

**MMG 531 – Medical Immunology**

Fall Semester 2 - 2022

Updated: 8.23.2022 SD/ JT

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**Notice to Students:** Although course syllabi at MSUCOM have a consistent format, important details differ by course. For this reason, you must read the syllabus thoroughly at the onset of each course to know what the course will provide and what is expected of you.

## Section 1 – Course Information

### Course Description

MMG531 is a 2-credit hour course that provides students with an understanding of the basic functions of cells and molecules that mediate immune responses and how the immune response relates to various clinical scenarios.

### Measurable Course Objectives

The American Osteopathic Association has identified osteopathic core competencies (OCC) essential for practice as a future osteopathic physician ([reference](#)). These are embedded throughout programmatic objectives and curriculum. The curricular structure also encourages proficiency in the Core Entrustable Professional Activities (EPAs) for Entering Residency as defined by the Association of American Medical Colleges to help build toward that future phase of the journey toward medical practice ([reference](#)). By the end of this specific course, learners should be able to achieve the following objectives within each competency domain indicated:

#### Medical Knowledge

1. Describe the human immune response at the systemic, tissue, cellular and molecular levels, and how it can maintain homeostasis and defend the body against infection by pathogens (*Microbiology/Immunology: MK-3.1.5*).
2. Describe the pathophysiologic basis of normal immune system function and protection from infection, as well as immune system defects seen in immune deficiencies, autoimmunity, transplant rejection, cancer, and hypersensitivities (*Pathology/Pathophysiology: MK-3.1.4*).
3. Describe the mechanisms of common immune-related pharmaceuticals used in the prevention, management, and treatment of immunological or infectious conditions and diseases (*Pharmacology: MK-3.1.6*).
4. Summarize anatomical and physiological structures that are involved in executing the immune response (*Anatomy/Physiology: MK-3.1.3*).
5. Review the molecular, developmental, and regulatory mechanisms of tissues and cells involved in orchestrating the immune response (*Molecular/Biochemical: MK-3.1.1*).
6. Detail the storage, expression, and modification of genetic information in relation to immune system function and the response to infectious diseases (*Genetics: MK-3.1.2*).

#### Patient Care and Procedural Skills

1. Recommend and interpret results of common immunological laboratory tests using evidence-based principles (*Diagnostic Testing: EPA 2*).

## Practice-Based Learning and Improvement

1. Practice using clinical decision-making tools and procedures, including the ability to form a clinical question and to retrieve and interpret evidence, within the context of infection and immune-related disorders and conditions (*Clinical Decision-Making: EPA 7*).

## Professional Development and Reflection Skills

Additionally, the American Osteopathic Association indicates several other competencies on which professional development and reflection across time will foster effective medical practice. These include the ability to work collaboratively as part of an interprofessional team; the maintenance of an inquisitive and scientific approach to learning and medical practice; and the adoption of self-direction in lifelong learning and clinical decision-making. This course will contribute to the development of these longitudinal competencies or skills as indicated:

## Self-Directed and Lifelong Learning

It is a goal of MSUCOM to promote self-directed learning (SDL) to help our students grow into strong, self-directed future clinicians. Self-directed learning is also required by medical school accreditation standards. SDL is a 4-step process that occurs within an encapsulated timeframe. One of the ways this will take shape in MMG 531 is through two (2) Self-Directed, Case-Based Learning modules and reports, **Diagnostic Immunology Cases 1** and **2**, which will unfold as follows:

1. **Self-Assessment of Learning Needs:** Students will be presented with cases along with guiding questions. They must then reflect on their knowledge to isolate learning needs with respect to these questions.
2. **Identification, Analysis, & Synthesis of Information:** Students will seek out and synthesize related information through activities such as reviewing course materials, locating reputable resources or peer-reviewed articles, and collaborating with pod members.
3. **Appraisal of Information Credibility:** After synthesizing gathered information, students will have the chance to appraise and apply their knowledge by completing a group case report together with the other members of their pod. Students may use a collaborative document editing software (Google Drive or Spartan 365) along with a supplied template in D2L which offers helpful information to guide their efforts and help them avoid common pitfalls.
4. **Feedback on Information-Seeking Skills:** Students will be provided feedback on their assignment through written feedback via D2L that may be addressed to the class in terms of holistic performance themes or to individual pods in terms of small group performance.

## Course Director

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

Name: John M. Taylor, Ph.D.

