenomena.</li> <li>• Contributes to the discussions.</li> </ul>

## Required Proctoring Arrangements

None applicable to this elective.

## Elective Grades

A student's course grade is determined on **the basis of completion of prosection and surgically oriented anatomy assignment(s), as depicted in the following formula:**

$$\frac{(\text{Assignment 1} + \text{Assignment 2} + \text{Assignment 3...})}{(\text{Total points possible})} \times 100\% = \text{Final Percent Score}$$

- **P-Pass**—means that credit is granted and that the student achieved a level of performance judged to be satisfactory by the instructor. To obtain a “P” grade for this course, a student must successfully complete all required prosections.
- **N-No Grade**—means that no credit is granted and that the student did not achieve a level of performance judged to be satisfactory by the instructor. A student who fails to complete the required prosections in this elective will receive an “N” grade.
- Remediation - Since all of the Electives in the MSUCOM curriculum are optional, Students are not required to remediate the elective if an “N” grade is received.
- **ET-Extension Grade** — a grade of “ET-Extension (ET)” may be given due to occurrence of special or unusual circumstances, but a final grade must be reported upon completion of the final course work in the sequence or in the time approved for the completion of the work. If a final grade is not reported in this period, the ET will be changed to ET/0.0.

**NOTE:**

**1) A grade of “Pass/No”:** option is only available to CHM and COM medical students.

ALL other eligible students must take the Prosection Lab for a numerical grade (minimum is 3.0 for graduate students).

**2) Audit status:** This course is not available under a formal Audit status, nor can students “volunteer” their time under an informal “audit” status.

All first-time PX students MUST be enrolled (i.e. your name must be on the official MSU Registrar’s Class List) for at least 1-credit hour per semester.

**3) A grade of “ET-Extension (ET)”:** The “ET-Extension (ET) grade” requires a formal agreement between the Instructor and the student to have the work completed by the next semester when the prosection course is offered at MSU.

*The offices of the Dean will be informed of any N or ET/0.0 grades*

## Grading Rubrics

**Table 1:** Prosection/ Surgical Anatomy Assignments

To guarantee a Pass<sup>a</sup> or GPA of 3.0, the student must perform AT LEAST three assignments encompassing combination of prosection and surgical anatomy as defined below:

Assignment	Assignments required for 1 credit	Assignments required for 2 credits	Assignments required for 3 credits

<b>Virtual Prosection</b>	<i>Three prosections<sup>b</sup>, all above difficulty level 3, with “at least one prosection” at difficulty level 4</i>	<i>Three prosections<sup>b</sup>, all above difficulty level 3, with “at least one prosection” at difficulty level 5</i>	<i>Three prosections<sup>b</sup>, all above difficulty level 3, with “at least two prosections” at difficulty level 5</i>
<b>Surgical Anatomy</b>	<i>Three assignments<sup>b</sup>, each reflecting the preceding prosection</i>	<i>Three assignments<sup>b</sup>, each reflecting the preceding prosection</i>	<i>Three assignments<sup>b</sup>, each reflecting the preceding prosection</i>

<sup>a</sup>No Grade (N) will be scored for incomplete work and for a level of performance judged unsatisfactory by the instructor.

<sup>b</sup>also requires oral presentation (with little or no prompting) of all objectives for the particular prosection.

**Table 2: Virtual Prosection and Surgical Anatomy Evaluation**

Subjective competencies covering quality of work, meeting deadlines, participation in discussion, attitude have been used to structure the forms used to evaluate each assignment.

**Table 3: Prosection Assignment Point Values and Difficulty Levels**

To guarantee a Pass the student must accumulate AT LEAST the "Difficulty Points" (DP) totals defined for the credits the student have registered for, AND at least one assignment MUST be at Level 4 or 5.

<b>Level 1 (DP = 1) Score = 10 Points (T = 1-2 weeks)</b>	<b>Level 2 (DP = 2) Score = 20 Points (T = 2-3 weeks)</b>	<b>Level 3 (DP = 3) Score = 30 Points (T = 3-4 weeks)</b>	<b>Level 4 (DP = 4) Score = 40 Points (T = 4-5 weeks)</b>	<b>Level 5 (DP = 5) Score = 50 Points (T = 5-6 weeks)</b>
	Ant Sup Thorax Ant Sup Abdomen	Ant UL (muscular) Ant LL Ant Int Thorax	Ant Deep Thorax Ant Deep Abdomen	Ant Sup Head Ant Int Head Ant Deep Head Ant UL(Brachial plexus) Ant Int Abdomen
		Post UL Post LL Post Sup Back	Post Int Back	Post Laminectomy Back Post Deep Neck
<b>1 Ant whole Pelvis* (ligaments) 1 Post whole pelvis* (ligaments)  1 Heart 2 of the following - Abdominal Viscera - Palmar Hand - Dorsal Hand - Plantar Foot - Dorsal foot - Shoulder - Elbow Lig - Knee Lig - Foot Lig</b>	2 Superior Orbits 1 Vertebral Column (ligament) Anterior half pelvis* (neurovasculature)	Whole Pelvis* Diaphragm with viscera		

\*Ant = anterior; Post = posterior; Sup = superficial; Int = intermediate; UL = upper limb; LL = lower limb.