Phone: 586-263-6066

Email: [tayl3736@msu.edu](mailto:tayl3736@msu.edu) (preferred)

Address: Macomb University Center, 44575 Garfield Rd. Building UC4, Clinton Twp. MI, 48038

## Course Faculty

Name	Email	Phone	Site
Andrew Olive, Ph.D.	<a href="mailto:oliveand@msu.edu">oliveand@msu.edu</a>	517-884-5367	EL
Raquel Ritchie, Ph.D.	<a href="mailto:rritchie@msu.edu">rritchie@msu.edu</a>	586-263-6296	MUC
Melissa Rosenberg, M.D.	<a href="mailto:rosen119@msu.edu">rosen119@msu.edu</a>	517-353-3100	EL

## Curriculum Assistants

Site	Name	Email	Phone
DMC	Smita Deb (L)	<a href="mailto:debsmita@msu.edu">debsmita@msu.edu</a>	313-578-9628
East Lansing	Robin Borowski	<a href="mailto:chambe27@msu.edu">chambe27@msu.edu</a>	517-353-9515
MUC	Rose Shubeck	<a href="mailto:shubeckr@msu.edu">shubeckr@msu.edu</a>	586-226-4788

## Lines of Communication

- For administrative aspects of the Course, please contact the course director.
- For content questions relating to a specific lecture or topic, please contact the faculty presenter for that specific portion of the course, or your local site faculty member. Faculty members will do their best to try to reply to messages by the next business day.
- For absences/missed exams/quizzes, see excused absence information in “Section 2: Policies”, below.
- *Please set your D2L notifications to immediate in order to receive posted News announcements as this is the primary means of communication. You may choose to receive notifications by email or SMS.*

## Office Hours

Questions concerning the course or materials may be discussed individually by making an appointment with the Course Director or the Lecturer for the specific topic. Appointments and office hours will be conducted via Zoom (<https://msu.zoom.us/>), or in-person as permitted. Please contact Dr. Taylor directly ([tayl3736@msu.edu](mailto:tayl3736@msu.edu)) or check the MMG 531 D2L page for available individual appointment times. In addition, Dr. Taylor will plan to hold open Zoom small-group office hours throughout the course. Please review the MMG 531 schedule and D2L for more details on dates and times.

## Course Web Site

The URL for the Course website is: <https://d2l.msu.edu>

The course D2L site has these pertinent sections:

- **Announcements** – Course-related communication to the class will be made here. You should check the course D2L site for announcements daily.
- **Syllabus** – Contains the course syllabus with information about the instructional team, textbooks, exam dates, grading system, rules and regulations, etc.
- **Content** – Lecture outlines, lecture slides, video recordings, practice questions, self-directed learning assignments, and other course-related materials.
- **Communication** – Contains the course-related email system, the Discussion Forums, and Chat for submitting in-class questions.
- **Discussion Boards** – Organized by lecture topic. The discussion board is intended to be primarily student-led but will be monitored by faculty. Students are encouraged to post questions here as well as respond to each other's questions. Professional and courteous behavior is expected of all students using any and all forms of communication. In order to maintain security of assessments, you may NOT post questions or comments on the discussion board regarding exam or quiz questions.

## Textbooks and Reference Materials

### Required

- MMG 531 FS22 Course Materials (available on D2L)
- *Basic Immunology: Functions and Disorders of the Immune System*, 6<sup>th</sup> Edition (2019), Abbas, Lichtman & Shiv Pillai (Saunders/Elsevier) ISBN: 978-0-323-54943-1 ([Digital Copy of Basic Immunology: Functions and Disorders of the Immune System](#))

### Recommended

- *Clinical Immunology: Principles and Practice*, 5<sup>th</sup> Edition (2019), Robert R. Rich (Elsevier) ISBN: 978-0-7020-6896-6 ([Digital Copy of Clinical Immunology: Principles and Practice](#))
- *Medical Microbiology*, 9<sup>th</sup> Edition (2021), P.R. Murray, K.S. Rosenthal and M.A. Pfaller (Saunders/Elsevier) ISBN: 978-0-323-67322-8 ([Digital copy of Medical Microbiology](#))
- *Red Book 2018-2021: Report of the Committee on Infectious Diseases*. American Academy of Pediatrics. 32<sup>nd</sup> edition. ISBN: 978-1-61002-146-3 ([Digital Copy of Red Book](#))

## Course-based Academic Support

The course faculty are here to facilitate your learning. The large number of students in this course (about 300) necessitates a degree of formality. Also, since your schedules are very full, we must adhere rigidly to the lecture, small group and lab times assigned to this course. However, within these constraints, the needs of individual students will be accommodated whenever possible. Please feel free to contact the Course Director with any issues you may have involving this course.

Additional academic support resources can be accessed here: [MSUCOM Office of Academic Success and Career Planning](#).

## Courses Begin and End Dates

MMG531 begins on September 27, 2022, and ends on November 7, 2022. See the addendum for a detailed daily course schedule.

## Exams/Assessments

The successful achievement of learning objectives will require knowledge and skills acquired in other portions of the overall MSUCOM educational program. Students will be expected to apply concepts and vocabulary learned in other courses to problem-solving for exams/assessments in this course.

To maintain security of assessments, you may NOT post questions on the discussion board regarding exam questions or quiz questions. Kindly email your questions to the course director.

Assessments	Projected Points	Material to be Covered
Quiz #1 (on D2L)	2.5 *	Lectures 1-4
Quiz #2 (on D2L)	2.5 *	Lectures 5-8
<b>Unit Exam #3</b>	24	<b>Lectures 1-8</b>
Quiz #3 (on D2L)	2.5 *	Lectures 9-12
Quiz #4 (on D2L)	2.5 *	Lectures 13-17
Self-directed Case-Based Learning Report #1 (on D2L)	2.5	Diagnostic Immunology Cases 1 (SDL Activity) – <b>Due Wednesday, Oct. 26, at 11:59pm.</b>
<b>Unit Exam #4</b>	27	<b>Lectures 1-17</b>
Quiz #5 (on D2L)	2.5 *	Lectures 18-20
Quiz #6 (on D2L)	2.5 *	Lectures 21-25
Self-directed Case-Based Learning Report #2 (on D2L)	2.5	Diagnostic Immunology Cases 2 (SDL Activity) – <b>Due Wednesday, Nov. 2, at 11:59pm.</b>
<b>Unit Exam #5</b>	24	<b>All lectures, SDL materials, cases and application sessions</b>
<b>TOTAL PROJECTED POINTS</b>	<b>90</b>	

\*Please note: only your four (4) highest quiz scores will be kept and recorded.

### Quizzes:

Six quizzes will be administered **online using D2L**, one quiz occurring at the end of each week which covers that week's material. Only your four (4) best scores will be counted, and your two (2) lowest quiz scores will be dropped. Students who miss a quiz and wish to ask for a make-up assessment will be required to obtain an excused absence for the date in question from Academic Programs (see Section 2: Policies, below). These quizzes are closed book and must be completed individually.

## **Self-Directed Case-Based Learning in Immunology: Diagnostic Immunology Cases 1 and 2**

You will be asked to complete two (2) self-directed, case-based learning modules and reports, **Diagnostic Immunology Cases 1 and 2**, which unfold as described in the Professional Development and Reflection Skills listed on page 3 of this syllabus. These assignments shall be completed in your small group Pods, with Diagnostic Immunology Cases Report #1 due on Wednesday, Oct. 26, at 11:59pm., and Diagnostic Immunology Cases #2 due on Wednesday, Nov. 2, at 11:59pm. Please see the course D2L page for more information on these assignments.

### **Clinical Application Session:**

On Friday October 28<sup>th</sup>, 2022, there will be one (1) **live** Clinical Application Session in conjunction with PSL 539, to be conducted either via Zoom or live in-person and on-site as permitted, which will be evaluated on UE5 for MMG 531. Please refer to each course syllabus, the course pack announcement, and course D2L sites for specific details of the Session for each course.

## **Course Grades**

A student's course grade is determined by the following formula:

- $(\text{Sum of points scored on MMG 531 portions of Unit Exams \#3, \#4, and \#5}) + (\text{Points scored on highest four Quizzes \#1-6}) + (\text{Points earned on the Diagnostics Immunology Cases Self-Directed Learning Reports \#1 and 2}) / (\text{Total Points Possible}) \times 100\% = \text{Final Percent Score}$
- **P-Pass:** Credit is granted, and the student achieved a satisfactory level of performance. To obtain a "P" grade for this course, a student must obtain a final percent score of 70%.
- **N-No Grade:** No credit is granted as the student did not achieve a satisfactory level of performance. A student who earns an accumulated score below 70% will receive an "N" grade.
- **Remediation:** If you receive an "N" Grade, but earn an accumulated course percent score of at least 60%, you will be eligible to attempt remediation:
  - The remediation exam will be 50 questions, is comprehensive for the entire course, and a passing grade is  $\geq 70.0\%$  ( $\geq 35$  correct).
  - All remediation exams for Semester 2 are scheduled for **Tuesday, January 3<sup>rd</sup>, 2023, and Wednesday, January 4<sup>th</sup>, 2023.**
  - Please refer to the remediation policy information provided in Section 2 of this syllabus ("Remediation") for information on college requirements and eligibility determination.

## **Student Evaluation of the Course**

We want your feedback on how to improve this course.

- **Informal Feedback:** Feel free to approach the Course director, Dr. John Taylor, or any of the other course faculty with your reactions and suggestions.
- **Formal Evaluation:** In addition to the above, we ask every student in the class to complete formal on-line course evaluation upon conclusion of the course. Student feedback provides Course Directors with valuable information regarding their performance, the performance of their colleagues, and the quality of the course. The information gained from these evaluations is used to continuously improve future offerings of this course. Student in the Class of 2026 can access the evaluation system at: <https://msucom.medtricslab.com/users/login/>

## Section 2 – Policies

Please refer to the Student Handbook at <https://com.msu.edu/current-students/student-handbook-course-catalog> 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 director. 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).

## **iClicker Student Policy**

It is your responsibility to know and comply with the iClicker Student 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 iClicker Student 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 iClicker Student 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 your iClicker Student 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 iClicker Student 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.

## **Academic Support Resources at MSUCOM**

As a way to acclimate you to the curriculum at MSUCOM, we have created a program called On Target: <https://michiganstate.sharepoint.com/sites/OnTargetforAcademicSuccess>

On this site you will find semester roadmaps which gives a general overview of each semester, tools needed to be successful in the curriculum and targeted resources for your unique learning situation. In each semester’s road map, you will also find course expectations, tips for success, potential trouble spots, longitudinal course integration, and specific course study guides.

## **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 director 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.