## Student Evaluation of the Course

We want your feedback on how to improve this course.

- Informal Feedback: Feel free to approach the Course Coordinator, Dr. Loro Kujjo, or any of the other course faculty with your reactions and suggestions. Or write out your comments and email them to the Course Coordinator or Faculty. From time to time, we may also convene focus groups of students, as an additional way to elicit your opinions and suggestions.
- Formal Evaluation: In addition to the above, we ask every student in the class to complete formal on-line Elective evaluation upon conclusion of the Elective. Student Elective evaluations are highly recommended. Student feedback provides Elective Coordinators with valuable information regarding their performance, the performance of their instructors and the quality of the Elective. The information gained from these evaluations is used to continuously improve future offerings of this Elective.

## Section 2 – Policies

Please refer to the [MSUCOM Student Handbook](#) for these and other policies.

### Academic Honesty and Professionalism

Every student is responsible for their behavior and is expected to adhere to all MSU and MSUCOM policies of academic honesty and professionalism, as outlined in the MSUCOM Student Handbook and the MSU Medical Student Rights and Responsibilities. These documents may be found on the MSUCOM website. Additional guidance on academic integrity may be found on the MSU Ombudsperson's website at <https://ombud.msu.edu/sites/default/files/content/Academic-Integrity-at-MSU-updated-August-2017.pdf>

Incidents of academic dishonesty or professional misconduct will be addressed by the faculty, administration, or staff; such action may include, but is not limited to: giving a failing grade, referring a student for judicial review, directing the student to the Associate Dean of Medical Education, evaluation by the Committee on Student Evaluation, and other actions outlined in the Medical Student Rights and Responsibilities document.

### Types of Class Sessions

MSUCOM designates lectures and other class sessions by their delivery method. While additional terms may be used in a specific course, the following will provide general guidance to the type of session:

- Live or livestream lecture: broadcast at a designated time; intended to be viewed synchronously.
- Online Lecture: recorded content, may be viewed asynchronously
- Webinar: more interactive session where student participation is expected
- Lab: may refer to on-site clinical skills training or online lab session; see details

### Changes to Course Schedule or Requirements

Due to external circumstances, the course requirements published in the course syllabus and/or course schedule may be subject to change. Timely notification Communication regarding changes will be provided to enrolled students via the course D2L site and/or email. Any changes made will consider the MSU Code of Teaching Responsibility and the MSU Medical Students Rights and Responsibilities.

### Mandatory and Optional Class Sessions

All lectures and other class sessions are considered to be integral to the course, and students are expected to attend, view, or participate in each session. Some sessions are designated as “mandatory” in that attendance at the session on the scheduled date and time is required. Depending on the course, a student may earn points for attending or participating in a mandatory session or may lose points for failing to attend or participate. Availability of make-up points for missed sessions is at the discretion of the course coordinator. Optional class sessions are offered by faculty to assist students in learning or reviewing course content.

### Absences from Mandatory and Examinations/Assessments

It is the responsibility of the student to know which class sessions are deemed as mandatory and comply with the MSUCOM policy regarding absences from mandatory sessions and examinations. This policy

may be found in the MSUCOM Student Handbook on the MSUCOM website. Requests for an excused absence must be submitted via the [student portal](#).

### **Computer-Based Testing**

It is the responsibility of each student to know and comply with the MSUCOM policy on computer-based testing. This policy may be found in the MSUCOM Student Handbook on the MSUCOM website.

Administration of quizzes, examinations, and other assessments may be self-proctored, virtual proctored, or classroom proctored. Regardless of the proctoring method, you are expected to take the exam in a quiet, private setting. Just like in a proctored exam, you are not to access notes, textbooks, references, your phone, or other materials, and you are not to interact with fellow students or others. Remember that integrity is defined as what you do when no one is looking.

You are also expected to not record, photograph, take screen shots, make notes of, or otherwise attempt to make a copy of any exam item for any purpose, including your personal use. A student who is discovered to have cheated or breached exam security will be subject to formal disciplinary action, up to and including dismissal from MSUCOM.

If you have concerns or evidence of an exam security breach on this or any exam, you may report that to an MSUCOM administrator or through the online concern form.

### **Medical Student Rights and Responsibilities**

If problems arise between instructor and student, both should attempt to resolve them by informal, direct discussions. If the problems remain unsolved, the Associate Dean for Medical Education and/or the MSU Ombudsperson may be consulted. The MSU Medical Student Rights and Responsibilities (MSRR) document defines processes for additional steps, including submission of a formal grievance. The MSSR may be found in the MSUCOM Student Handbook and online at [splife.studentlife.msu.edu](http://splife.studentlife.msu.edu).

### **Reef Polling (iClicker Cloud) Policy**

It is your responsibility to know and comply with the Reef Polling (iClicker Cloud) Policy. This policy may be found in the MSUCOM Student Handbook. If you forget your device or if it does not work, for whatever reason, no make-up experiences will be provided, and no points will be given.

If Reef Polling is used to take attendance for an on-campus event, you will be expected to arrive to the physical location on time and to stay for the duration of the assigned activity. If Reef Polling is used to take attendance for an online event, you will be expected to start the session at the scheduled time and participate for the duration of the assigned activity.

As a matter of professionalism, please note that under no circumstances should you provide access to their iClicker Reef account to another student by sharing your device and/or account login, nor should you accept another student's device or login credentials to access Reef Polling on their behalf. Answering questions or checking in for attendance on behalf of another student by using their device or account is considered to be academic dishonesty and may result in disciplinary action up to and including dismissal from the college.

## **Remediation**

The MSUCOM Policy for Retention, Promotion and Graduation requires successful completion of each required course to progress in the curriculum. If you receive an “N” grade in a course, that grade will be recorded on your official transcript; you must meet the course requirement by successfully remediating or repeating the course.

Eligibility to attempt remediation of the course is determined by criteria described in the “Course Grades” section of the syllabus. If you are not eligible to attempt remediation, or if you fail the remediation, you must retake the course, provided you are eligible to continue in the program as determined by the Committee on Student Evaluation.

## **Student Safety and Well-being**

The MSUCOM website and Student Handbook provide information on student safety, campus security, access to medical care and counseling services, and to policies on injuries and exposures. If you have an injury or acute illness on campus, an incident report should be completed. The form is available on the MSUCOM intranet or from Academic Programs.

## **Requests for Accommodations**

Michigan State University is committed to providing equal opportunity for participation in all programs, services and activities. Requests for accommodations by persons with disabilities may be made by contacting the Resource Center for Persons with Disabilities (RCPD) at 517-884-7273 or online at [rcpd.msu.edu](http://rcpd.msu.edu). Once eligibility for an accommodation has been determined, you may be issued a Verified Individualized Services and Accommodation (VISA) form. Each VISA includes an expiration date; to request an accommodation, you must have an active VISA. You may work with RCPD to renew a VISA.

During the preclerkship curriculum, the college will help to coordinate accommodations for additional testing time. Provide your VISA to Nancy Thoma, [thoman@msu.edu](mailto:thoman@msu.edu), A333 East Fee Hall at the start of the term and/or at least two weeks prior to the assessment event (test, project, labs, etc.). Requests for accommodations received with less notice will be honored whenever possible. You may choose whether or not you wish to use accommodations for a particular event. For other accommodations, you may also review your VISA with the course coordinator and curriculum assistant assigned to that course.

## **Title IX Notifications**

Michigan State University is committed to fostering a culture of caring and respect that is free of relationship violence and sexual misconduct, and to ensuring that all affected individuals have access to services. For information on reporting options, confidential advocacy and support resources, university policies and procedures, or how to make a difference on campus, visit the Title IX website at [titleix.msu.edu](http://titleix.msu.edu).

Limits to confidentiality. Essays, journals, and other materials submitted for this class are generally considered confidential pursuant to the University's student record policies. However, you should be aware that University employees, including instructors, may not be able to maintain confidentiality when it conflicts with their responsibility to report certain issues to protect the health and safety of MSU

community members and others. Instructors must report the following information to other University offices (including the Department of Police and Public Safety):

- Suspected child abuse/neglect, even if this maltreatment happened when you were a child;
- Allegations of sexual assault, relationship violence, stalking, or sexual harassment; and
- Credible threats of harm to oneself or to others.

These reports may trigger contact from a campus official who will want to talk with you about the incident that you have shared. In almost all cases, it will be your decision whether you wish to speak with that individual. If you would like to talk about these events in a more confidential setting, you are encouraged to make an appointment with the MSU Counseling and Psychiatric Services.

### **Addendum: Course Schedule**

Course schedule for the current semester will be posted to D2L. Changes to the course schedule will be noted on the class academic calendar (“Google calendar”) and communicated to students via D2L and/or email. The schedule for the most recent offering of this course will be posted on the MSUCOM website under Current Students/Preclerkship Curriculum.